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Critical Thinking Questions

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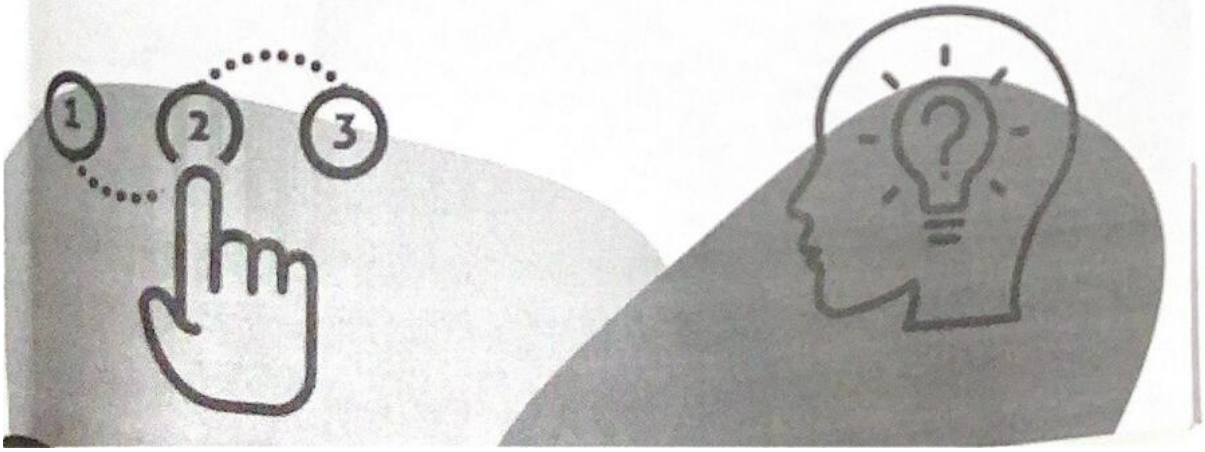

Critical Thinking Questions

QUESTION BANK WITH ANSWER KEYS

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INTRODUCTION

Welcome to the inaugural edition of Almond Books' Critical Thinking Question Bank for the ICSE Class 10 Curriculum, 2023-2024!

At Almond Books, we are thrilled to present this pioneering compilation, crafted with meticulous attention to align with the latest educational trends and the CISCE's introduction of Critical Thinking questions. As we venture into this new territory, our primary goal has been to provide you, our dedicated learners, and teachers, with a resource that not only adheres closely to the syllabus but also enhances your ICSE exam preparation journey.

This first edition represents a blend of innovation and diligence. Our team of experts, educators, and contributors have poured their best efforts into ensuring the accuracy and relevance of the content. However, as with any first-of-its-kind endeavour, there may be room for growth and refinement.

We wholeheartedly encourage you to make this book a cornerstone of your study routine. Its unique approach and fresh perspectives are designed to stimulate your intellect and elevate your understanding. Nonetheless, we also advocate for a balanced approach to learning. Utilise this guide as a part of your comprehensive study plan, incorporating the wisdom of your teachers and your own discerning judgement.

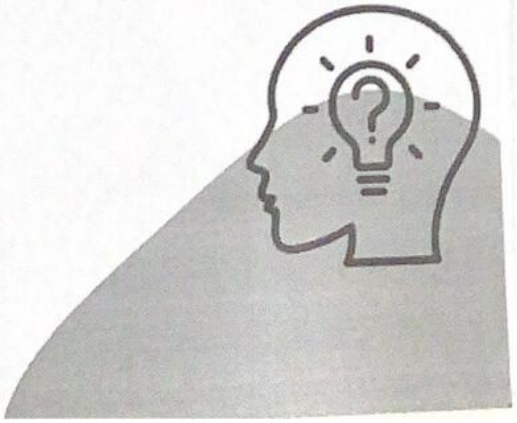
In the spirit of continuous improvement and collaboration, we also welcome your feedback. Should you encounter any queries or concerns regarding the questions in this book, please do not hesitate to report them. Below is a QR code that links directly to Almond Books' official WhatsApp number. Your insights and suggestions are invaluable in helping us evolve and better serve the academic community.

Happy Learning!

The Almond Books Team

REPORT A QUESTION

SCAN ME



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English (I) Language

Practice Sheet 1

Join the following sentences to make one complete sentence without using and, but or so. Choose the correct option.

Question 1

My friend went abroad. Six months have passed.

a) My friend went abroad as six months have passed.

b) My friend went abroad yet six months have passed.

c) Six months have passed for my friend went abroad.

d) Six months have passed since my friend went abroad.

Question 2

If you do not return early, I'll be upset.

a) I'll be upset even though you do not return.

b) Return early or else I'll be upset.

c) Return early because I'll be upset.

d) Return early, I'll be upset else.

Question 3

He was hurt. He helped the victims.

a) He was hurt since he helped the victims.

b) Though he was hurt, he helped the victims.

c) Even he was hurt, he helped the victims.

d) Despite hurt, he helped the victims.

Question 4

The phone rang. I was having my tea, then.

a) The phone rang, then I was having my tea.

b) The phone rang still I was having my tea.

c) The phone rang while I was having my tea.

d) The phone rang yet I was having my tea.

Question 5

We had better get ready now. We may not have time to reach the airport.

a) If we better get ready now, we may not have time to reach the airport.

b) We better get ready now, though we may not have time to reach the airport.

c) We better get ready now, or else we may not have time to reach the airport.

d) We better get ready now, so we may not have time to reach the airport.

Question 6

Mr Liu has been sick. He has been so since he came back from Japan.

a) Mr Liu has been sick from when he came back from Japan.

b) Mr Liu has been sick because he came back from Japan.

c) Mr Liu has been sick since he came back from Japan.

d) Despite, Mr Liu has been sick, he came back from Japan.

Question 7

The debating teams were very happy. Both were declared joint champions.

a) Both the debating teams were declared joint champions.

b) Both the debating teams were happy to be declared joint champions.

c) The debating teams were very happy as both were declared joint champions.

d) The debating teams are very happy to be declared joint champions.

Question 8

He escaped from the prison. He looked for a place where he could hide.

a) Since he escaped from the prison, he looked for a place where to hide.

b) After escaping from the prison, he looked for a place where he could hide.

c) Before escaping from the prison, he looked for a place where he could hide.

d) He escaped from the prison because he looked for a place where he could hide.

Question 9

A man is drowning. He shouted for help.

a) A man is drowning because he shouted for help.

b) The man shouted for help since he was drowning.

c) The man shouted for help as he was drowning.

d) A drowning man shouted for help.

Question 10

It is not a new car. However, it is reliable.

a) Neither it is a new car, nor it is reliable.

b) Despite being a new car, it is reliable.

c) It is not a new car, yet it is reliable.

d) Although it is not a new car, it is reliable.

Question 11

Take the cheque. The cash may not be sufficient.

a) Take the cheque otherwise the cash may not be sufficient.

b) The cash may not be sufficient, still take the cheque.

c) [illegible]

d) Take the cheque, may be the cash is not sufficient.

Question 12

He thought Ritu was honest. He lent her the money.

a) He thought he should lend honest Ritu the money.

b) He thought he will lend the money to Ritu because she was honest.

c) He thought Ritu was honest; therefore, he lent her the money.

d) He lent money to Ritu for she was honest.

Question 13

The watchman waved his cane. In a nick of time the barking dog ran away.

a) The watchman waved his cane, then in a nick of time the barking dog ran away.

b) The watchman waved his cane, instead in a nick of time the barking dog ran away.

c) The watchman waved his cane, in a nick of time, the barking dog ran away.

d) The watchman waved his cane, when in a nick of time, the barking dog ran away.

Question 14

Alice reached the playground. She was punctual.

a) Alice reached the playground because she was punctual.

b) Alice was reaching the playground as she was punctual.

c) Alice was punctual in reaching the playground.

d) Alice will be reaching the playground as she was punctual.

Question 15

[illegible] passport. It

a) The tourist did forget to carry his passport which was unfortunate.

b) The tourist forgot to carry his passport which was unfortunate.

c) It was unfortunate of the tourist forgetting to carry his passport.

d) It was unfortunate that the tourist forgot to carry his passport.

Question 16

The fire was put out. This took only an instant.

a) It took only an instant to put out the fire.

b) It was an instant to put out the fire.

c) The fire was put out in an instant.

d) The fire has been put out which took only an instant.

Question 17

This is my youngest sister. She is a baker.

a) This is my youngest sister who is a baker.

b) This is my youngest sister who bakes.

c) This is my youngest sister whose a baker.

d) My youngest sister is a baker.

Question 18

The rain was heavy. The cricket match got cancelled.

a) Due to heavy rain, the cricket match got cancelled.

b) The cricket match got cancelled because of the heavy rain.

c) Although the rain was heavy, the cricket match got cancelled.

d) Since the rain was heavy, the cricket match was cancelled.

Question 19

He studied hard. He scored well in the exam.

a) Because he studied hard, he scored well in the exam.

b) He scored well in the exam despite studying hard.

c) Since he studied hard, he scored well in the exam.

d) Studying hard, he scored well in the exam.

Question 20

I love mangoes. My sister loves cherries.

a) While I love mangoes, my sister loves cherries.

b) Since I love mangoes, my sister loves cherries.

c) Despite loving mangoes, my sister loves cherries.

d) Nevertheless, I love mangoes, my sister loves cherries.

Question 21

The children were delighted. The competition had been cancelled. *(ICSE 2018)*

a) The children were delighted when the competition had been cancelled.

b) The children were delighted since the competition had been cancelled.

c) The children were delighted for the competition had been cancelled.

d) The children were delighted as such the competition had been cancelled.

Question 22

We are not allowed to play in the sun. We are not allowed to play in the rain. *(ICSE 2018)*

a) We are not allowed to play either in the sun nor in the rain.

b) We were not allowed to play either in the sun or in the rain.

c) We were not allowed to play, neither in the sun nor in the rain

d) Neither in the sun nor in the park, playing was allowed.

Question 23

Mrs Kumar has been a teacher for thirty years. She will now retire. *(ICSE 2017)*

a) Mrs Kumar who has been a teacher for thirty years will retire.

b) Mrs Kumar who has been a teacher for thirty years will now retire.

c) Mrs Kumar will now retire as a teacher for thirty years

d) Mrs Kumar, who has been a teacher for thirty years, will now retire.

Question 24

This is the hospital. I was born here. *(ICSE 2017)*

a) This is the hospital, that is where I was born.

b) This is the hospital where I was born here.

c) This is the hospital since I was born here.

d) This is the hospital where I was born.

Question 25

The book was captivating. She couldn't stop reading.

a) Due to the captivating book, she couldn't stop reading.

b) Despite the book being captivating, she couldn't stop reading.

c) The captivating book engrossed her in reading.

d) The book was too captivating for her to stop reading.

Question 26

They were lost. They asked for directions.

a) They asked for directions because they were lost.

b) Due to being lost, they asked for directions.

c) Despite getting lost, they asked for directions.

d) Their state of being lost prompted them to ask for directions.

Question 27

Suman's brother is an artist. He is coming to Delhi.

a) Suman's brother being an artist, is coming to Delhi.

b) Suman's brother, who is coming to Delhi is an artist.

c) Suman's brother, who is an artist, is coming to Delhi.

d) Suman's brother who is an artist is coming to Delhi.

Question 28

The bus was full. They had to wait for the next one.

a) Due to the full bus, they had to wait for the next one.

b) Despite the bus being full, they had to wait for the next one.

c) Since the bus was full, they had to wait for the next one.

d) The full bus necessitated them to wait for the next one.

Question 29

She painted the room. She sold the house.

a) She painted the room, then sold the house.

b) She painted the room so she sold the house.

c) She sold the house after painted the room.

d) Having painted the room, she sold the house.

Question 30

The teacher entered the room. The students stood up.

a) The students stood up when the teacher entered the room.

b) The teacher entered the room; the students stood up.

c) The teacher entering the room, the students stood up.

d) The teacher entered the room and the students stood up.

Question 31

He broke the window. He ran away.

a) Breaking the window he ran away.

b) He broke the window and ran away.

c) He ran away after breaking the window.

d) He broke the window, then he ran away.

Question 32

The movie ended. We went home.

a) The movie ended, we went home.

b) We went home after the movie ended.

c) The movie ended and we went home.

d) With the movie ending, we went home.

Question 33

He had left home. The guest arrived afterwards.

a) He had left home when the guest arrived.

b) He had left for home before, then the guest arrived.

c) He had left home before the guest arrived.

d) The guest arrived after he had left for home.

Question 34

The examination was over. The boys rejoiced.

a) The boys rejoiced though the examination was over.

b) The examination was over, hence the boys rejoiced.

c) The boys rejoiced when the examination was over.

d) The boys were rejoicing as the examination was over.

Question 35

He refused to listen to their proposals. His refusal was firm.

a) His refusal was firm in listening to their proposals.

b) He refused firmly to listen to their proposals.

c) He refused to listen to their proposals.

d) He refused listening to their proposals with a firm refusal.

Question 36

He did not come to school. He did not inform anyone.

a) Neither did he come to school, nor did he inform anyone.

b) He did not come to school, since he didn't inform anyone.

c) He did not come to school because he did not inform anyone.

d) He did not come to school as he did not inform anyone.

Question 37

She finished her homework. She went to bed.

a) She went to bed after finishing her homework.

b) She finished her homework for going to bed.

c) She finished her homework, following which she went to bed.

d) She went to bed after finished her homework.

Question 38

The concert was over. People began to leave.

a) The concert being over, people began to leave.

b) People began to leave after the concert was over.

c) Due to the concert was over, people began to leave.

d) The concert was over that people began to leave.

Question 39

He saved money. He wanted to buy a car.

a) He saved money buying a car.

b) He saved money to buying a car.

c) He saved money to want a car.

d) He saved money to buy a car.

Question 40

She took off her shoes. She entered the house.

a) Taking off her shoes, she entered the house.

b) She took off her shoes for her to enter the house.

c) Before she took off her shoes, she entered the house.

d) She entered the house taking her shoes off.

Practice Sheet 2

Rewrite the following sentences according to the instructions given after each. Make other changes that may be necessary, but do not change the meaning of each sentence. Choose the correct options.

Question 1

He took care yet he fell ill. *(Use: In spite of……)*

a) In spite of very much care he fell it.

b) In spite of taking care, he fell ill.

c) In spite of he took care, he fell ill.

d) In spite of taken much care, he fell ill.

Question 2

The thief saw the policeman and ran away. *(Begin with: No sooner……)*

a) No sooner the thief saw the policeman then he ran away.

b) No sooner the thief seen the policeman than he ran away.

c) No sooner had the thief seen the policeman than he ran away.

d) No sooner the thief was seen then the policeman ran away.

Question 3

Don't know if I will succeed tomorrow, it is difficult. *(Begin with: It……)*

a) It is difficult to know if I would succeed tomorrow.

b) It is difficult to know about my tomorrow success.

c) It is difficult to know if I will succeed tomorrow.

d) It is difficult to know about tomorrow's success.

Question 4

Nobody dislikes gifts. *(Use: 'likes' instead of 'dislikes')*

a) Nobody loves gifts.

b) Everybody loves gifts.

c) Nobody likes gifts.

d) Everybody likes gifts.

Question 5

Aren't these cushions new? *(Change into an assertive sentence)*

a) These cushions are new.

b) These cushions are no new.

c) These cushions are not new.

d) These cushions are so new.

Question 6

I will do this if you allow me. *(Begin with: Unless……)*

a) Unless allowed I am doing this.

b) Unless you allow me, I will not do this.

c) Unless allowed I will not do this.

d) Unless you allow me, I will do this.

Question 7

It never thunders without lightning. *(Begin with: Where there is……)*

a) Where there is lightning, there will be thunder.

b) Where there is lightning, there could be thunder.

c) Where there is thunder, there is lightning.

d) Where there is lightning, there was thundering.

Question 8

He never takes up the work which he cannot complete. *(Begin with: He always...)*

a) He always takes up the work which he can complete.

b) He always took up the work as if he only can complete it.

c) He always take up the work only if he can complete.

d) He always takes up the work only if he complete.

Question 9

As soon as he saw the bear, he jumped into the river. *(Begin with: No sooner……)*

a) No sooner, he jumped into the river when he saw the bear.

b) No sooner as he saw the bear, he jumped into the river.

c) No sooner did he see the bear than he jumped into the river.

d) No sooner did he see the bear, nor he jumped into the river.

Question 10

Akbar was greater than many other kings. *(Use: greatest)*

a) Akbar became the greatest king.

b) Akbar was greatest than others.

c) Akbar was greatest amongst all.

d) Akbar was one of the greatest kings.

Question 11

He is too young to travel alone. *(Use: so...that...)*

a) He is that young so can't travel alone.

b) He is too young so he can travel alone.

c) He is so young that he cannot travel alone.

d) He is so young that he can travel alone.

Question 12

The teacher could do nothing. *(Begin with: Nothing……)*

a) Nothing was done by the teacher.

b) Nothing the teacher did.

c) Nothing was made to do by the teacher.

d) Nothing could be done by the teacher.

Question 13

He is a wise man. *(Add a question tag)*

a) Was he a wise man?

b) Will he be a wise man?

c) Won't he be a wise man?

d) He is a wise man, isn't he?

Question 14

In spite of being wealthy and educated, he never made a name. *(Begin with: Despite……)*

a) Despite he was wealthy and educated, he never made a name.

b) Despite he is wealthy and educated, he never made a name.

c) Despite being wealthy and educated, he never made a name.

d) Despite he became wealthy and educated, he never made a name.

Question 15

There is nothing peculiar about this picture. *(Begin with: Is there……)*

a) Is there something peculiar about this picture?

b) Is there everything peculiar about this picture?

c) Is there anything peculiar about this picture?

d) Is there nothing peculiar about this picture?

Question 16

He said to me, 'What are you doing?' *(Begin with: He asked……)*

a) He asked me what am I doing?

b) He asked me how I was doing?

c) He asked me when I was doing.

d) He asked me what I was doing.

Question 17

He is fortunate to have won the medal. *(Begin with: Fortunately……)*

a) Fortunately, he won the medal.

b) Fortunately, the medal was awarded to him.

c) Fortunately, he is awarded the medal.

d) Fortunately, he has won the medal.

Question 18

"We have had no rain since January," said Akshay. *(Begin with: Akshay said that they……)*

a) Akshay said that they were having no rain since January.

b) Akshay said that they had no rain since January.

c) Akshay said that they had had no rain since January.

d) Akshay said that they have had no rain since January.

Question 19

He took a bath and had breakfast. *(Begin with: Having taken……)*

a) Having taken bath, he have breakfast.

b) Having taken bath, he had taken breakfast.

c) Having taken a bath, he had a breakfast too.

d) Having taken a bath, he had breakfast.

Question 20

He leads a very unhappy life. *(Change into an exclamatory sentence)*

a) What an unhappy life he leads.

b) What an unhappy life he leads!

c) What an unhappy life he led!

d) What an unhappy life he lead!

Question 21

I had just entered the house when the phone bell rang. *(Begin with: Hardly……)*

a) Hardly had I entered the house when the phone bell rang.

b) Hardly had I entered the house while the phone bell rung.

c) Hardly I entered the house when the phone bell rang.

d) Hardly had I entered the house while the phone bell ring.

Question 22

The vase is beautiful. *(Use: 'not ugly' instead of 'beautiful')*

a) It is not an ugly vase.

b) The vase is not ugly.

c) Ugly vase it is not

d) The vase is ugly.

Question 23

She is smart as well as hardworking. *(Begin with: Not only……)*

a) Not only hardworking but also smart is she.

b) Not only smart is she but hardworking too.

c) Not only she is smart and hardworking

d) Not only is she smart but also hardworking.

Question 24

The teacher asked the boy if he was sad. *(Change the speech)*

a) "Are you sad?" said the teacher to the boy.

b) "Were you sad?" said teacher to the boy.

c) Are you sad?" said the teacher to the boy.

d) "You are sad" said teacher to the boy.

Question 25

Had I not helped her, she would not have succeeded. *(Begin with: But)*

a) But had I not helped her, she would not have succeeded.

b) But because of my help, she succeeded.

c) But for my help, she would not have succeeded.

d) But she would not have succeeded, had I helped her.

Question 26

His generosity brought him much praise. *(End with: ...generosity)*

a) He was praised because of his generosity.

b) Much praise was brought to him by his generosity.

c) He always got praise because of his generosity.

d) Praise brought him generosity.

Question 27

No sooner had Ralph scored the goal than the celebrations began. *(Begin with: Hardly)*

a) Hardly Ralph scored the goal, the celebrations began.

b) Hardly Ralph had scored the goal, the celebrations began.

c) Hardly had Ralph scored the goal when the celebrations began.

d) Hardly Ralph scored the goal, sooner the celebrations began.

Question 28

Although it was a sunny day, it was very cold. *(Begin with: Despite)*

a) Despite being cold, it was a sunny day.

b) Despite a sunny day, it was very cold.

c) Despite being a sunny day, it was very cold.

d) Despite a very cold day, it was sunny.

Question 29

Arya drank three glasses of water, but not even that quenched his thirst. *(Begin with: Not even)*

a) Not even three glasses of water, was quenching Arya's thirst.

b) Not even after Arya drank three glasses of water, her thirst was quenched.

c) Not even three glasses of water quenched Arya's thirst.

d) Not even after drinking three glasses of water, Arya thirst quenched.

Question 30

Every one of them was an experienced mountaineer. *(Begin with: There was no)*

a) There was no experienced mountaineer among them.

b) There was no inexperienced mountaineer among them.

c) All of them were experienced mountaineers.

d) There was an experienced mountaineer in every one of them.

Question 31

"Did you like the flowers?" Rohan said to him. *(Begin with: There)*

a) Rohan asked him if he liked the flowers.

b) Rohan asked him if was liking the flowers.

c) Rohan asked him if he had liked the flowers.

d) Rohan asked him do you like the flowers.

Question 32

She was the only person capable of being the house captain. *(Use: capability)*

a) She is the only person with the capability of a house captain.

b) She had the capability of the house captain.

c) She was the only person who had the capability of being the house captain.

d) The house captain needed the capability; she had in her as a person.

Question 33

She has little knowledge of French. *(Use: much)*

a) She has not much knowledge of French.

b) She doesn't have much knowledge of French.

c) She has much knowledge of French.

d) She has not much knowledge of the French.

Question 34

You should practice hard if you want to succeed. *(Use: unless)*

a) You won't succeed unless you don't practice hard.

b) Unless you don't practice hard, you won't succeed.

c) Unless you practice hard, you won't succeed.

d) Unless you don't practice hard, you will succeed.

Question 35

The teacher told him to sit down. *(Begin with: He was told...)*

a) He was told by the teacher to sit down.

b) He was told by the teacher for sitting down.

c) He was told by the teacher that sit down.

d) He was told by the teacher he should sit down.

Question 36

It was such a hot day that we couldn't go out. *(Use: too)*

a) It was too hot a day for us to go out.

b) It was a too hot day that we couldn't go out.

c) It was a hot day that we couldn't go out too.

d) It was a hot day that we couldn't go out either.

Question 37

I have been waiting for her since morning. *(Use: all)*

a) I have been waiting for her in the morning.

b) I have been waiting for her all morning.

c) I have been waiting for her every morning.

d) I have been waiting for her during the morning.

Question 38

She is mopping the floor. *(Begin with: The floor....)*

a) The floor is being mopped by her.

b) The floor is going to be mopped by her.

c) The floor was being mopped by her.

d) The floor will be mopped by her.

Question 39

He is a very tall man. *(Use: extremely)*

a) He is an extremely tall man.

b) He is extremely a tall man.

c) He is a extremely tall man.

d) He is extremely a tall man.

Question 40

We had a great time at the party. *(Change into an exclamatory sentence)*

a) We had a great time at the party!

b) Didn't we have a good time at the party?

c) What a great time we had at the party!

d) What a great time we had at the party!

Question 41

If you finish your work by this evening, you can have tomorrow off. *(Begin with provided)*

a) You can have an off tomorrow provided you finish your work by this evening.

b) Provided, you finish your work by this evening, you can have tomorrow off.

c) Provided, you have tomorrow off, you finish your work by this evening.

d) Provided, finishing your work by this evening, you can have tomorrow off.

Question 42

Rohan is a very studious boy and is always cheerful. *(Begin with: Besides)*

a) Besides being a very cheerful boy, Rohan is very studious.

b) Besides being a very studious boy, Rohan is always cheerful.

c) Besides being studious, Rohan is cheerful.

d) Besides being a boy, Rohan is studious and cheerful.

Question 43

In spite of the heavy rain, a large number of fans were present at the concert. *(Begin with: Though)*

a) Though it was raining heavily, a large number of fans were present at the concert.

b) Though it rained heavily, a large number of fans were present at the concert.

c) Though it were raining heavily, a large number of fans were present at the concert.

d) Though it rained heavily, a large number of fans were being present at the concert.

Question 44

The police questioned the suspect for over two hours. *(Begin with: The suspect)*

a) The suspect questioned the police for over two hours.

b) The suspect did questions for the police for over two hours.

c) The suspect will be questioned by the police for over two hours.

d) The suspect was questioned by the police for over two hours.

Question 45

A rainbow is one of the most beautiful sights. *(End with: the rainbow.)*

a) One of the most beautiful sights, is the rainbow.

b) The most beautiful sight is the rainbow.

c) Very few sights are as beautiful as a rainbow.

d) The one most beautiful sight is the rainbow.

Question 46

'Do not forget to take your Admit Card, Annie,' Anjali reminded. *(Begin with: Anjali reminded)*

a) Anjali reminded Annie, do not forget to take your Admit Card.

b) Anjali reminded Annie, of not forgetting to take her Admit Card.

c) Anjali reminded Annie not to forget to take her Admit Card.

d) Anjali reminded Annie to not forget to take your Admit Card.

Question 47

Rama is too ill to come to school. *(Use: so that)*

a) Rama is too ill that she cannot come to school.

b) So that she can't come to school, Rama is too ill.

c) Rama is too ill, still she comes to school.

d) Rama is so ill that she cannot come to school.

Question 48

As soon as it started raining, the children ran inside the house. *(Begin with: No sooner)*

a) No sooner did it start to rain; the children were running inside the house.

b) No sooner, it started to rain; the children ran inside the house.

c) No sooner did it start raining than the children ran inside the house.

d) No sooner was it raining, than the children ran inside the house.

Question 49

The rain was so heavy that we couldn't go outside. *(Use: too)*

a) The rain was too heavy, so we couldn't go outside.

b) The rain was too heavy for us to go outside.

c) The rain was to heavy for us too go outside.

d) The rain was too heavy that we couldn't go outside.

Question 50

He is not only a skilled artist but also an excellent writer. *(Begin with: In addition...)*

a) In addition, he is not only a skilled artist but also an excellent writer.

b) In addition to being a skilled artist, he is an excellent writer.

c) In addition, he is a skilled artist but also an excellent writer.

d) In addition, he is a skilled artist and also an excellent writer.

Question 51

No other girl in the room is as beautiful as her. *(Begin with: She is...)*

a) She is the most beautiful girl in the room.

b) She is the more beautiful girl in the room.

c) She is the beautiful girl in the room.

d) She is one of the most beautiful girls in the room.

Question 52

They couldn't find a suitable solution to the problem. *(Use: nowhere)*

a) Nowhere they could find a suitable solution to the problem.

b) Nowhere could they find a suitable solution to the problem.

c) Nowhere could find they a suitable solution to the problem.

d) Nowhere could find a suitable solution to the problem they.

Question 53

The flower on the tree is beautiful. *(Change into an exclamatory sentence)*

a) How beautiful the flower on the tree is

b) The flower on the tree is beautiful!

c) Isn't the flower on the tree beautiful!

d) How beautiful is the flower on the tree

Question 54

He is not only a talented musician but also a skilled actor. *(Begin with: Besides...)*

a) Besides talented musician, he is also a skilled actor.

b) Besides being a talented musician but also a skilled actor.

c) Besides being a talented musician, he is a skilled actor.

d) Besides, he is not only a talented musician but also a skilled actor.

Question 55

The car was too expensive for them to buy. *(Use: unaffordable)*

a) The car was too unaffordable for them to buy.

b) The car was unaffordable for them.

c) The car was unaffordable that they couldn't buy it.

d) The car was unaffordable, so they couldn't buy it.

Question 56

They couldn't understand a single word he said. *(Use: not)*

a) They couldn't not understand a word single he said.

b) They could not understand a single word he said it.

c) They couldn't not understand a single word he said that.

d) They could not understand a single word he said.

Question 57

Strawberry pastry is the best dessert I have ever eaten. *(Use: No other)*

a) No dessert that I have ever eaten is better than strawberry pastry.

b) No other dessert is better than strawberry dessert that I have eaten ever.

c) No other dessert that I have ever eaten is as good as strawberry pastry.

d) No other dessert is as good as this strawberry pastry.

Question 58

As soon as the sale started, the mob rushed in. *(Use: hardly)*

a) They mob hardly rushed in when the sale started.

b) Hardly was the mob rushing in when the sale started.

c) The sale had hardly started when the mob rushed in.

d) Hardly had the sale started when the mob rushed in.

Question 59

Very few people are as genuine as Ben.

a) Ben is more genuine than other people.

b) Ben is more genuine than most other people.

c) Ben is genuine than many other people.

d) Ben is most genuine among most other people.

Question 60

I admire your courage. *(Use: admirable)*

a) Your courage is admirable to me.

b) Your courage is admirable.

c) Your courage was admirable.

d) Your admirable courage.

Question 61

He has tried many times. He has never succeeded. *(Begin with: In spite...)*

a) In spite of trying many times, he had never succeeded.

b) In spite trying many times, he has never succeeded.

c) In spite of trying many times, he has never succeeded.

d) In spite of never succeeding, he has tried many times.

Question 62

Unless the bus arrives on time, we will miss the seminar. *(Begin: If)*

a) If the bus arrives on time, we will miss the seminar.

b) If the bus does not arrive on time, we will miss the seminar.

c) If the bus arrived on time, we will miss the seminar.

d) If the bus does not arrive on time, we will not miss the seminar.

Question 63

As soon as the duckling wakes up, it looks for the mother. *(Use: no sooner)*

a) It looks for the mother no sooner than when the duckling wakes up.

b) No sooner does the duckling wake up than it looks for the mother.

c) The mother was looked at no sooner than when the duckling woke up.

d) No sooner did the mother wake up than when the duckling looked for her.

Question 64

When he completed his performance, the audience gave a standing applause. *(Use: following)*

a) Following his performance, the audience gave a standing applause.

b) He received the standing applause following his performance.

c) Following the standing applause, he performed.

d) Following the performance, his audience gave a standing applause.

Question 65

These windows need cleaning again. *(Begin with: These windows will)*

a) These windows will be cleaned again.

b) These windows shall be cleaned again.

c) These windows will have to be cleaned again.

d) These windows had to be cleaned again.

Question 66

My mother said I could go with you only if I returned home by five o'clock. *(Use: as long as)*

a) My mother said as long as I returned home by five o'clock, I could go with you only.

b) My mother said I could go with you as long as I returned home by five o'clock.

c) My mother said I could go with you as long as I returned home by five o'clock only.

d) My mother said I could go with you as long as I returned only by five o'clock.

Question 67

It doesn't matter which chemical you put into the mixture first, the results will be the same. *(Use: difference)*

a) It doesn't make any difference to the mixture which chemical you put first.

b) It doesn't make any difference, which chemical you put into the mixture first, the results will be the same.

c) Firstly, it doesn't make any difference to the mixture which chemical you put; the results will be the same.

d) The chemical doesn't make any difference to the mixture, the results are the same.

Question 68

Who does this pen belong to? *(Begin with: Do you know)*

a) Do you know who does this pen belong to?

b) Do you know to whom does this pen belong?

c) Do you know, whose is this pen?

d) Do you know who did this pen belong to?

Question 69

Heavy rain has caused the cancellation of the outdoor garden party. *(Begin with: Due to)*

a) Due to heavy rains, the outdoor garden party has been cancelled.

b) Due to heavy rain, has caused the cancellation of the outdoor garden party.

c) Due to heavy rain, the outdoor garden party has been cancelled.

d) Due to heavy rain, outdoor garden party is cancelled.

Question 70

I have never seen so many people in this building before. *(Begin with: This is)*

a) This is not the first time I have seen so many people in this building.

b) This is the time I have seen so many people in this building.

c) This is the first time I have seen so many people in this building.

d) This is the first time I have seen many people in the building.

Question 71

If we light the fire, the rescuers will see us. *(Begin with: We will)*

a) We will light the fire because the rescuers will see us.

b) We will light the fire since the rescuers will see us.

c) We will be seen by the rescuers if we light the fire.

d) We will be rescued if we light the fire.

Question 72

Only a few books were remaining on the shelf when we left. *(Begin with: Most)*

a) Most of the books were not on the shelf when we had left.

b) Most of the books were remaining on the shelf when we left.

c) Most of the books were not there on the shelf when we left.

d) Most of the few books were remaining on the shelf when we left.

Question 73

My mother cooked the food. *(Begin with: The food...)*

a) The food was cooked by my mother.

b) The food is cooked by my mother.

c) The food was cooked by mother.

d) The food my mother cooked.

Question 74

I saw a movie. It was very boring. *(Use: which)*

a) I saw a movie which very boring was.

b) I saw a movie which was very boring.

c) I saw a very boring movie tonight.

d) The movie which I saw very boring was.

Question 75

She left the room. She was angry. *(Begin with: Being)*

a) Being angry, she left the room.

b) She left the room being angry.

c) Being angry and she left the room.

d) Being she was angry, she left the room.

Question 76

Geeta was so tired that she couldn't wake up early. *(Use: too)*

a) Geeta was so tired too wake up early.

b) Geeta was too tired to wake up early.

c) Geeta was to tired too wake up early.

d) Geeta was too tired so she couldn't wake up early.

Question 77

Very few boys in the room are as talented as Farhan. *(Begin with: Farhan is...)*

a) Farhan is one of the talented boys in the room.

b) Farhan is one of the most talented boys in the room.

c) Farhan is one of the less talented boys in the room.

d) Farhan is the most talented boy in the room.

Question 78

His parents died. He was very young then. *(Use: when)*

a) He was young when his parents died.

b) When his parents died, he was very young.

c) His parents died when he was very young.

d) His parents died when very young he was.

Question 79

The sun sets. The birds return to their nests. *(Begin with: As)*

a) As the sun sets, the birds return to their nests.

b) As the birds return to their nests, the sun sets.

c) The birds return to their nests as the sun sets.

d) The sun sets as the birds return to their nests.

Question 80

The plant is dying. *(Add question tag)*

a) The plant is dying, isn't it?

b) The plant is dying, doesn't it?

c) The plant is dying, wasn't it?

d) The plant is dying, aren't it?

ANSWERS

TYPE 1

1. d)	9. d)	17. a)	25. d)	33. c)
2. b)	10. d)	18. b)	26. a)	34. c)
3. b)	11. c)	19. c)	27. c)	35. b)
4. c)	12. c)	20. a)	28. c)	36. a)
5. c)	13. c)	21. b)	29. d)	37. a)
6. c)	14. c)	22. b)	30. a)	38. b)
7. c)	15. d)	23. d)	31. c)	39. d)
8. b)	16. c)	24. d)	32. b)	40. a)

TYPE 2

1. b)	17. a)	33. b)	49. b)	65. c)
2. c)	18. c)	34. c)	50. b)	66. b)
3. c)	19. d)	35. a)	51. a)	67. b)
4. d)	20. b)	36. a)	52. b)	68. b)
5. a)	21. a)	37. b)	53. a)	69. c)
6. b)	22. b)	38. a)	54. c)	70. c)
7. a)	23. d)	39. a)	55. b)	71. c)
8. a)	24. a)	40. d)	56. d)	72. c)
9. c)	25. c)	41. b)	57. c)	73. a)
10. d)	26. b)	42. b)	58. d)	74. b)
11. c)	27. c)	43. b)	59. b)	75. a)
12. d)	28. c)	44. d)	60. a)	76. b)
13. d)	29. c)	45. c)	61. c)	77. b)
14. c)	30. b)	46. c)	62. b)	78. c)
15. c)	31. c)	47. d)	63. b)	79. a)
16. d)	32. c)	48. c)	64. a)	80. a)

English (II) Literature

1 Daffodils

By William Wordsworth

TYPE 1

Question 1

Choose the option that lists the sequence of events in the correct order.

1. The poet compares the daffodils to the stars in the Milky Way.
2. The poet describes the daffodils fluttering and dancing in the breeze.
3. The poet spots a large group of golden daffodils by the lake.
4. The poet feels a sense of loneliness while wandering.

(a) 4, 3, 2, 1

(b) 3, 4, 1, 2

(c) 1, 2, 3, 4

(d) 2, 1, 4, 3

Question 2

Choose the option that lists the sequence of events in the correct order.

1. The daffodils are seen as stretching in a continuous line.
2. The poet first encounters the daffodils.
3. The daffodils are likened to twinkling stars.
4. The poet is walking alone, feeling isolated.

(a) 4, 2, 1, 3

(b) 2, 3, 4, 1

(c) 1, 4, 3, 2

(d) 3, 1, 2, 4

Question 3

Choose the option that lists the sequence of events in the correct order.

1. The poet describes the movement of the daffodils.
2. He compares them to stars in the sky.
3. The poet feels alone as he wanders.
4. He comes upon a host of daffodils.

(a) 3, 4, 1, 2

(b) 4, 2, 3, 1

(c) 2, 1, 3, 4

(d) 1, 3, 4, 2

Question 4

Choose the option that lists the sequence of events in the correct order.

1. A poet, in the presence of dancing waves and joyful company, felt irresistibly happy.
2. When lying on his couch, the poet often reminisces, finding bliss in these memories.
3. The sight of daffodils and the waves brought unexpected joy and wealth to the poet's heart.

4. The poet's heart fills with pleasure, reminiscent of the daffodils, in moments of solitude.

(a) 1, 3, 2, 4

(b) 3, 1, 4, 2

(c) 2, 4, 1, 3

(d) 4, 2, 3, 1

Question 5

Choose the option that lists the sequence of events in the correct order.

1. The memory of the daffodils brings a solitary bliss to the poet.
2. The poet is delighted by the sight of the daffodils, outshining the sparkling waves.
3. Reflecting on this sight, the poet often finds his heart dancing with joy.
4. The poet experiences an overwhelming happiness in the company of the dancing daffodils.

(a) 4, 2, 1, 3

(b) 2, 4, 3, 1

(c) 1, 3, 2, 4

(d) 3, 1, 4, 2

TYPE 2

Question 6

The speaker compares the daffodils to:

1. Clouds in the sky
2. Stars in the Milky Way
3. Trees beside the lake
4. Hills and vales

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 7

The daffodils are portrayed as being:

1. Lonely and isolated
2. Static and unmoving
3. Joyful and lively
4. Dim and fading

(a) 1 and 2

(b) Only 3

(c) 3 and 4

(d) 1 and 4

Question 8

The setting of the poem "Daffodils" can be described as:

1. A bustling city
2. A solitary lakeside
3. An open sea
4. A dense forest

(a) 1 and 2

(b) Only 2

(c) 3 and 4

(d) 1 and 4

Question 9

The mood created by the sight of the daffodils is one of:

1. Melancholy
2. Excitement
3. Energy
4. Fear

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 10

The phrase "Tossing their heads in sprightly dance" suggests that the daffodils are:

1. Weak
2. Animated
3. Lively
4. Aggressive

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 11

The poet feels a sense of joy and inspiration when observing:

1. The sparkling waves
2. The dancing daffodils
3. The solitude of his couch
4. The wealth brought by the show

(a) 1 and 2

(b) 2 and 3

(c) 1 and 4

(d) 2 and 4

Question 12

The "inward eye" represents:

1. A literal visual experience
2. The poet's memory
3. The poet's imagination
4. The physical environment around the poet

(a) 1 and 3

(b) 2 and 3

(c) 1 and 2

(d) 2 and 3

Question 13

In reflecting on his experiences, the poet's feeling when lying on his couch in a "vacant or in pensive mood" is transformed into:

1. Gloominess
2. Indifference
3. Pleasure
4. Confusion

(a) Only 3 and 4

(b) 2 and 3

(c) Only 3

(d) 1 and 4

Question 14

The phrase "dances with the daffodils" in the poem primarily conveys the poet's:

1. Physical activity
2. Emotional connection with nature
3. Desire to be outdoors
4. Literary skill

(a) 1 and 3

(b) 2 and 4

(c) 1 and 2

(d) 3 and 4

TYPE 3

Question 15

Identify the line that uses the same literary device as "I wandered lonely as a cloud":

(a) The sun smiled down on us.

(b) She was as fast as a cheetah.

(c) His heart was a cold iron.

(d) The stars whispered secrets at night.

Question 16

Identify the line that uses the same literary device as "A host, of golden daffodils":

(a) The wind sang through the trees.

(b) Time is a thief.

(c) Her laughter was a melody.

(d) He was a lion in the fight.

Question 17

Identify the line that uses the same literary device as "Fluttering and dancing in the breeze":

(a) The ocean hugged the shoreline.

(b) She is a shining star.

(c) The leaves danced in the wind.

(d) As brave as a lion.

Question 18

Identify the line that uses the same literary device as "They stretched in never-ending line":

(a) His anger was a volcano.

(b) The car complained as it ascended the hill.

(c) She swims like a fish.

(d) The stars are diamonds in the sky.

Question 19

Identify the line that uses the same literary device as "Ten thousand saw I at a glance":

(a) The thunder roared like a lion.

(b) Her voice was music to my ears.

(c) He is as sneaky as a fox.

(d) Continuous as the stars that shine.

Question 20

Identify the line that uses the same literary device as "The waves beside them danced; but they":

(a) The cake was a piece of heaven.

(b) The car groaned under the weight.

(c) Love is a battlefield.

(d) He is strong as an ox.

2 I Know why the Caged Bird Sings

By Maya Angelou

TYPE 1

Choose the option that lists the sequence of events in the correct order.

Question 1

1. The caged bird sings of freedom.
2. The free bird dares to claim the sky.
3. The caged bird's wings are clipped and feet are tied.

4. The free bird floats downstream till the current ends.

(a) 4, 2, 3, 1

(b) 3, 1, 4, 2

(c) 2, 4, 1, 3

(d) 1, 3, 2, 4

Question 2

1. The free bird floats downstream, enjoying his freedom.
2. The caged bird longs for things unknown.
3. The free bird leaps on the back of the wind.
4. The caged bird's tune is heard on the distant hill.

(a) 3, 1, 2, 4

(b) 2, 4, 3, 1

(c) 1, 3, 4, 2

(d) 4, 2, 1, 3

Question 3

1. The caged bird sings with a fearful trill of things unknown but longed for still.
2. The free bird thinks of another breeze and the trade winds soft through the sighing trees.
3. His tune is heard on the distant hill, for the caged bird sings of freedom.
4. But a caged bird stands on the grave of dreams, his shadow shouts on a nightmare scream.

(a) 2, 4, 1, 3

(b) 4, 1, 3, 2

(c) 1, 2, 3, 4

(d) 3, 4, 2, 1

TYPE 2

Question 4

In the poem, the caged bird's primary feeling or experience is:

1. Anger at its confinement
2. Joy in its freedom
3. Resignation to its fate
4. Longing for freedom

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) Only 4

Question 5

The contrast between the free bird and the caged bird mainly serves to illustrate:

1. The natural differences between different types of birds
2. The impact of physical and psychological constraints on the spirit
3. The irrelevance of freedom to happiness
4. The superiority of physical freedom over mental freedom

(a) Only 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 6

In the portrayal of the caged bird, the poem emphasises its:

1. Desire for the dawn bright lawn.
2. Experience of physical restrictions.
3. Joy in the natural world.
4. Fearful yet hopeful singing.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 2 and 4

Question 7

The caged bird's song reflects a theme of:

1. Acceptance of its fate.
2. Desire for freedom.
3. Contentment with the present.
4. Appreciation for the beauty of nature.

(a) 1 and 2

(b) 2 and 3

(c) Only 2

(d) 1 and 4

Question 8

The 'grave of dreams' in the poem symbolises the caged bird's:

1. Loss of natural habitat.
2. Suppressed desires and aspirations.
3. Physical limitations.
4. Connection to the natural world.

(a) 1 and 2

(b) Only 2

(c) 3 and 4

(d) 1 and 4

Question 9

The 'fearful trill' of the caged bird's song conveys a sense of:

1. Joy and contentment.
2. Fear and despair.
3. Hope and yearning.
4. Anger and frustration.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

TYPE 3

Question 10

Example Line: "till the current ends"

Identify the line using the same literary device:

(a) "the sky's the limit"

(b) "the sun kissed the sea"

(c) "life is a rollercoaster"

(d) "the stars danced playfully in the moonlit sky"

Question 11

Example Line: "his wings are clipped and"

Identify the line using the same literary device:

(a) "the world's a stage"

(b) "time is a thief"

(c) "silent as the grave"

(d) "lost in a sea of faces"

Question 12

Example Line: "and dares to claim the sky."

Identify the line using the same literary device:

(a) "like a diamond in the sky"

(b) "whispering wind"

(c) "he roared like a lion"

(d) "a heart of gold"

Question 13

Example Line: "With fearful trill"

Identify the line using the same literary device:

(a) "the angry storm"

(b) "as brave as a lion"

(c) "whispering winds"

(d) "morning's first light"

Question 14

Example Line: "the trade winds soft through the sighing trees"

Identify the line using the same literary device:

(a) "the whispering wind"

(b) "the sky wept"

(c) "a heart of stone"

(d) "murmuring brook"

Question 15

Example Line: "for the caged bird sings of freedom."

Identify the line using the same literary device:

(a) "like a red, red rose"

(b) "the sun is a golden orb"

(c) "the silence screamed"

(d) "time marches on"

Question 16

Example Line: "a free bird leaps"

Identify the line using the same literary device:

(a) "the sky's canvas"

(b) "as quick as a flash"

(c) "the stars danced"

(d) "a sea of troubles"

Question 17

Example Line: "his shadow shouts on a nightmare scream"

Identify the line using the same literary device:

(a) "love is a battlefield"

(b) "the wind whispered secrets"

(c) "time is a thief"

(d) "a blanket of snow"

Question 18

Example Line: "and he names the sky his own."

Identify the line using the same literary device:

(a) "the sea's song"

(b) "as tall as a tree"

(c) "time's up"

(d) "the curtain of night"

Question 19

Example Line: "down his narrow cage"

Identify the line using the same literary device:

(a) "a blanket of snow"

(b) "the world's a stage"

(c) "as busy as a bee"

(d) "the moon's embrace"

3 The Patriot

By Robert Browning

TYPE 1

Question 1

In the poem, the subject's experience a year ago was characterised by:

1. Feeling overwhelmed and anxious
2. Being celebrated with roses and myrtle
3. Feeling isolated and ignored
4. Experiencing a quiet, ordinary day

(a) 1 and 2

(b) Only 2

(c) 3 and 4

(d) 1 and 4

Question 2

The house-roofs and church-spires in the poem symbolise:

1. Stability and permanence
2. Chaos and disorientation
3. Joy and celebration
4. Decay and neglect

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 3

The subject's statement, "Had I said, 'Good folk, mere noise repels,'" implies:

1. A desire for peace and quiet
2. Disdain for the crowd's behavior
3. A wish for more recognition
4. Regret over past actions

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 4

The "palsied few at the windows set" in the poem represent:

1. The subject's loyal supporters
2. Indifferent bystanders
3. The weakened state of society
4. The subject's adversaries

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 5

The "rope" that cuts the subject's wrists symbolises:

1. Restriction and imprisonment
2. The consequences of actions
3. Protection and safety
4. Escape from responsibilities

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 6

The subject's contemplation of "my year's misdeeds" indicates:

1. A sense of guilt and remorse
2. Confusion about past actions
3. Defiance against accusations
4. Indifference to societal norms

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 7

The phrase "Thus I entered, and thus I go" suggests:

1. A cyclical nature of life
2. Resignation to fate
3. A desire for redemption
4. Joy in suffering

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 8

The concept of "triumphs" in the poem is associated with:

1. Personal achievement and success
2. Public recognition and glory
3. Irony and downfall
4. Spiritual enlightenment

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 9

The poem's reference to God at the end implies:

1. Seeking divine forgiveness
2. Resignation to divine judgment
3. Questioning religious beliefs
4. Believing in punishment from God

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) Only 4

Question 10

The overall theme of the poem, "The Patriot" by Robert Browning can be interpreted as:

1. The transient nature of fame and glory
2. The inevitability of change
3. The consequences of one's actions
4. The search for meaning in suffering

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

TYPE 2

Question 11

Identify the line that uses the same literary device as "The house-roofs seemed to heave and sway":

(a) "And I think, by the feel, my forehead bleeds,"

(b) "For the best of the sight is, all allow,"

(c) "A rope cuts both my wrists behind;"

(d) "The air broke into a mist with bells,"

Question 12

Identify the line that uses the same literary device as "With myrtle mixed in my path like mad":

(a) "In triumphs, people have dropped down dead."

(b) "There's nobody on the house-tops now---"

(c) "I go in the rain, and, more than needs,"

(d) "But give me your sun from yonder skies!"

Question 13

Identify the line that uses the same literary device as "The church-spires flamed, such flags they had":

(a) "Alack, it was I who leaped at the sun"

(b) "A year ago on this very day."

(c) "The old walls rocked with the crowd and cries."

(d) "And you see my harvest, what I reap"

Question 14

Identify the line that uses the same literary device as "Thus I entered, and thus I go!":

(a) "For the best of the sight is, all allow,"

(b) "I go in the rain, and, more than needs,"

(c) "It was roses, roses, all the way,"

(d) "And I think, by the feel, my forehead bleeds,"

Question 15

Identify the line that uses the same literary device as "Paid by the world, what dost thou owe":

(a) "A year ago on this very day."

(b) "There's nobody on the house-tops now---"

(c) "But give me your sun from yonder skies!"

(d) "They had answered, "And afterward, what else?""

Question 16

Identify the line that uses the same literary device as "Nought man could do, have I left undone:":

(a) "And I think, by the feel, my forehead bleeds,"

(b) "A rope cuts both my wrists behind;"

(c) "The old walls rocked with the crowd and cries."

(d) "The church-spires flamed, such flags they had,"

4 Abou Ben Adhem

By Leigh Hunt

TYPE 1

Question 1

1. Abou Ben Adhem awoke one night from a peaceful dream.
2. The angel vanished after writing something.
3. He saw an angel writing in a book of gold.
4. The angel said it was writing the names of those who love the Lord.

(a) 1, 3, 4, 2

(b) 3, 1, 2, 4

(c) 4, 2, 1, 3

(d) 2, 4, 3, 1

Question 2

1. The angel returned the next night with a bright light.
2. Abou Ben Adhem saw his name leading all the others.
3. Abou asked if his name was among those who loved the Lord.
4. The angel initially replied that his name was not on the list.

(a) 3, 4, 1, 2

(b) 4, 3, 2, 1

(c) 1, 2, 3, 4

(d) 2, 1, 4, 3

Question 3

1. Abou Ben Adhem saw an angel writing in a golden book.
2. He requested to be listed as one who loves his fellow men.
3. The angel initially said Abou's name was not among those who love the Lord.
4. The angel wrote something and then disappeared.

(a) 1, 3, 2, 4

(b) 4, 2, 1, 3

(c) 2, 4, 3, 1

(d) 3, 1, 4, 2

TYPE 2

Question 4

In the context of awakening from a deep dream, Abou Ben Adhem experiences:

1. Fear upon seeing the angel
2. Boldness due to the exceeding peace
3. Confusion about the angel's purpose
4. Anger at being disturbed

(a) 1 and 2

(b) Only 2

(c) 1 and 4

(d) 2 and 4

Question 5

When Abou Ben Adhem asks the angel about the writing, the angel's response indicates that it is listing:

1. The wealthiest people in the world

2. Those who have achieved great deeds
3. Names of those who love the Lord
4. Angelic beings

(a) 1 and 2

(b) 2 and 3

(c) Only 3

(d) 1 and 4

Question 6

Abou Ben Adhem's reaction to not finding his name in the book reflects his:

1. Indifference towards spiritual matters
2. Deep disappointment and sadness
3. Desire to be recognised as a lover of God
4. Humility and love for fellow men

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 7

The angel's initial task in Abou Ben Adhem's room symbolises:

1. The recording of human deeds
2. The transient nature of life
3. The importance of celestial beings
4. The judgment of human character

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) Only 4

Question 8

The angel's reappearance on the second night signifies:

1. A warning to Abou Ben Adhem
2. A response to Abou's request
3. The continuation of the initial dream
4. A change in the angel's perception of Abou

(a) 1 and 2

(b) Only 2

(c) 3 and 4

(d) Only 3

Question 9

Abou Ben Adhem's name leading all the rest in the angel's book implies his:

1. Superiority in wealth and power
2. Exceptional love for his fellow men
3. Earnest desire for spiritual recognition
4. Misinterpretation of the angel's purpose

(a) 1 and 2

(b) Only 2

(c) 3 and 4

(d) None of the above

Question 10

The presence of the angel in Abou Ben Adhem's room is an example of:

1. Realistic portrayal of religious figures
2. Symbolic representation of divine intervention
3. A common occurrence in historical narratives
4. Abou's hallucination

(a) Only 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 11

The "book of gold" in the poem symbolises:

1. Material wealth and prosperity
2. The permanence of written records
3. Spiritual significance and purity
4. Abou's aspirations for fame

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

TYPE 3

Question 12

Identify the line from the poem that uses a metaphor, similar to the way "The wind whispered secrets through the trees" uses a metaphor:

(a) "Awoke one night from a deep dream of peace"

(b) "And saw, within the moonlight in his room"

(c) "Making it rich, and like a lily in bloom"

(d) "The angel writing in a book of gold"

Question 13

Select the line that employs personification, as in "The sun smiled down on the bustling city":

(a) "Awoke one night from a deep dream of peace"

(b) "And saw, within the moonlight in his room"

(c) "The angel writing in a book of gold"

(d) "The next night It came again with a great wakening light"

Question 14

Choose the line that illustrates alliteration, akin to the use of alliteration in "Peter Piper picked a peck of pickled peppers":

(a) "Abou Ben Adhem (may his tribe increase!)"

(b) "Awoke one night from a deep dream of peace"

(c) "And showed the names whom love of God had blest"

(d) "Write me as one that loves his fellow men."

5 Nine Gold Medals

By David Roth

TYPE 1

Choose the option that lists the sequence of events in the correct order.

Question 1

1. Many weeks and months in training, all building up to the games.
2. The athletes had come from so many countries to run for the gold, silver, and bronze.
3. All around the field, spectators were gathered, cheering on all the young women and men.
4. Then the final event of the day was approaching, the last race about to begin.

(a) 1, 2, 3, 4

(b) 2, 1, 4, 3

(c) 3, 4, 2, 1

(d) 2, 3, 1, 4

Question 2

1. The loudspeakers called out the names of the runners.
2. Nine young athletes stood determined and poised for the sound of the gun.
3. The final event of the day was the one hundred metres race.
4. The one hundred metres race was about to be run.

(a) 3, 1, 4, 2

(b) 1, 2, 3, 4

(c) 3, 4, 1, 2

(d) 4, 3, 2, 1

Question 3

1. The youngest athlete stumbled and fell on his knees to the ground.
2. The pistol exploded, signalling the start of the race.
3. The athletes reacted explosively to the sound of the gun.
4. The race was the one hundred metres.

(a) 4, 2, 3, 1

(b) 2, 3, 1, 4

(c) 3, 4, 2, 1

(d) 1, 3, 4, 2

Question 4

1. The athletes' faces showed joy and accomplishment.
2. Nine smiling faces crossed the finish line.
3. The race concluded with a unique and memorable finish.
4. The banner conveyed a message more profound than words.

(a) 3, 2, 1, 4

(b) 2, 1, 4, 3

(c) 4, 3, 2, 1

(d) 1, 4, 3, 2

Question 5

1. The race turned into a display of compassion and camaraderie.
2. Athletes assisted a fellow competitor in need.
3. The crowd witnessed an extraordinary end to the race.
4. Competitors crossed the finish line together, making a strong statement.

(a) 2, 1, 4, 3

(b) 3, 4, 2, 1

(c) 1, 2, 3, 4

(d) 4, 3, 2, 1

TYPE 2

Question 6

In the context of an international athletic event, the athletes experienced a moment of:

1. Intense competition
2. Mutual support
3. Personal defeat
4. Aggressive rivalry

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 7

The moment the youngest runner stumbled, it symbolises:

1. Inevitability of failure
2. The unpredictability of sports
3. The challenges faced by athletes
4. A turning point in the poem

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 8

The reaction of the other athletes to the youngest runner's fall demonstrates:

1. Compassion
2. Indifference
3. Dismay
4. Determination

(a) 1 and 4

(b) 2 and 3

(c) 1 and 3

(d) 2 and 4

Question 9

The "Special Olympics" banner in the poem signifies:

1. The name of the event
2. The exceptional nature of the event
3. The competitive spirit
4. The international representation

(a) 1 and 2

(b) 3 and 4

(c) 1 and 4

(d) 2 and 3

Question 10

The poem's ending with nine gold medals symbolises:

1. Equal victory for all participants
2. The irrelevance of winning
3. The superiority of the athletes
4. The traditional reward in sports

(a) 1 and 4

(b) 2 and 3

(c) 1 and 3

(d) 2 and 4

Question 11

The context of the poem indicates that the athletes came from:

1. A single country
2. Multiple countries
3. The same training background
4. Different athletic disciplines

(a) Only 1

(b) 2 and 4

(c) 1 and 4

(d) 2 and 3

Question 12

The "one hundred metres" race in the poem is used to:

1. Highlight the physical prowess of the athletes
2. Serve as a metaphor for life's challenges
3. Show the intensity of competition
4. Represent the unity among competitors

(a) 1 and 3

(b) 2 and 4

(c) 1 and 2

(d) 3 and 4

Question 13

The poem's reference to the athletes' "many weeks and months in training" emphasises

1. The dedication required for athletic success
2. The long duration of sporting events
3. The inevitability of victory
4. The physical and mental preparation

(a) 1 and 4

(b) 2 and 3

(c) 1 and 3

(d) 2 and 4

TYPE 3

Question 14

Example Line: "But the youngest among them stumbled and staggered"

Identify the line that uses the same literary device as the example line:

(a) "The signal was given, the pistol exploded"

(b) "And the banner above that said 'Special Olympics'".

(c) "They came to the finish line holding hands still"

(d) "Cheering on all the young women and men"

Question 15

Example Line: "His dreams and his efforts dashed in the dirt"

Identify the line that uses the same literary device as the example line:

(a) "And poised for the sound of the gun"

(b) "The one hundred metres the race to be run"

(c) "The loudspeakers called out the names of the runners"

(d) "The last race about to begin"

Question 16

Example Line: "The one hundred metres reduced to a walk"

Identify the line that uses the same literary device as the example line:

(a) "They came to the finish line holding hands still"

(b) "And nine young athletes stood there determined"

(c) "That's how the race ended, with nine gold medals"

(d) "But the youngest among them stumbled and staggered"

Question 17

Example Line: "The loudspeakers called out the names of the runners"

Identify the line that uses the same literary device as the example line:

(a) "Many weeks and months in training"

(b) "And the banner above that said 'Special Olympics'"

(c) "And lifted the lad to his feet"

(d) "All round the field spectators were gathered"

Question 18

Example Line: "The signal was given, the pistol exploded"

Identify the line that uses the same literary device as the example line:

(a) "The one hundred metres the race to be run"

(b) "And lifted the lad to his feet"

(c) "But as sure as I'm standing here telling the story"

(d) "And he fell on his knees to the ground"

Question 19

Example Line: "All round the field spectators were gathered"

Identify the line that uses the same literary device as the example line:

(a) "The athletes had come from so many countries"

(b) "The last race about to begin"

(c) "Then all nine runners joined hands and continued"

(d) "And poised for the sound of the gun"

Question 20

Example Line: "And he fell on his knees to the ground"

Identify the line that uses the same literary device as the example line:

(a) "They came to the finish line holding hands still"

(b) "Cheering on all the young women and men"

(c) "The athletes had come from so many countries"

(d) "His dreams and his efforts dashed in the dirt"

Question 21

Example Line: "The athletes had come from so many countries"

Identify the line that uses the same literary device as the example line:

(a) "The one hundred metres the race to be run"

(b) "And the banner above and nine smiling faces"

(c) "And poised for the sound of the gun"

(d) "But as sure as I'm standing here telling the story"

1 An Angel in Disguise

By T.S. Arthur

TYPE 1

Select the option that shows the correct relationship between statements (1) and (2):

Question 1

Statement 1: Maggie had been bedridden for two years after a fall from a window.

Statement 2: No one wanted to take Maggie in after her mother's death.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

Question 2

Statement 1: Joe Thompson brought Maggie to his home.

Statement 2: Maggie brought love and warmth into the Thompson household.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

Question 3

Statement 1: Mrs. Thompson had a vinegar-tempered character.

Statement 2: Maggie's presence transformed Mrs. Thompson's nature.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

Question 4

Statement 1: The villagers provided clothes and food for the children after the mother's death.

Statement 2: The villagers had previously despised the mother and her family.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

Question 5

Statement 1: Joe Thompson was hesitant about how his wife would react to bringing Maggie home.

Statement 2: Mrs. Thompson's character was transformed by Maggie's presence.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

2 The Little Match Girl

By Hans Christian Andersen

TYPE 1

Select the option that shows the correct relationship between statements (1) and (2):

Question 1

Statement 1: The little girl was afraid to go home because she hadn't sold any matches.

Statement 2: Her father would likely beat her for not earning any money.

(a) Statement 1 is the cause of Statement 2.

(b) Statement 1 is an example of Statement 2.

(c) Statement 1 and 2 are independent.

(d) Statement 1 contradicts Statement 2.

Question 2

Statement 1: The girl saw visions of a warm stove and a roast goose when she lit the matches.

Statement 2: She was desperately cold and hungry on the streets.

(a) Statement 1 is a result of Statement 2.

(b) Statement 1 is an example of Statement 2.

(c) Statement 1 and 2 are independent.

(d) Statement 1 contradicts Statement 2.

Question 3

Statement 1: The girl struck a match and saw a Christmas tree.

Statement 2: She remembered her grandmother telling her about stars and souls.

(a) Statement 1 caused Statement 2.

(b) Statement 1 is an example of Statement 2.

(c) Statement 1 and 2 are independent.

(d) Statement 1 contradicts Statement 2.

Question 4

Statement 1: The little girl died of cold and hunger.

Statement 2: People found her with a smile on her lips.

(a) Statement 1 is a cause of Statement 2.

(b) Statement 1 is an example of Statement 2.

(c) Statement 1 and 2 are independent.

(d) Statement 1 contradicts Statement 2.

Question 5

Statement 1: The girl imagined her deceased grandmother in her visions.

Statement 2: She struck all her matches to keep the vision of her grandmother alive.

(a) Statement 1 is the cause of Statement 2.

(b) Statement 1 is an example of Statement 2.

(c) Statement 1 and 2 are independent.

(d) Statement 1 contradicts Statement 2.

3 The Blue Bead

By Norah Burke

TYPE 1

Select the option that shows the correct relationship between statements (1) and (2) from "The Blue Bead".

Question 1

Statement 1: Sibia was eating the last of her meal chupatti wrapped around a smear of green chili and rancid butter.

Statement 2: In all her life she had never owned anything but a rag.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

Question 2

Statement 1: The crocodile had no need to hide himself.

Statement 2: Sibia stepped onto the first stone.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

Question 3

Statement 1: Sibia was a happy immature child-woman about twelve years old.

Statement 2: Since she could toddle she had husked corn and gathered sticks.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

Question 4

Statement 1: Sibia aimed at the reptile's eyes.

Statement 2: The crocodile reared up in convulsion.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

Question 5

Statement 1: She reached her arm down into a yard of the cold silk water to get it.

Statement 2: Then there it lay in her wet palm perfect even pierced.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

4 My Greatest Olympic Prize

By Jesse Owens

TYPE 1

Select the option that shows the correct relationship between statements (1) and (2) from "My Greatest Olympic Prize".

Question 1

Statement 1: Jesse Owens was surprised to see a German athlete, Luz Long, jumping almost 26 feet in practice.

Statement 2: Jesse Owens felt a surge of determination to prove his superiority in the face of Nazi beliefs.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

Question 2

Statement 1: Luz Long offered Jesse Owens advice on how to avoid fouling in the long jump.

Statement 2: Jesse Owens qualified for the finals with ease after adjusting his technique.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

Question 3

Statement 1: Jesse Owens and Luz Long formed a genuine friendship.

Statement 2: Luz Long congratulated Jesse Owens heartily despite losing to him.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

Question 4

Statement 1: Jesse Owens was initially angry and tense about the competition.

Statement 2: Jesse Owens fouled in his first two qualifying jumps.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

Question 5

Statement 1: Jesse Owens felt that Luz Long epitomised the Olympic spirit.

Statement 2: Luz Long and Jesse Owens valued the importance of participation and sportsmanship over winning.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

5 All Summer in a Day

By Ray Bradbury

TYPE 1

Select the option that shows the correct relationship between statements (1) and (2) from "All Summer in a Day".

Question 1

Statement 1: Margot stood apart from the other children.

Statement 2: Margot had come to Venus from Earth and remembered the sun.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

Question 2

Statement 1: The children hated Margot for many reasons.

Statement 2: Margot was different because she remembered the sun.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

Question 3

Statement 1: Margot refused to shower in the school shower rooms.

Statement 2: Margot sensed she was different and the children knew this.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

Question 4

Statement 1: Margot was lost in the rain for years.

Statement 2: The rain had washed out the colour from Margot's eyes, mouth, and hair.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

Question 5

Statement 1: Margot stood blinking after the children when they tagged her and ran.

Statement 2: Margot did not follow the children when they played games.

(a) 1 is the cause for 2

(b) 1 is an example of 2

(c) 1 is independent of 2

(d) 1 is a contradiction of 2

ACT III Scene 1

TYPE 1

Choose the option that lists the sequence of events in the correct order.

Question 1

1. Salanio and Salarino discuss the news about Antonio's shipwreck.
2. Shylock enters and talks about his daughter's flight.
3. Salarino and Salanio meet Shylock, who talks about Antonio's losses.
4. Shylock speaks about the injustices he faces as a Jew and his desire for revenge.

(a) 1, 2, 3, 4

(b) 3, 2, 1, 4

(c) 2, 1, 4, 3

(d) 1, 3, 2, 4

Question 2

1. Salanio mentions his wish for a good title to accompany Antonio's name.
2. Salarino expresses his hope that Antonio's shipwreck is his only loss.
3. The conversation turns to Shylock's daughter's escape.
4. Shylock bitterly comments on his daughter's rebellion and his own flesh and blood.

(a) 1, 3, 2, 4

(b) 3, 1, 4, 2

(c) 2, 1, 3, 4

(d) 1, 2, 3, 4

Question 3

1. Salarino and Salanio discuss a dangerous sea area where ships have wrecked.
2. Shylock and Salarino speak about Antonio's financial troubles.
3. Shylock talks about using Antonio's flesh for bait.
4. Shylock reacts to the news of his daughter's flight.

(a) 1, 4, 2, 3

(b) 4, 1, 3, 2

(c) 2, 3, 1, 4

(d) 3, 2, 4, 1

Question 4

1. Salanio and Salarino express their disbelief and sarcasm about Shylock's situation.
2. Shylock expresses his anger and desire for revenge against Antonio.
3. Antonio's servant arrives to inform Salarino and Salanio that Antonio wants to see them.
4. Discussion about the differences between Shylock's daughter and him.

(a) 1, 4, 2, 3

(b) 2, 3, 1, 4

(c) 3, 2, 4, 1

(d) 4, 1, 3, 2

Question 5

1. Shylock laments his daughter's flight and his losses.
2. Salanio jokes about Shylock's reaction to his daughter's actions.
3. Salarino and Salanio speak about Antonio's misfortune at sea.
4. Salanio and Salarino encounter Tubal, another Jew.

(a) 3, 1, 2, 4

(b) 2, 3, 4, 1

(c) 1, 3, 2, 4

(d) 4, 2, 1, 3

Question 6

1. Shylock learns from Tubal about Antonio's misfortune.
2. Shylock expresses his frustration over the loss of his jewels and money.
3. Tubal informs Shylock about his daughter spending ducats in Genoa.
4. Shylock reacts to the news of Antonio's creditors swearing his impending bankruptcy.

(a) 2, 3, 1, 4

(b) 1, 2, 4, 3

(c) 3, 4, 2, 1

(d) 4, 1, 3, 2

Question 7

1. Tubal mentions his encounters with Antonio's creditors.
2. Shylock expresses his anger upon hearing about his daughter's actions.
3. Tubal reports on Antonio's shipwreck.
4. Shylock asks Tubal about news from Genoa and his daughter.

(a) 4, 2, 3, 1

(b) 3, 1, 4, 2

(c) 2, 4, 1, 3

(d) 1, 3, 2, 4

Question 8

1. Tubal brings up Antonio's financial troubles.
2. Shylock grieves over the loss of a turquoise ring.
3. Shylock is informed of Antonio's shipwreck.
4. Shylock bemoans the financial loss due to his daughter's actions.

(a) 3, 4, 1, 2

(b) 4, 2, 3, 1

(c) 1, 3, 2, 4

(d) 2, 1, 4, 3

Question 9

1. Shylock orders Tubal to prepare for Antonio's forfeiture.
2. Tubal reports Shylock's daughter trading a ring for a monkey.
3. Shylock laments the loss of his turquoise ring.
4. Shylock rejoices over Antonio's financial misfortune.

(a) 2, 3, 4, 1

(b) 4, 1, 2, 3

(c) 3, 2, 1, 4

(d) 1, 4, 3, 2

Question 10

1. Tubal conveys the news of Antonio's shipwreck to Shylock.
2. Shylock vents about the loss of his diamond and other jewels.
3. Shylock reacts to his daughter's extravagant spending in Genoa.
4. Shylock shows gratitude for Antonio's misfortune.

(a) 2, 1, 3, 4

(b) 3, 4, 2, 1

(c) 4, 3, 1, 2

(d) 1, 2, 4, 3

TYPE 2

Question 11

In the discussion about Antonio's losses at sea, Salanio and Salarino express:

1. Sympathy for Antonio's misfortune.
2. Indifference to Antonio's situation.
3. Schadenfreude over Antonio's misfortune.
4. Concern for their own investments.

(a) 1 and 4

(b) 2 and 3

(c) 3 and 4

(d) 1 and 2

Question 12

When Shylock talks about his daughter's flight, he shows:

1. Indifference to her actions.
2. Sadness over her betrayal.
3. Anger towards her for leaving.
4. Relief that she is gone.

(a) 1 and 4

(b) 2 and 3

(c) 1 and 2

(d) 3 and 4

Question 13

Shylock's response to the news of Antonio's misfortunes indicates:

1. Sympathy for Antonio's situation.
2. A desire for revenge against Antonio.
3. Concern about the impact on his own finances.
4. Indifference to Antonio's fate.

(a) 1 and 3

(b) 2 and 4

(c) 3 and 4

(d) 1 and 2

Question 14

Shylock's monologue about being a Jew serves to:

1. Justify his actions towards Christians.
2. Highlight the common humanity between Jews and Christians.
3. Express his desire for revenge.
4. Show his indifference to religious differences.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 15

The entry of Tubal and the reaction of Salanio and Salarino reflect:

1. A welcoming attitude towards Tubal

2. Prejudice against Tubal's Jewish heritage.
3. Indifference to Tubal's presence.
4. Curiosity about Tubal's news.

(a) 1 and 3

(b) 2 and 4

(c) 3 and 4

(d) 1 and 2

Question 16

Shylock shows a complex reaction to the loss of his daughter and his jewels. Which emotions does Shylock express?

1. Anger and regret
2. Grief and relief
3. Joy and anticipation
4. Indifference and happiness

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 17

In the dialogue with Tubal, Shylock is most upset about:

1. The loss of his daughter
2. The loss of his money and jewels
3. Antonio's misfortunes
4. Tubal's lack of effort in finding his daughter

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 18

When Tubal informs Shylock about Antonio's misfortune, Shylock's reaction is one of:

1. Sympathy and concern
2. Indifference and dismissal
3. Joy and vindictiveness
4. Confusion and disbelief

(a) 1 and 2

(b) 2 and 3

(c) Only 3

(d) 1 and 4

Question 19

Shylock's attachment to the turquoise ring is significant because it symbolises:

1. His wealth and status
2. His love for his daughter
3. His memories of Leah
4. His desire for revenge

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Scene 2

TYPE 1

Choose the option that lists the sequence of events in the correct order.

Question 1

1. Portia urges Bassanio to delay his choice of casket.
2. Bassanio expresses his anxiety and anticipation about the choice.
3. Portia discusses the consequences of Bassanio's potential wrong choice.
4. Bassanio speaks about the deceptive nature of appearances.

(a) 2, 3, 1, 4

(b) 1, 3, 4, 2

(c) 3, 1, 2, 4

(d) 4, 2, 1, 3

Question 2

1. Bassanio reflects on the nature of beauty and virtue.
2. Portia ponders over the intensity of her emotions.
3. Bassanio opens the leaden casket.
4. Portia expresses her willingness to submit to Bassanio's rule.

(a) 3, 1, 2, 4

(b) 1, 4, 3, 2

(c) 2, 3, 4, 1

(d) 4, 2, 1, 3

Question 3

1. Bassanio comments on the caskets.
2. Portia asks Bassanio to make his choice.
3. A song is played while Bassanio contemplates his choice.
4. Portia speaks about the risks involved in Bassanio's choice.

(a) 2, 4, 1, 3

(b) 3, 1, 2, 4

(c) 4, 2, 3, 1

(d) 1, 3, 4, 2

Question 4

1. Portia gives Bassanio a ring as a symbol of her love.
2. Bassanio is amazed by the portrait of Portia in the casket.
3. Portia reflects on her status change from being the owner of her estate to being under Bassanio's authority.
4. Bassanio reads the scroll inside the leaden casket.

(a) 2, 4, 1, 3

(b) 3, 1, 2, 4

(c) 4, 2, 3, 1

(d) 1, 3, 4, 2

Question 5

1. Bassanio and Portia discuss the meaning of the casket's challenge.
2. Portia offers herself and her possessions to Bassanio.
3. Bassanio prepares to make his choice among the caskets.
4. Portia describes her feelings as Bassanio makes his choice.

(a) 3, 1, 4, 2

(b) 4, 2, 3, 1

(c) 1, 3, 2, 4

(d) 2, 4, 1, 3

Question 6

Choose the option that lists the sequence of events in the correct order.

1. Bassanio reads a letter from Antonio expressing his dire situation.
2. Portia insists on paying the debt for Bassanio's friend and invites him to bring his friend to Venice.
3. Gratiano expresses his wish to be married at the same time as Bassanio and Portia.
4. Lorenzo, Jessica, and Salerio arrive, bringing news from Venice.

(a) 3, 4, 1, 2

(b) 4, 3, 2, 1

(c) 1, 2, 3, 4

(d) 2, 1, 4, 3

Question 7

Choose the option that lists the sequence of events in the correct order.

1. Portia questions the content of the letter that Bassanio received.
2. Salerio delivers the letter from Antonio to Bassanio.
3. Bassanio worries about Antonio's situation after reading the letter.
4. Portia offers to pay a large sum to help Bassanio's friend, Antonio.

(a) 2, 1, 3, 4

(b) 3, 4, 2, 1

(c) 4, 3, 1, 2

(d) 1, 2, 4, 3

Question 8

Choose the option that lists the sequence of events in the correct order.

1. Bassanio is overwhelmed by Portia's offer to help his friend.
2. Gratiano and Nerissa express their wishes for Bassanio and Portia's happiness.
3. Bassanio expresses his emotions to Portia, saying his wealth is in his blood.
4. Lorenzo and Salerio discuss Antonio's misfortune with Bassanio.

(a) 3, 2, 4, 1

(b) 1, 3, 2, 4

(c) 4, 3, 1, 2

(d) 2, 1, 3, 4

Question 9

Choose the option that lists the sequence of events in the correct order.

1. Portia learns about Antonio's trouble and offers to pay his debt.
2. Bassanio and Portia discuss their love and financial situations.
3. Salerio brings news of Antonio's failed ventures and his bond to the Jew.
4. Gratiano jokes about winning a large sum in a bet.

(a) 2, 3, 4, 1

(b) 3, 1, 2, 4

(c) 4, 2, 1, 3

(d) 1, 4, 3, 2

Question 10

Choose the option that lists the sequence of events in the correct order.

1. Gratiano reveals that he has also found love and wishes to marry.
2. Bassanio greets Lorenzo and Salerio, who have just arrived.

3. Portia and Nerissa discuss their plans to live as maids and widows until their husbands return.
4. Bassanio and Portia express their love and commitment to each other.

(a) 1, 4, 2, 3

(b) 2, 1, 3, 4

(c) 3, 2, 1, 4

(d) 4, 3, 2, 1

TYPE 2

Question 11

When Portia speaks to Bassanio before he chooses the casket, she expresses her feelings of:

1. Indifference towards the outcome.
2. Fear of losing Bassanio's company.
3. Implicit love for Bassanio.
4. Confidence in Bassanio's love for her.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 12

Bassanio compares his state of mind while choosing the casket to:

1. Being on the rack.
2. Experiencing great joy.
3. Feeling indifferent.
4. His anxiety.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 13

Portia's feelings towards the casket test are best described as:

1. Confident and untroubled.
2. Anxious and hopeful.
3. Indifferent and detached.
4. Angry and frustrated.

(a) 1 and 2

(b) Only 2

(c) 3 and 4

(d) 1 and 4

Question 14

Bassanio's approach to choosing the casket is influenced by his:

1. Mistrust in Portia's intentions.
2. Deep love and fear of losing Portia.
3. Desire for wealth and status.
4. Indifference to the outcome.

(a) 1 and 2

(b) Only 2

(c) 3 and 4

(d) 1 and 4

Question 15

In this scene, Portia's role shifts from being the master of her estate to:

1. A servant to Bassanio.
2. A partner in Bassanio's endeavours.
3. A subject to Bassanio's wishes.
4. An observer of Bassanio's choices.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 16

In the context of Bassanio's reaction to Portia's generosity, he experiences:

1. Gratitude for Portia's financial support.
2. Indifference towards Antonio's plight.
3. Anxiety about his own financial situation.
4. Regret for involving Antonio.

(a) 1 and 4

(b) 2 and 3

(c) 3 and 4

(d) 1 and 3

Question 17

When Gratiano expresses his desire to be married at the same time as Bassanio, it indicates:

1. His impatience for marriage.
2. His close bond with Bassanio.
3. His lack of seriousness about marriage.
4. His admiration for Bassanio's relationship.

(a) 1 and 3

(b) 2 and 4

(c) 1 and 2

(d) 3 and 4

Question 18

Portia's offer to pay off Bassanio's debt to Antonio demonstrates her:

1. Commitment to Bassanio.
2. Disregard for financial matters.
3. Understanding of Bassanio's loyalty to Antonio.
4. Desire to control the situation.

(a) 1 and 3

(b) 2 and 4

(c) 1 and 4

(d) 3 and 2

Question 19

Bassanio's admission of his financial situation to Portia reveals his:

1. Honesty and vulnerability.
2. Shame and regret.
3. Dependence on Antonio.
4. Desire for sympathy.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 20

When Bassanio learns of Antonio's situation, his immediate concern and decision to leave show his:

1. Loyalty to Antonio.
2. Fear of financial ruin.
3. Conflicted emotions about leaving Portia.
4. Desperation to resolve the situation.

(a) 1 and 3

(b) 2 and 4

(c) 1 and 4

(d) 3 and 2

ACT III Scene 3

TYPE 1

Question 1

Choose the option that lists the sequence of events in the correct order.

1. Antonio implores Shylock to listen to him.
2. Shylock insists on having his bond and refuses to listen to any pleas.
3. Shylock expresses his disdain for the Gaoler and Antonio, calling himself a dog with fangs.
4. Shylock reprimands the Gaoler for being fond of Antonio and accompanying him.

(a) 1, 2, 3, 4

(b) 3, 4, 1, 2

(c) 4, 3, 2, 1

(d) 2, 1, 4, 3

Question 2

Choose the option that lists the sequence of events in the correct order.

1. Shylock is adamant about having his bond, emphasising it repeatedly.
2. Antonio requests Shylock to hear him out.
3. Shylock warns about his fangs and expresses his intent to seek justice from the duke.
4. Shylock scorns the Gaoler for being sympathetic towards Antonio.

(a) 2, 1, 3, 4

(b) 4, 3, 2, 1

(c) 1, 3, 4, 2

(d) 3, 2, 4, 1

Question 3

Choose the option that lists the sequence of events in the correct order.

1. Shylock refuses to yield to Christian intercessors.
2. Antonio pleads with Shylock to listen to him.
3. Shylock declares his determination to have his bond and denies further conversation.
4. Shylock criticises the Gaoler for his unnecessary kindness towards Antonio.

(a) 2, 3, 1, 4

(b) 4, 2, 3, 1

(c) 3, 1, 4, 2

(d) 1, 4, 2, 3

Question 4

Choose the option that lists the sequence of events in the correct order.

1. Shylock expresses his commitment to having his bond, ignoring Antonio's pleas.
2. Antonio begs Shylock to hear his plea.
3. Shylock mocks the Gaoler for being affectionate towards Antonio.

4. Shylock, calling himself a dog, warns of his fangs and seeks justice from the duke.

(a) 2, 1, 4, 3

(b) 3, 4, 2, 1

(c) 1, 3, 2, 4

(d) 4, 3, 1, 2

Question 5

Choose the option that lists the sequence of events in the correct order.

1. Antonio ponders over the possible decision of the Duke regarding his case.
2. Salarino expresses his disbelief in the Duke granting Shylock's demand.
3. Antonio reflects on the importance of foreign trade to Venice.
4. Salarino describes Shylock as a detestable person.

(a) 4, 2, 1, 3

(b) 1, 3, 4, 2

(c) 2, 4, 3, 1

(d) 3, 1, 2, 4

Question 6

Choose the option that lists the sequence of events in the correct order.

1. Antonio talks about the need for fair treatment of foreigners in Venice.
2. Antonio expresses his readiness to face Shylock for the sake of his friend Bassanio.
3. Salarino shows optimism about the Duke's decision.
4. Antonio mentions how his financial struggles have weakened him.

(a) 3, 1, 4, 2

(b) 1, 3, 2, 4

(c) 4, 2, 3, 1

(d) 2, 4, 1, 3

Question 7

Choose the option that lists the sequence of events in the correct order.

1. Antonio acknowledges that Shylock has a legitimate reason to seek his life.
2. Antonio talks about the many times he has interfered with Shylock's business.
3. Salarino expresses his confidence in the Duke's fairness.
4. Antonio reflects on his vulnerability and the potential loss of a pound of flesh.

(a) 1, 2, 3, 4

(b) 2, 1, 4, 3

(c) 3, 4, 1, 2

(d) 4, 3, 2, 1

TYPE 2

Question 8

Shylock's insistence on having his bond reflects his:

1. Desire for friendship and reconciliation.
2. Intent to show mercy and forgiveness.
3. Determination to seek revenge and justice.
4. Hope to gain wealth and status.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 9

In the scene with Antonio and the Gaoler, Shylock's attitude towards mercy can be described as:

1. Indifferent.
2. Accepting.
3. Receptive.
4. Dismissive.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 10

During the confrontation with Antonio, Shylock expresses his feelings of:

1. Joy and contentment.
2. Bitterness and resentment.
3. Confusion and indecisiveness.
4. Sympathy and compassion.

(a) 1 and 2

(b) 2 and 3

(c) Only 2

(d) 1 and 4

Question 11

Shylock's reference to being a "dog" and warning of his "fangs" signifies his:

1. Acceptance of societal prejudice.
2. Readiness to retaliate.
3. Feeling of powerlessness.
4. Desire for peaceful resolution.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 12

Shylock's refusal to listen to Christian intercessors mainly illustrates his:

1. Religious conviction.
2. Trust in the legal system.
3. Deep-seated animosity.
4. Financial acumen.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 13

In the context of Antonio's conflict with Shylock, Antonio expresses that Shylock:

1. Seeks revenge due to personal grudges
2. Is a fair and just individual
3. Admires Antonio for his past actions
4. Has no valid reason for his actions

(a) 1 and 4

(b) 1 and 2

(c) 2 and 3

(d) 3 and 4

Question 14

Regarding Antonio's view on the Duke's power in Venice, Antonio believes that:

1. The Duke has the authority to overrule the law
2. The Duke is powerless against the law
3. The Duke is indifferent to Antonio's situation
4. The Duke will favour Antonio out of friendship

(a) 1 and 3

(b) 2 and 4

(c) 1 and 4

(d) Only 2

Question 15

When Antonio speaks of "the commodity that strangers have with us in Venice," he is referring to:

1. The legal protections afforded to foreigners
2. The economic contributions of foreigners
3. The lack of rights for foreigners
4. The cultural diversity brought by foreigners

(a) Only 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 16

Antonio's statement, "These griefs and losses have so bated me," suggests that he:

1. Is financially and emotionally drained
2. Remains hopeful and optimistic
3. Is planning revenge against Shylock
4. Feels indifferent about his financial situation

(a) 1 and 4

(b) 2 and 3

(c) Only 1

(d) 2 and 4

Question 17

At the end of the scene, Antonio's hope for Bassanio's arrival indicates that:

1. He relies on Bassanio for financial rescue
2. He values Bassanio's friendship and support
3. He expects Bassanio to negotiate with Shylock
4. He is indifferent to Bassanio's help

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Scene 4

TYPE 1

Question 1

1. Portia commits the management of her house to Lorenzo until her lord's return.
2. Lorenzo praises Portia's noble amity in bearing the absence of her lord.

3. Portia expresses her unwavering commitment to doing good deeds.
4. Portia and Nerissa plan to disguise themselves as men.

(a) 2, 3, 1, 4

(b) 3, 1, 2, 4

(c) 1, 2, 4, 3

(d) 4, 2, 3, 1

Question 2

1. Portia sends Balthasar to Padua with a letter for Doctor Bellario.
2. Lorenzo expresses his willingness to obey Portia's fair commands.
3. Portia decides to live in prayer and contemplation in a monastery.
4. Portia and Nerissa exit to prepare for their disguise.

(a) 1, 2, 3, 4

(b) 3, 2, 1, 4

(c) 2, 3, 4, 1

(d) 4, 1, 3, 2

Question 3

1. Portia and Nerissa discuss their plans to see their husbands.
2. Portia assigns Lorenzo and Jessica to take their place in her absence.
3. Lorenzo compliments Portia on her noble character.
4. Portia instructs Balthasar to expedite his journey to Padua.

(a) 3, 2, 1, 4

(b) 2, 4, 3, 1

(c) 1, 3, 4, 2

(d) 4, 1, 2, 3

Question 4

1. Portia teases Nerissa about their upcoming disguises.
2. Portia thanks Jessica for her well wishes.
3. Portia expresses her satisfaction in sending relief to Antonio.
4. Lorenzo bids farewell to Portia, expressing his hope for her happiness.

(a) 3, 2, 4, 1

(b) 2, 1, 3, 4

(c) 4, 3, 1, 2

(d) 1, 4, 2, 3

Question 5

1. Portia talks about maintaining a balance of love and manners in relationships.
2. Portia assigns tasks to Lorenzo in her and Bassanio's absence.
3. Portia plans to disguise herself and Nerissa as men.
4. Portia and Nerissa leave to enact their plan.

(a) 1, 2, 3, 4

(b) 2, 1, 4, 3

(c) 3, 4, 1, 2

(d) 4, 3, 2, 1

Question 6

1. Portia and Nerissa discuss their plans to visit their husbands.
2. Portia sends Balthasar to deliver a letter to Doctor Bellario.
3. Portia and Lorenzo discuss the management of her house.
4. Portia jokes about how she will outshine Nerissa in their male disguises.

(a) 3, 2, 1, 4

(b) 2, 1, 3, 4

(c) 4, 3, 2, 1

(d) 1, 4, 3, 2

Question 7

1. Portia discusses the likeness of souls in relationships.
2. Portia and Nerissa disguise themselves to surprise their husbands.
3. Portia talks about the effort she's put into helping Antonio.
4. Jessica and Lorenzo bid farewell to Portia.

(a) 3, 1, 4, 2

(b) 1, 3, 2, 4

(c) 4, 2, 1, 3

(d) 2, 4, 3, 1

Question 8

1. Portia plans to live in prayer and contemplation until her husband's return.
2. Portia assigns a task to Balthasar.
3. Portia expresses her belief in shared attributes between loved ones.
4. Lorenzo and Jessica acknowledge Portia's instructions.

(a) 3, 1, 2, 4

(b) 1, 4, 3, 2

(c) 2, 3, 4, 1

(d) 4, 2, 1, 3

TYPE 2

Question 9

In the context of managing her household, Portia entrusts Lorenzo with the responsibility of:

1. Sending a letter to Doctor Bellario.
2. The husbandry and management of her house.
3. Accompanying her to the monastery.
4. Advising her on legal matters.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) Only 2

Question 10

Portia plans to:

1. Stay at home until her husband returns.
2. Accompany Nerissa to a monastery.
3. Disguise herself and Nerissa as young men.
4. Leave the management of her house to Lorenzo.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 11

In discussing Antonio, Portia implies that:

1. She has little regard for him.
2. He must be like her lord, as he is his close friend.
3. He is unworthy of her help.
4. He should be avoided at all costs.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) None of the above

Question 12

Portia's attitude towards her own praiseworthiness is one of:

1. Arrogance and self-admiration.
2. Humility and reluctance to praise herself.
3. Indifference and detachment.
4. Uncertainty and self-doubt.

(a) 1 and 2

(b) Only 2

(c) 3 and 4

(d) 1 and 4

Question 13

The task Portia assigns to Balthasar involves:

1. Managing her household affairs.
2. Delivering a letter to Doctor Bellario.
3. Accompanying her to Venice.
4. Assisting Lorenzo and Jessica.

(a) Only 2

(b) Only 1

(c) 1 and 2

(d) 3 and 4

Question 14

The character who expresses a wish for Portia's happiness is:

1. Lorenzo.
2. Jessica.
3. Balthasar.
4. Nerissa.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 15

Portia's view on the relationship between friends is that:

1. They should not spend too much time together.
2. They should share an equal yoke of love.
3. They are not as important as family.
4. They often lead one to make unwise decisions.

(a) 1 and 2

(b) Only 2

(c) 3 and 4

(d) Only 1

Scene 5

TYPE 1

Question 1

Choose the option that lists the sequence of events in the correct order.

1. Lorenzo comments on the potential jealousy he might feel towards Launcelot for getting his wife, Jessica, into corners.
2. Launcelot expresses his fears about Jessica being damned due to her parentage.
3. Jessica reveals her hope of salvation through her husband, who has made her a Christian.
4. Launcelot and Jessica discuss the consequences of converting Jews to Christians on the price of pork.

(a) 2, 3, 1, 4

(b) 3, 4, 2, 1

(c) 1, 4, 3, 2

(d) 4, 2, 1, 3

Question 2

Choose the option that lists the sequence of events in the correct order.

1. Launcelot jests about the Moor being with child by him.
2. Jessica plans to tell her husband, Lorenzo, about Launcelot's comments.
3. Lorenzo arrives and makes a remark about Launcelot and Jessica.
4. Launcelot speaks about the impact of making Christians on the economy.

(a) 4, 2, 1, 3

(b) 2, 3, 4, 1

(c) 3, 1, 2, 4

(d) 1, 4, 3, 2

Question 3

Choose the option that lists the sequence of events in the correct order.

1. Lorenzo criticises Launcelot for his remarks on converting Jews.
2. Launcelot talks about Jessica's hope that is like a 'bastard hope'.
3. Jessica asserts her Christian faith, hoping for salvation.
4. Lorenzo teases Launcelot about his wordplay and instructs him to prepare for dinner.

(a) 2, 3, 1, 4

(b) 3, 1, 4, 2

(c) 1, 4, 2, 3

(d) 4, 2, 3, 1

Question 4

Choose the option that lists the sequence of events in the correct order.

1. Jessica and Launcelot discuss her damned state as a Jew's daughter.
2. Lorenzo makes a jest about Launcelot's involvement with the Moor.
3. Launcelot fears for Jessica's soul, troubled by her parents' sins.
4. Jessica tells Lorenzo about Launcelot's opinion on their conversion efforts.

(a) 3, 1, 4, 2

(b) 4, 2, 3, 1

(c) 1, 3, 2, 4

(d) 2, 4, 1, 3

Question 5

Choose the option that lists the sequence of events in the correct order.

1. Lorenzo asks Launcelot to get the table ready for dinner.
2. Jessica praises Portia's character to Lorenzo.
3. Launcelot makes a humorous comment about serving dinner.
4. Lorenzo and Jessica plan to discuss more at dinner.

(a) 1, 3, 2, 4

(b) 3, 1, 4, 2

(c) 2, 4, 1, 3

(d) 4, 2, 3, 1

Question 6

Choose the option that lists the sequence of events in the correct order.

1. Launcelot exits after a witty conversation with Lorenzo.
2. Jessica agrees with Lorenzo's assessment of Portia.
3. Lorenzo invites Jessica to express her opinion on Portia.
4. Lorenzo jests about Launcelot's wordplay.

(a) 4, 1, 3, 2

(b) 1, 4, 2, 3

(c) 2, 3, 4, 1

(d) 3, 2, 1, 4

Question 7

Choose the option that lists the sequence of events in the correct order.

1. Lorenzo appreciates Launcelot's skilful language.
2. Lorenzo and Jessica discuss going to dinner.
3. Jessica offers to praise Lorenzo.
4. Launcelot agrees to Lorenzo's request to prepare dinner.

(a) 4, 1, 2, 3

(b) 1, 4, 3, 2

(c) 3, 2, 1, 4

(d) 2, 3, 4, 1

TYPE 2

Question 8

In the conversation between Launcelot and Jessica, Launcelot expresses his concern about Jessica's salvation due to her:

1. Lack of faith
2. Parentage
3. Behavior
4. Marriage

(a) 1 and 2

(b) Only 2

(c) 3 and 4

(d) 1 and 4

Question 9

Launcelot uses the metaphor of Scylla and Charybdis to describe Jessica's situation, implying that she:

1. Is trapped between two dangers
2. Faces a straightforward choice
3. Is safe from harm
4. Has escaped her problems

(a) Only 1

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 10

Jessica's belief in her salvation through her husband indicates her:

1. Confidence in love
2. Dependence on others
3. Religious conversion
4. Rejection of her past

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 11

Launcelot's remark about the increase in the price of pork after the conversion of Jews to Christianity suggests his view on:

1. Economic consequences
2. Religious practices
3. Social changes
4. Dietary habits

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 12

Lorenzo's jest about Launcelot causing the Moor to be pregnant is an example of:

1. Racial prejudice
2. Playful banter
3. Misunderstanding
4. Serious accusation

(a) 1 and 2

(b) Only 2

(c) 3 and 4

(d) 1 and 4

Question 13

Launcelot's wordplay with Lorenzo about preparing for dinner highlights his:

1. Literal understanding
2. Mischievous nature
3. Lack of intelligence
4. Obedience

(a) Only 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 14

Lorenzo's comment on Launcelot's "army of good words" suggests his:

1. Admiration for Launcelot's wit
2. Frustration with Launcelot's talkativeness
3. Appreciation of humour
4. Disdain for foolishness

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 15

Jessica's praise of Portia's virtues in her conversation with Lorenzo reflects her:

1. Envy
2. Admiration
3. Sarcasm
4. Indifference

(a) 1 and 2

(b) Only 2

(c) 3 and 4

(d) 1 and 4

Scene 1

TYPE 1

Question 1

Choose the option that lists the sequence of events in the correct order.

1. Shylock states his determination to have the bond fulfilled as per his agreement.
2. Duke expresses his expectation of a gentle answer from Shylock.
3. Antonio acknowledges the impossibility of legally avoiding Shylock's claim.
4. Bassanio offers Shylock six thousand ducats instead of the three thousand owed.

(a) 3, 2, 1, 4

(b) 2, 1, 3, 4

(c) 1, 3, 2, 4

(d) 4, 3, 2, 1

Question 2

Choose the option that lists the sequence of events in the correct order.

1. The Duke questions Shylock about his insistence on the bond.
2. Shylock compares his demand for the bond to the ownership of slaves.
3. Bassanio criticises Shylock for his lack of mercy.
4. Shylock defends his right to the bond, likening it to a personal whim.

(a) 1, 4, 3, 2

(b) 4, 2, 1, 3

(c) 2, 3, 4, 1

(d) 3, 1, 2, 4

Question 3

Choose the option that lists the sequence of events in the correct order.

1. Antonio speaks of the futility of reasoning with Shylock.
2. Shylock insists on receiving a pound of Antonio's flesh as per the bond.
3. The Duke expresses hope for mercy from Shylock.
4. Bassanio attempts to offer double the amount of ducats owed to Shylock.

(a) 3, 2, 1, 4

(b) 1, 3, 4, 2

(c) 4, 1, 3, 2

(d) 2, 4, 1, 3

Question 4

Choose the option that lists the sequence of events in the correct order.

1. Shylock swears by the Sabbath to have his bond.

2. The Duke regrets Antonio's situation and condemns Shylock's inhumanity.
3. Antonio expresses his readiness to suffer Shylock's wrath.
4. A messenger arrives with a letter from a learned doctor.

(a) 2, 3, 1, 4

(b) 3, 2, 4, 1

(c) 1, 4, 2, 3

(d) 4, 1, 3, 2

Question 5

Choose the option that lists the sequence of events in the correct order.

1. Duke welcomes the arrival of a young and learned doctor to the court.
2. The clerk reads Bellario's letter explaining his sickness and Balthasar's assistance.
3. Nerissa informs the Duke that the young doctor is waiting nearby.
4. Bassanio questions why Shylock is sharpening his knife so earnestly.

(a) 4, 3, 2, 1

(b) 3, 2, 1, 4

(c) 2, 1, 4, 3

(d) 1, 4, 3, 2

Question 6

Choose the option that lists the sequence of events in the correct order.

1. Duke asks for the young doctor to be brought to court.
2. Shylock insists that no prayers can pierce him.
3. Gratiano curses Shylock, calling him an inexecrable dog.
4. Shylock stands firm on his bond and defends his right to the law.

(a) 3, 2, 4, 1

(b) 4, 1, 3, 2

(c) 1, 4, 2, 3

(d) 2, 3, 1, 4

Question 7

Choose the option that lists the sequence of events in the correct order.

1. Portia asks which of the men is Shylock and which is the merchant.
2. Portia arrives, disguised as a doctor of laws, and is greeted by the Duke.
3. The Duke expresses his welcome and asks Portia to take her place.
4. Portia confirms she is informed about the case between Shylock and Antonio.

(a) 2, 3, 1, 4

(b) 1, 4, 2, 3

(c) 3, 2, 4, 1

(d) 4, 1, 3, 2

Question 8

Choose the option that lists the sequence of events in the correct order.

1. Portia speaks about the quality and power of mercy.
2. Antonio confirms the existence of his bond with Shylock.
3. Shylock refuses to be merciful when Portia asks him.
4. Portia explains that mercy is an attribute of God and kings.

(a) 2, 3, 1, 4

(b) 4, 1, 2, 3

(c) 1, 4, 3, 2

(d) 3, 2, 4, 1

Question 9

Choose the option that lists the sequence of events in the correct order.

1. Portia informs Shylock that the bond gives no allowance for shedding blood.
2. Antonio prepares himself for Shylock's knife, as instructed by Portia.
3. Shylock insists on his bond, refusing thrice the money offered by Bassanio.
4. Gratiano praises Portia, calling her a "Daniel" and an "upright judge."

(a) 3, 2, 1, 4

(b) 2, 1, 4, 3

(c) 1, 3, 4, 2

(d) 4, 3, 2, 1

Question 10

Choose the option that lists the sequence of events in the correct order.

1. Shylock prepares the scales to weigh the flesh.
2. Portia advises Shylock to have a surgeon ready to prevent Antonio from bleeding to death.
3. Shylock confidently awaits the judgment, believing the law is on his side.
4. Antonio speaks to Bassanio, expressing his acceptance of his fate and his love for him.

(a) 3, 1, 2, 4

(b) 2, 4, 3, 1

(c) 4, 3, 1, 2

(d) 1, 2, 3, 4

Question 11

Choose the option that lists the sequence of events in the correct order.

1. Portia reveals a loophole in the bond, stating that it does not allow for the shedding of blood.
2. Gratiano mocks Shylock, calling him an "infidel" and praising Portia as a wise judge.
3. Shylock, realising his disadvantage, asks for his principal amount back.
4. Portia refuses Shylock's request, stating that he shall receive only the penalty as per the bond.

(a) 1, 2, 3, 4

(b) 3, 4, 1, 2

(c) 2, 1, 4, 3

(d) 4, 3, 2, 1

Question 12

Choose the option that lists the sequence of events in the correct order.

1. Portia informs Shylock that the law has another hold on him for seeking the life of a citizen.
2. Shylock is told that he will lose half his wealth to the state and the other half to Antonio, with his life at the mercy of the Duke.
3. Shylock decides to leave, but Portia stops him to reveal additional consequences of his actions.
4. Bassanio is ready to pay Shylock thrice the bond amount to free Antonio.

(a) 4, 3, 1, 2

(b) 2, 1, 4, 3

(c) 3, 2, 4, 1

(d) 1, 4, 2, 3

Question 13

Choose the option that lists the sequence of events in the correct order.

1. Bassanio offers to pay Antonio's generous help with three thousand ducats.
2. Portia, disguised as a lawyer, insists on taking Antonio's gloves and Bassanio's ring as a token of gratitude.
3. The Duke expresses regret that he cannot join Portia for dinner and requests Antonio to thank Bassanio's friend.
4. Antonio advises Bassanio to let the lawyer have the ring, valuing the lawyer's service over his wife's command.

(a) 3, 1, 2, 4

(b) 2, 3, 4, 1

(c) 1, 4, 3, 2

(d) 4, 2, 1, 3

Question 14

Choose the option that lists the sequence of events in the correct order.

1. Duke asks Antonio to gratify the gentleman who saved him and Bassanio.
2. Gratiano offers to fetch Antonio's gloves as a gift to the lawyer.
3. Portia demands the ring from Bassanio as a token of gratitude.
4. Bassanio initially refuses to part with the ring given by his wife.

(a) 1, 3, 4, 2

(b) 4, 2, 1, 3

(c) 2, 1, 3, 4

(d) 3, 4, 2, 1

Question 15

Choose the option that lists the sequence of events in the correct order.

1. Antonio is content with allowing Shylock to keep half his goods in use until his death.
2. Portia questions what mercy Antonio can offer Shylock.
3. Shylock resolutely accepts the court's decision and prepares to leave.
4. Gratiano sarcastically comments on Shylock's sentence.

(a) 2, 1, 4, 3

(b) 4, 3, 2, 1

(c) 3, 2, 1, 4

(d) 1, 4, 3, 2

TYPE 2

Question 16

In the context of Antonio's trial in Venice, how does Antonio respond to his situation?

1. He pleads for mercy from the Duke.
2. He expresses readiness to accept his fate with patience.
3. He accuses Shylock of injustice.
4. He asks Bassanio to pay off his debt.

(a) 1 and 2

(b) Only 2

(c) 3 and 4

(d) 1 and 4

Question 17

When the Duke expresses hope that Shylock will show mercy, what is

Shylock's stance regarding his bond with Antonio?

1. He agrees to show mercy.
2. He refuses to forgive the debt.
3. He offers to accept a monetary settlement.
4. He asks for more time to decide.

(a) 1 and 2

(b) Only 2

(c) 3 and 4

(d) 1 and 4

Question 18

In the exchange between Bassanio and Shylock, what argument does Bassanio use to appeal to Shylock's humanity?

1. The concept of universal mercy.
2. The legality of the bond.
3. The cruelty of Shylock's demand.
4. The financial loss to Antonio.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 3

Question 19

How does Shylock justify his insistence on the bond's terms to the Duke?

1. By comparing his bond to the ownership of slaves.
2. By highlighting Antonio's past misdeeds.
3. By stating his legal rights in Venice.
4. By expressing personal hatred for Antonio.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 20

What is Antonio's perspective on his predicament as expressed in his dialogue?

1. He is hopeful for a positive outcome.
2. He feels resigned to his fate and considers himself unworthy.
3. He blames Bassanio for his situation.
4. He is angry at the legal system in Venice.

(a) Only 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 21

In the context of Shylock's demand for justice, Portia's argument in court emphasises the importance of .....

1. Mercy over strict justice
2. Upholding the bond as written
3. The power of the Venetian law
4. Shylock's right to seek revenge

(a) 1 and 3

(b) 2 and 4

(c) 1 and 4

(d) 3 and 2

Question 22

When Gratiano accuses Shylock of having a 'currish spirit,' this reflects the theme of - .....

1. The complexity of human nature

2. Prejudice and discrimination
3. The moral ambiguity of revenge
4. The superiority of Christian values

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 23

The character of Nerissa, disguised as a lawyer's clerk, contributes to the play's exploration of .....

1. Gender roles and expectations
2. The legality of contracts
3. Class distinctions in Venetian society
4. The concept of justice and fairness

(a) 1 and 4

(b) 2 and 3

(c) 1 and 2

(d) 3 and 4

Question 24

Portia's speech about the quality of mercy seeks to challenge Shylock's perspective on .....

1. The nature of mercy and compassion
2. The role of religion in law
3. The importance of upholding contracts
4. The power dynamics in Venetian society

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 25

The presence of Portia and Nerissa in disguise in the courtroom scene primarily serves to highlight .....

1. The limitations placed on women in society
2. The ingenuity and resourcefulness of women
3. The theme of appearance versus reality
4. The significance of legal knowledge

(a) 1 and 3

(b) 2 and 4

(c) 1 and 2

(d) 3 and 4

Question 26

Shylock's insistence on the bond's terms reflects his:

1. Desire for wealth
2. Need for legal justice.
3. Thirst for revenge
4. Hope for reconciliation

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 27

When Bassanio offers to pay the bond ten times over, it highlights his:

1. Financial capability
2. Loyalty to Antonio
3. Disregard for money
4. Diplomatic skills

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 28

Portia's insistence on following the law to the letter demonstrates her:

1. Respect for Venice's legal system
2. Compassion towards Shylock
3. Cunning and intelligence
4. Indifference to Antonio's fate

(a) 1 and 2

(b) 2 and 3

(c) Only 3

(d) 1 and 4

Question 29

Antonio's resignation to his fate in the trial reflects his:

1. Despair and hopelessness
2. Faith in the legal system
3. Acceptance of destiny
4. Trust in Bassanio

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 30

Shylock's reaction to Portia's legal interpretation shows his:

1. Surprised admiration for Portia
2. Rigidity in his beliefs
3. Reluctance to show mercy.
4. Realization of his precarious position

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 31

In the context of Antonio's trial, Shylock feels:

1. Vengeful and unforgiving
2. Relieved and grateful
3. Indifferent and unemotional
4. Joyful and triumphant

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) Only 1

Question 32

Regarding the resolution of Shylock's demand, Antonio expresses:

1. Bitterness towards Shylock
2. Generosity and mercy
3. Indifference to the outcome
4. Anger at the Duke

(a) 1 and 3

(b) 2 and 4

(c) 1 and 2

(d) Only 2

Question 33

In the aftermath of the trial, Bassanio's attitude towards Portia's request is characterised by:

1. Eagerness to comply
2. Reluctance and hesitation
3. Indifference and detachment
4. Confusion and misunderstanding

(a) 1 and 3

(b) 2 and 4

(c) 1 and 2

(d) 3 and 4

Question 34

Portia's insistence on receiving the ring from Bassanio primarily demonstrates her:

1. Greed and materialism
2. Desire to test Bassanio's loyalty
3. Affection for Bassanio
4. Mischievous nature

(a) 1 and 3

(b) 2 and 4

(c) All of the above

(d) None of the above

Question 35

The condition imposed on Shylock for his pardon reflects the play's theme of:

1. Justice and fairness
2. Mercy and forgiveness
3. Religious intolerance
4. Power dynamics

(a) 1 and 2

(b) 3 and 4

(c) 1, 2, and 3

(d) All of the above

ACT IV Scene 2

TYPE 1

Question 1

Choose the option that lists the sequence of events in the correct order.

1. Gratiano informs Portia that Bassanio has sent him with a ring, inviting her to dinner.
2. Portia accepts the ring gratefully and asks Gratiano to show her Shylock's house.
3. Portia and Nerissa plan to trick their husbands about the rings.
4. Portia instructs to get the deed signed by Shylock and plans to leave that night.

(a) 4, 1, 2, 3

(b) 1, 3, 4, 2

(c) 2, 4, 1, 3

(d) 3, 2, 1, 4

Question 2

Choose the option that lists the sequence of events in the correct order.

1. Nerissa expresses her desire to get her husband's ring.
2. Portia tells Nerissa that they will outface and outswear the men.
3. Portia and Nerissa discuss their plan aside.

4. Gratiano arrives and delivers Bassanio's ring to Portia.

(a) 3, 4, 1, 2

(b) 4, 1, 2, 3

(c) 1, 2, 3, 4

(d) 2, 3, 4, 1

Question 3

Choose the option that lists the sequence of events in the correct order.

1. Portia plans to leave for Shylock's house.
2. Gratiano delivers the ring and dinner invitation from Bassanio to Portia.
3. Portia and Nerissa discuss their husbands' rings in private.
4. Portia tasks someone to find Shylock's house and get the deed signed.

(a) 4, 2, 3, 1

(b) 2, 4, 1, 3

(c) 3, 1, 2, 4

(d) 1, 3, 4, 2

Question 4

Choose the option that lists the sequence of events in the correct order.

1. Portia instructs to prepare for their departure that night.
2. Nerissa seeks to speak with Gratiano about her husband's ring.
3. Portia accepts Bassanio's ring and thanks Gratiano.
4. Gratiano arrives to deliver a message from Bassanio to Portia.

(a) 4, 3, 2, 1

(b) 1, 4, 3, 2

(c) 2, 1, 4, 3

(d) 3, 2, 1, 4

Question 5

Choose the option that lists the sequence of events in the correct order.

1. Portia agrees to accept Bassanio's ring and asks for Shylock's location.
2. Nerissa and Portia plan to test their husbands' fidelity with the rings.
3. Gratiano brings Bassanio's ring to Portia and invites her to dinner.
4. Portia discusses leaving that night to catch up with their husbands.

(a) 3, 1, 2, 4

(b) 1, 4, 3, 2

(c) 4, 2, 1, 3

(d) 2, 3, 4, 1

TYPE 2

Question 6

In the context of Portia's and Nerissa's plan in this scene, what is Portia's intention in asking for Shylock's house to be located?

1. To confront Shylock directly
2. To ensure Lorenzo receives the deed
3. To surprise their husbands upon return
4. To seek legal advice from Shylock

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 7

What does Gratiano deliver to Portia, and how does she respond?

1. A letter: she is confused.

2. A ring: she accepts it thankfully.
3. Money: she refuses it
4. A gift: she is indifferent.

(a) 1 and 2

(b) Only 2

(c) 3 and 4

(d) 1 and 4

Question 8

What theme is most prominent in Nerissa's plan to test her husband?

1. Loyalty
2. Deception
3. Justice
4. Love

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 9

Portia. [Aside to NERISSA] Thou mayst, I warrant.

We shall have old swearing

That they did give the rings away to men;

But we'll outface them, and outswear them too.

[Aloud]

Away! make haste: thou knowist where I will tarry.

In the above extract, Portia's and Nerissa's discussion about their husbands' rings primarily serves to:

1. Highlight their mischievous nature
2. Show their concern for marital fidelity
3. Illustrate the depth of their love
4. Create a humorous situation

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 10

How does Portia plan to handle the situation regarding the rings given away by their husbands?

1. By confronting them angrily
2. By forgiving them immediately
3. By outsmarting and outswearing them
4. By seeking legal action

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Scene 1

TYPE 1

Question 1

Choose the option that lists the sequence of events in the correct order.

1. Lorenzo and Jessica discuss the beauty of the night and compare it to historical romantic moments.
2. Stephano arrives and informs them that his mistress will be at Belmont before daybreak.
3. Launcelot Gobbo enters, hollering for Lorenzo, and brings news of his master's imminent arrival.
4. Lorenzo invites Jessica to sit and enjoy the music under the moonlight.

(a) 3, 1, 2, 4

(b) 1, 2, 3, 4

(c) 2, 3, 1, 4

(d) 1, 3, 2, 4

Question 2

Choose the option that lists the sequence of events in the correct order.

1. Lorenzo remarks on the stillness of the night and the beauty of music under the moon.
2. Lorenzo and Jessica prepare to welcome the mistress of the house.
3. Stephano tells Lorenzo about the arrival of his mistress and a holy hermit.
4. Lorenzo and Jessica speak of Troilus, Thisbe, Dido, and Medea.

(a) 4, 2, 3, 1

(b) 2, 3, 4, 1

(c) 3, 4, 1, 2

(d) 1, 4, 2, 3

Question 3

Choose the option that lists the sequence of events in the correct order.

1. Lorenzo asks about the identity of the person approaching in the silence of the night.
2. Lorenzo and Jessica sit to listen to the musicians and admire the starry sky.
3. Stephano identifies himself and brings news of his mistress's prayers for wedlock.
4. Launcelot Gobbo arrives, searching for Lorenzo and announcing his master's news.

(a) 1, 3, 4, 2

(b) 4, 1, 2, 3

(c) 3, 2, 1, 4

(d) 2, 4, 3, 1

Question 4

Choose the option that lists the sequence of events in the correct order.

1. Lorenzo and Jessica exchange romantic tales about famous lovers in history.
2. Stephano brings news of his mistress's approach and her devotional activities.
3. The couple discusses the harmony of souls and the limitations of the mortal body.
4. Launcelot Gobbo arrives, noisily seeking Lorenzo and conveying his master's message.

(a) 1, 2, 4, 3

(b) 4, 1, 3, 2

(c) 2, 3, 1, 4

(d) 3, 4, 2, 1

Question 5

Choose the option that lists the sequence of events in the correct order.

1. Lorenzo comments on the sweet sleep of the moonlight on the bank.
2. Jessica and Lorenzo hear the footsteps of a man approaching.
3. Stephano announces the coming of his mistress and her companions.
4. Musicians enter as Lorenzo and Jessica decide to wake Diana with a hymn.

(a) 2, 3, 1, 4

(b) 3, 2, 4, 1

(c) 1, 4, 2, 3

(d) 4, 1, 3, 2

Question 6

Choose the option that lists the sequence of events in the correct order.

1. Lorenzo discusses the power of music and its effects on nature.
2. Portia enters and remarks on the light burning in her hall.
3. Nerissa comments on the sweetness of the music.
4. Lorenzo recognises Portia's voice as she arrives.

(a) 1, 2, 3, 4

(b) 2, 1, 4, 3

(c) 4, 3, 2, 1

(d) 3, 4, 1, 2

Question 7

Choose the option that lists the sequence of events in the correct order.

1. Portia inquires about her husband's return.
2. Lorenzo informs Portia that their husbands have not yet returned.
3. A messenger arrives to announce the coming of the husbands.
4. Portia asks Nerissa to ensure that their absence is not noticed.

(a) 1, 2, 3, 4

(b) 3, 4, 2, 1

(c) 4, 1, 2, 3

(d) 2, 3, 1, 4

Question 8

Choose the option that lists the sequence of events in the correct order.

1. Lorenzo hears a trumpet sound and announces the husband's arrival.
2. Portia comments on the pale appearance of the night.
3. Bassanio and his friends, including Antonio, arrive.
4. Portia and Bassanio exchange greetings and welcome Antonio.

(a) 1, 2, 3, 4

(b) 3, 4, 2, 1

(c) 2, 1, 4, 3

(d) 4, 3, 1, 2

Question 9

Choose the option that lists the sequence of events in the correct order.

1. Portia scolds Gratiano and Nerissa for quarrelling.
2. Gratiano swears by the moon about giving something to the judge's clerk.
3. Portia offers a subtle welcome to Antonio.

4. Bassanio thanks Portia and introduces Antonio.

(a) 1, 2, 3, 4

(b) 4, 3, 2, 1

(c) 2, 1, 4, 3

(d) 3, 4, 1, 2

Question 10

Choose the option that lists the sequence of events in the correct order.

1. Portia refuses to share her bed until she sees her ring again.
2. Bassanio explains the circumstances under which he gave away the ring.
3. Nerissa joins Portia in her decision to not share the bed until she sees her ring.
4. Gratiano reveals that Bassanio also gave away his ring to the judge.

(a) 4, 2, 1, 3

(b) 1, 3, 4, 2

(c) 2, 4, 3, 1

(d) 3, 1, 2, 4

Question 11

Choose the option that lists the sequence of events in the correct order.

1. Portia states she will not deny the doctor anything.
2. Bassanio tries to justify why he parted with the ring.
3. Portia becomes upset about the loss of the ring she gave Bassanio.
4. Nerissa vows to stay away from her bed until she sees her ring.

(a) 3, 2, 4, 1

(b) 2, 3, 1, 4

(c) 4, 1, 3, 2

(d) 1, 4, 2, 3

Question 12

Choose the option that lists the sequence of events in the correct order.

1. Bassanio admits he cannot lie about losing the ring.
2. Portia criticises Bassanio for not valuing the ring's significance.
3. Gratiano defends his decision to give away the ring.
4. Nerissa questions Gratiano about the ring's value and significance.

(a) 4, 3, 2, 1

(b) 3, 4, 1, 2

(c) 2, 1, 4, 3

(d) 1, 2, 3, 4

Question 13

1. Antonio expresses his unhappiness a the subject of quarrels.
2. Portia reveals that she was the doctor and Nerissa her clerk.
3. Gratiano jokes about the situation, likening it to mending highways.
4. Bassanio pledges never to break an oath with Portia again.

(a) 1, 4, 2, 3

(b) 3, 1, 4, 2

(c) 2, 3, 1, 4

(d) 4, 2, 3, 1

Question 14

1. Portia instructs Antonio to be Bassanio's surety.
2. Nerissa and Gratiano discuss the previous night's events.

3. Antonio is amazed to learn about Portia's disguise.
4. Bassanio is surprised to see the ring he gave the doctor with Portia.

(a) 4, 1, 3, 2

(b) 1, 4, 2, 3

(c) 3, 2, 1, 4

(d) 2, 3, 4, 1

Question 15

1. Gratiano expresses his disbelief about the clerk.
2. Bassanio swears to Portia by his double self.
3. Portia hands over a letter to Antonio.
4. Nerissa reveals her role in the previous night's events.

(a) 2, 1, 4, 3

(b) 4, 3, 2, 1

(c) 1, 2, 3, 4

(d) 3, 4, 1, 2

TYPE 2

Question 16

In the serene night described by Lorenzo and Jessica, Lorenzo compares their experience to which historical or mythical event?

1. The fall of the Roman Empire
2. Troilus sighing his soul toward the Grecian tents
3. The discovery of America
4. The building of the Pyramids

(a) 1 and 2

(b) Only 2

(c) Only 3

(d) 1 and 4

Question 17

Jessica's reference to Thisbe in the night suggests a theme of:

1. Adventure and discovery
2. Political power struggles
3. Artistic creation
4. Love and fear

(a) Only 1

(b) 2 and 3

(c) 3 and 4

(d) Only 4

Question 18

The conversation between Lorenzo and Jessica primarily serves to:

1. Foreshadow future events
2. Reflect on their romantic experiences
3. Discuss political strategies
4. Offer a critique of society

(a) Only 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 19

When Lorenzo speaks of "Jessica stealing from the wealthy Jew," he is referring to:

1. A literal theft of money or goods
2. Jessica's departure from her father's house
3. A strategic move in a game
4. A metaphorical concept of stealing hearts

(a) Only 1

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 20

The arrival of Stephano and the news he brings mainly contribute to the plot by:

1. Introducing a new conflict
2. Advancing the love story between Lorenzo and Jessica
3. Providing information about other characters' whereabouts
4. Setting the stage for a dramatic confrontation

(a) 1 and 2

(b) 2 and 3

(c) Only 3

(d) 1 and 4

Question 21

Lorenzo's reference to Orpheus in the extract suggests that:

1. Music can tame even the wildest of creatures.
2. Orpheus could not change the nature of things permanently.
3. Only mythical beings can be influenced by music.
4. Nature is indifferent to the power of music.

(a) Only 1

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 22

According to Lorenzo, a man who is not moved by music is:

1. Likely to be trustworthy and loyal.
2. Prone to engaging in treason and deceit.
3. Typically, cheerful and light-hearted.
4. Unaffected by the emotions of others.

(a) 1 and 3

(b) Only 2

(c) 3 and 4

(d) 1 and 4

Question 23

Portia's comparison of a good deed in a "naughty world" to a candle's light suggests:

1. Good deeds are rare and insignificant.
2. Even small acts of goodness can have a significant impact.
3. The world is overwhelmingly dark and evil.
4. Light and goodness are easily overshadowed.

(a) Only 1

(b) 2 and 4

(c) 3 and 4

(d) Only 2

Question 24

When Portia discusses the crow and the lark, she is emphasising the idea that:

1. All creatures have their own unique beauty.
2. Appreciation depends on the context and timing.
3. Nightingales are superior to all other birds.

4. Some sounds are always unpleasant, regardless of the context.

(a) Only 3

(b) Only 2

(c) 3 and 4

(d) 1 and 4

Question 25

In the context of the discussion about the value of rings and promises, Portia expresses her disappointment towards Bassanio because:

1. Bassanio lost the ring.
2. Bassanio gave the ring to a judge.
3. Bassanio did not value her gift.
4. Bassanio lied about the ring.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 26

When Gratiano discusses the ring given to him by Nerissa, his attitude reveals:

1. Respect for the ring's sentimental value.
2. Disregard for Nerissa's feelings.
3. Understanding of the ring's symbolism.
4. Gratitude for Nerissa's gift.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 27

Portia's reaction to Bassanio not having her ring signifies:

1. Anger over the loss of a valuable item.
2. Sadness about Bassanio's dishonesty.
3. Frustration over Bassanio's broken promise.
4. Indifference to Bassanio's actions.

(a) 1 and 2

(b) Only 3

(c) 3 and 4

(d) 1 and 4

Question 28

The theme of trust and fidelity in relationships is highlighted by:

1. Nerissa's casual attitude towards the ring.
2. Gratiano's careless handling of the ring.
3. Portia's insistence on seeing the ring.
4. Bassanio's decision to give away the ring.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 29

The exchange about the rings primarily serves to:

1. Showcase the characters' wealth.
2. Test the strength of marital bonds.
3. Highlight the importance of material possessions.
4. Illustrate the cultural practices of the time.

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 30

In the context of resolving misunderstandings and secrets, Portia reveals her disguise as the doctor to:

1. Antonio
2. Bassanio
3. Gratiano
4. Lorenzo

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 31

In the exchange about the rings, Nerissa confronts Gratiano about:

1. Breaking his oath
2. Misplacing the ring
3. Not recognising her as the clerk
4. Being unfaithful

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

Question 32

Regarding the theme of deception and disguise, which characters were disguised during the trial?

1. Portia
2. Nerissa
3. Gratiano
4. Jessica

(a) 1 and 2

(b) 2 and 3

(c) 3 and 4

(d) 1 and 4

ANSWERS

Treasure Trove (Poems)

POEM 1: Daffodils – William Wordsworth

1. (a)
2. (a)
3. (a)
4. (a)
5. (b)
6. (a)
7. (b)
8. (b)
9. (b)
10. (b)
11. (b)
12. (b)
13. (c)
14. (b)
15. (b) Simile
16. (b) Metaphor
17. (c) Personification
18. (a) Metaphor
19. (d) Hyperbole
20. (b) Personification as the example line attributes human action (dancing) to waves.

POEM 2: I Know why the Caged Bird Sings – Maya Angelou

1. (a)
2. (a)
3. (a)
4. (d)
5. (a)
6. (d)
7. (c)
8. (b)
9. (b)
10. (b) Personification
11. (b) Metaphor
12. (d) Metaphor
13. (c) Alliteration
14. (d) Onomatopoeia
15. (c) Personification
16. (b) Simile
17. (b) Personification
18. (a) Personification
19. (b) Metaphor

POEM 3: The Patriot – Robert Browning

1. (b)
2. (a)
3. (a)
4. (b)
5. (a)
6. (a)
7. (a)
8. (b)
9. (d)
10. (a)
11. (d)
12. (d)
13. (c)
14. (c)
15. (d)
16. (b)

POEM 4: Abou Ben Adhem – Leigh Hunt

1. (a)
2. (a)
3. (a)
4. (b)
5. (c)
6. (c)
7. (d)
8. (b)
9. (b)
10. (a)
11. (b)
12. (d)
13. (d)
14. (b)

POEM 5: Nine Gold Medals – David Roth

1. (d)	7. (c)	13. (a)	19. (b)
2. (c)	8. (a)	14. (a)	20. (d)
3. (a)	9. (a)	15. (c)	21. (d)
4. (a)	10. (a)	16. (c)	
5. (a)	11. (a)	17. (a)	
6. (a)	12. (b)	18. (d)	

Treasure Trove (Short Stories)

Short Story 1: An Angel in Disguise –T.S. Arthur

1. (a) 1 is the cause for 2.
   Maggie's bedridden state due to her injury made her an undesirable choice for adoption, leading to no one wanting to take her in.
2. (a) 1 is the cause for 2.
   Joe bringing Maggie home led to her positive influence on the household, bringing love and warmth.
3. (d) 1 is a contradiction of 2.
   Mrs. Thompson's initial sour nature contrasts with the transformation she undergoes due to Maggie's influence.
4. (d) 1 is a contradiction of 2.
   The villagers' act of providing aid contradicts their previous contempt for the family.
5. (b) 1 is an example of 2.
   Joe's hesitation reflects the known difficult nature of his wife, which was transformed by Maggie.

Short Story 2: The Little Match Girl Hans Christian Andersen

1. (a) Statement 1 is the cause of Statement 2.
   The girl's fear of punishment for not earning money explains why she was afraid to return home.
2. (a) Statement 1 is a result of Statement 2.
   Her hunger and cold likely led her to hallucinate comforting images when she lit the matches.
3. (c) Statement 1 and 2 are independent.
   The vision of the Christmas tree and her memories of her grandmother are separate, though both are part of her hallucinations.

4. (d) Statement 1 contradicts Statement 2.
   Her death was tragic, yet she died with a smile, indicating her peaceful visions at the end.

5. (a) Statement 1 is the cause of Statement 2.
   Her longing for her grandmother motivated her to light all her matches.

Short Story 3: The Blue Bead – Norah Burke

1. (b) 1 is an example of 2

Statement 1 illustrates the simplicity and poverty of Sibia's life, which is an example of the general situation described in statement 2, her lifelong lack of possessions.

2. (c) 1 is independent of 2

The crocodile's lack of need to hide is not directly related to Sibia's action of stepping onto the stone. These statements are independent events in the narrative.

3. (c) 1 is independent of 2

Sibia's age and disposition (statement 1) are separate from the description of her chores and responsibilities (statement 2). These statements describe different aspects of her character and life.

4. (a) 1 is the cause for 2

Sibia's action of aiming at the crocodile's eyes (statement 1) directly causes the crocodile's reaction of rearing up in convulsion (statement 2).

5. (a) 1 is the cause for 2

Sibia reaching her arm into the water (statement 1) is the cause for her finding the bead in her palm (statement 2).

Short Story 4: My Greatest Olympic Prize – Jesse Owens

1. (a) 1 is the cause for 2.
   The surprise at seeing Luz Long's performance heightened Jesse Owens' determination to excel and prove the Nazi beliefs wrong.

2. (a) 1 is the cause for 2.
   Luz Long's advice helped Jesse Owens adjust his technique, leading to his easy qualification for the finals.

3. (b) 1 is an example of 2.
   The genuine friendship formed between the two athletes is exemplified by Luz Long's sincere congratulations, despite his own loss.

4. (a) 1 is the cause for 2.
   Jesse Owens' initial anger and tension contributed to his fouling in the first two jumps.

5. (b) 1 is an example of 2.
   Jesse Owens' view of Luz Long as an epitome of the Olympic spirit illustrates their shared value of participation and sportsmanship over merely winning.

Short Story 5: All Summer in a DAY – Ray Douglas Bradbury

1. (b) 1 is an example of 2.
   Margot's separation from the other children illustrates her difference due to her memories of the sun, which the other children lack.
2. (a) 1 is the cause for 2.
   The children's hatred is a reaction to Margot's difference, which is her memory of the sun.
3. (b) 1 is an example of 2.
   Margot's refusal to shower is an instance that illustrates her sense of being different, which is noticed by the other children.
4. (a) 1 is the cause for 2.
   Margot being lost in the rain for years is the reason why the rain had washed out the colour from her.
5. (b) 1 is an example of 2.
   Margot standing and blinking after the children when they ran away from her in games exemplifies her general behavior of not participating in their activities.

Merchant of Venice

Act III, Scene 1

1. (d)	6. (a)	11. (a)	16. (a)
2. (d)	7. (a)	12. (b)	17. (a)
3. (a)	8. (a)	13. (b)	18. (c)
4. (a)	9. (a)	14. (b)	19. (c)
5. (a)	10. (a)	15. (b)	

Act III, Scene 2

1. (b)	6. (b)	11. (b)	16. (a)
2. (a)	7. (a)	12. (d)	17. (b)
3. (a)	8. (a)	13. (b)	18. (a)
4. (c)	9. (a)	14. (b)	19. (a)
5. (a)	10. (b)	15. (b)	20. (c)

Act III, Scene 3

1. (b)
2. (a)
3. (a)
4. (a)
5. (a)
6. (a)
7. (b)
8. (c)
9. (d)
10. (c)
11. (a)
12. (b)
13. (a)
14. (d)
15. (a)
16. (c)
17. (a)

Act III, Scene 4

1. (a)
2. (b)
3. (c)
4. (a)
5. (a)
6. (b)
7. (b)
8. (a)
9. (d)
10. (c)
11. (d)
12. (b)
13. (a)
14. (a)
15. (b)

Act III, Scene 5

1. (b)
2. (b)
3. (a)
4. (a)
5. (a)
6. (a)
7. (a)
8. (b)
9. (a)
10. (c)
11. (d)
12. (b)
13. (a)
14. (b)
15. (b)

Act IV, Scene 1

1. (a)
2. (b)
3. (b)
4. (a)
5. (a)
6. (a)
7. (a)
8. (b)
9. (a)
10. (c)
11. (b)
12. (a)
13. (a)
14. (a)
15. (a)
16. (b)
17. (b)
18. (d)
19. (c)
20. (a)
21. (a)
22. (b)
23. (a)
24. (d)
25. (c)
26. (b)
27. (b)
28. (c)
29. (d)
30. (b)
31. (d)
32. (d)
33. (b)
34. (b)
35. (d)

Act IV, Scene 2

1. (a)	4. (a)	7. (b)	10. (c)
2. (b)	5. (a)	8. (a)	
3. (a)	6. (b)	9. (d)	

Act V, Scene 1

1. (b)	9. (b)	17. (d)	25. (b)
2. (a)	10. (a)	18. (a)	26. (b)
3. (a)	11. (a)	19. (a)	27. (b)
4. (a)	12. (a)	20. (c)	28. (c)
5. (a)	13. (a)	21. (a)	29. (b)
6. (a)	14. (b)	22. (b)	30. (b)
7. (c)	15. (a)	23. (d)	31. (d)
8. (a)	16. (b)	24. (b)	32. (a)

MATHS

1 Goods And Services Tax (GST)

Question 1

A dealer in Karnataka sells goods worth ₹3000 to a consumer within the same state with a GST rate of 12%. Calculate the correct distributions of GST:

Statement 1: Central Government receives ₹180 as CGST.

Statement 2: State Government receives ₹180 as SGST.

Statement 3: The dealer collects a total of ₹360 as GST from the consumer.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 2

Which of the following statements correctly describe the types of GST?

Statement 1: IGST is levied on goods and services supplied within the same state.

Statement 2: SGST and UTGST are levied on inter-state supplies.

Statement 3: CGST and SGST/UTGST are equally divided in the case of intra-state supplies.

(a) Only 1
(b) Only 3
(c) Only 2 and 3
(d) None of the above

Question 3

A shopkeeper buys an article whose printed price is ₹4000 from a wholesaler at a discount of 20% and sells it to a consumer at the printed price. If the GST rate is 12%, what is the amount of tax (under GST) received by the State Government?

Statement 1: The shopkeeper pays ₹480 as SGST.

Statement 2: The Central Government receives ₹240 as CGST.

Statement 3: The consumer pays a total of ₹4480 for the article.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) None of the above

Question 4

A manufacturer sells a TV to a retailer at a 20% profit. If the cost price for the manufacturer is ₹25,000, what is the marked price set by the retailer?

Statement 1: The retailer sets the marked price to ₹30,000.

Statement 2: The marked price includes a GST of 12%.

Statement 3: The marked price is exclusive of GST.

(a) Only 1
(b) Only 1 and 3
(c) Only 2
(d) All 1, 2, and 3

Question 5

If dealer A then sells the article to dealer B at a 12% discount, and the GST rate is 18%, what is the cost price of the article inclusive of tax for dealer B?

Statement 1: The cost price before tax is ₹52,800.

Statement 2: The GST amount is ₹9,504.

Statement 3: The price inclusive of tax is ₹56,252.

(a) Only 1
(b) Only 1 and 2
(c) Only 3
(d) None of the statements are correct.

Question 6

For an article priced at ₹60,000, if the manufacturer offers a 25% discount to dealer A, what is the GST collected by the manufacturer from dealer A?

Statement 1: The GST collected is ₹4,050.

Statement 2: The selling price to dealer A is ₹45,000.

Statement 3: The price inclusive of tax paid by dealer A is ₹49,050.

(a) Only 2
(b) Only 1 and 2
(c) Only 1 and 3
(d) Only 3

Question 7

If dealer B sells the article to a consumer at 5% above the printed price, what is the total amount paid by the consumer including GST?

Statement 1: The selling price before tax is ₹63,000.

Statement 2: The amount of GST is ₹11,340.

Statement 3: The total price paid by the consumer is ₹74,340.

(a) Only 1 and 3
(b) Only 2
(c) Only 1
(d) All 1, 2, and 3

Question 8

A carpet has a printed price of ₹2500, and a wholesaler in West Bengal buys it at a 12% discount. The GST rate on the carpet is 5%. Calculate the cost price to the wholesaler and the GST paid by the wholesaler to the Government.

Statement 1: The cost price of the carpet to the wholesaler is ₹2200.

Statement 2: The GST paid by the wholesaler to the Government is ₹110.

Statement 3: The price inclusive of tax at which the wholesaler bought the carpet is ₹2310.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 9

The price of a bicycle is ₹3136 inclusive of tax at 12% on its listed price. Calculate the listed price and the discount needed for the seller to maintain the inclusive tax price after the discount.

Statement 1: The listed price of the bicycle is ₹2800.

Statement 2: The discount needed for the deal is ₹300.

Statement 3: The new selling price including GST is ₹2800.

(a) Only 1
(b) Only 1 and 2
(c) Only 2 and 3

(d) All 1, 2, and 3

Question 10

A shopkeeper sells an article at the listed price of ₹1500 with an 18% GST rate for intra-state sales. If the CGST and SGST are 9% each, calculate the GST amounts and the total amount paid by the shopkeeper to the Central Government.

Statement 1: The CGST paid by the shopkeeper is ₹135.

Statement 2: The total GST amount collected from the consumer is ₹270.

Statement 3: The amount of tax paid by the shopkeeper to the Central Government is ₹135.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

2 Banking

Question 1

Which of the following statements are true about the services offered by banks?

Statement 1: Banks charge a higher rate of interest on loans compared to the interest they offer on deposits.

Statement 2: Banks can transfer money from one place to another.

Statement 3: Banks only provide locker facilities and do not engage in currency exchange.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 2

Calculate the maturity value using the formula MV = P × n × I + I, where P = ₹1000, n = 24 months, and I = ₹1500.

Statement 1: The maturity value is ₹39000.

Statement 2: The maturity value is ₹25000.

Statement 3: The maturity value is ₹26500.

(a) Only 1
(b) Only 2
(c) Only 3
(d) None of the above

Question 3

What are the different types of bank accounts mentioned in the text?

Statement 1: Savings Bank Account.

Statement 2: Recurring Bank Account.

Statement 3: Fixed Deposit Account.

(a) Only 1
(b) Only 2 and 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 4

What is the formula for calculating the interest on a recurring deposit account?

Statement 1: Interest (I) is calculated as P × (n(n+1)/2) × (r/100).

Statement 2: The rate of interest (r) is compounded quarterly.

Statement 3: The maturity value is not affected by the rate of interest.

(a) Only 1
(b) Only 1 and 2
(c) Only 2 and 3
(d) None of the above

Question 5

If ₹250 is deposited every month in a recurring deposit account for one year, what is the equivalent principal for one month for the whole deposit?

Statement 1: The equivalent principal for one month is ₹250 × 13.

Statement 2: The equivalent principal for one month is ₹250 × 78.

Statement 3: The calculation uses the formula for the sum of an arithmetic series.

(a) Only 1
(b) Only 2
(c) Only 3
(d) Only 1 and 3

Question 6

Sobha opens a cumulative time deposit account at a bank, depositing ₹500 per month for 4 years. If at the time of maturity she receives ₹28,410, which of the following statements is true regarding the rate of interest?

Statement 1: The interest rate is higher than 9% per annum.

Statement 2: The total interest earned is ₹2410.

Statement 3: The rate of interest per annum is 10%.

(a) Only 1
(b) Only 2
(c) Only 2 and 3
(d) All 1, 2, and 3

Question 7

Aditya has a recurring deposit account for 3 years at 7.5% per annum. If his monthly instalment is ₹2000, which of the following statements are true regarding the total amount on maturity?

Statement 1: The total deposit without interest is ₹72000.

Statement 2: The interest earned over 3 years is more than ₹8000.

Statement 3: The maturity amount is exactly ₹8325.

(a) Only 1
(b) Only 1 and 2
(c) Only 2 and 3
(d) Only 1 and 3

Question 8

If Mohan deposits ₹80 per month for 6 years at an interest rate of 6% per annum, which of the following is correct about the maturity value?

Statement 1: The total money deposited is ₹5760.

Statement 2: The total interest earned is less than ₹1500.

Statement 3: The amount payable on maturity is ₹6811.20.

(a) Only 1 and 2
(b) Only 2 and 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 9

Mr. Britto deposits a certain sum of money every month in a Recurring Deposit Account for 3 years at 8% interest per annum. If his monthly instalment is ₹200, which of the following statements is true regarding the value of his monthly instalment?

Statement 1: The total interest earned is ₹8088.

Statement 2: The monthly instalment is less than ₹200.

Statement 3: The monthly instalment is exactly ₹200.

(a) Only 1
(b) Only 2
(c) Only 3
(d) None of the above

Question 10

Priyanka has a recurring deposit account of ₹1000 per month at 10% per annum. To calculate the total time for which the account was held, given that the interest at the time of maturity is ₹5550, which statements are true?

Statement 1: The account was held for 36 months.

Statement 2: The total money deposited is ₹36000.

Statement 3: The interest per annum is calculated as ₹5550 divided by the number of years the account was held.

(a) Only 1 and 2
(b) Only 1 and 3
(c) Only 2 and 3
(d) All 1, 2, and 3

3 Shares and Dividends

Question 1

What does it mean when a share is selling at a discount?

Statement 1: The market value of the share is less than its face value.

Statement 2: The share is likely to provide less dividend income.

Statement 3: The share is selling for less than its nominal value.

(a) Only 1
(b) Only 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 2

Which of the following statement is true?

Statement 1: If a share of face value ₹100 is selling at ₹88, it is said to be selling at a premium.

Statement 2: A dividend is a part of the company's profit distributed to shareholders based on the number of shares held.

Statement 3: The market value of a share can be less than, equal to, or more than its nominal value.

(a) Only 1
(b) Only 2
(c) Only 2 and 3
(d) All 1, 2, and 3

Question 3

Mr. Gupta invested in 200 shares of a company, each with a face value of ₹100. The company declared a 10% dividend this year. His income from dividends is ₹2000.

Which of the following statements are true?

Statement 1: The market value of shares is irrelevant in calculating the income from dividends.

Statement 2: Mr. Gupta's income from dividends is ₹2000.

Statement 3: If the dividend rate was 15%, his income would have been ₹3000.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 4

An investor buys 50 shares at a premium of ₹20, where each share's face value is ₹100. The company declares a 5% dividend. Which of the following statements are true?

Statement 1: The premium paid affects the calculation of income from dividends.

Statement 2: The total income from dividends is ₹250.

Statement 3: If the dividend rate was 10%, the income would be ₹500.

(a) Only 2
(b) Only 3
(c) Only 1 and 2
(d) Only 2 and 3

Question 5

A company with a face value of ₹10 per share declares a 20% dividend. A person holds 300 shares. Which of the following statements are true?

Statement 1: Income from dividends is independent of the market value of shares.

Statement 2: The person's income from dividends is ₹600.

Statement 3: Buying more shares at the same dividend rate will increase the income proportionally.

(a) Only 1 and 2
(b) Only 2 and 3
(c) Only 3
(d) All 1, 2, and 3

Question 6

An investor owns 100 shares of a company with a face value of ₹50 each. If the rate of dividend is 8%, which statements are correct?

Statement 1: The income from dividends is affected by the market value of the shares.

Statement 2: The investor's income from dividends is ₹400.

Statement 3: If the face value of each share was ₹100, the income would remain the same.

(a) Only 2
(b) Only 1 and 3
(c) Only 2 and 3
(d) Only 1

Question 7

A shareholder has 150 shares in a company, where the face value of each share is ₹200. The company announces a dividend of 6%. Which of the following statements are correct?

Statement 1: A higher face value per share results in higher income from dividends for the same dividend rate.

Statement 2: The shareholder's income from these dividends is ₹1800.

Statement 3: If the dividend rate was reduced to 3%, his income would be ₹900.

(a) Only 1 and 2
(b) Only 2 and 3
(c) Only 1 and 3

(d) All 1, 2, and 3

Question 8

An investor purchases 80 shares of a company at a market value of ₹150 per share, where the face value is ₹100. The company declares a dividend of 7%. Which of the following statements are correct?

Statement 1: The income from dividends is ₹560.

Statement 2: The market value of the shares affects the dividend income.

Statement 3: If the investor had purchased 160 shares instead, his income would be ₹1120.

(a) Only 1 and 3
(b) Only 1
(c) Only 2
(d) All 1, 2, and 3

Question 9

A shareholder holds 200 shares of a company, each with a face value of ₹50. The company announces a dividend of 5%. Identify the correct statements.

Statement 1: The shareholder's income from dividends is ₹500.

Statement 2: A higher rate of dividend would increase the income proportionally.

Statement 3: The number of shares does not impact the income from dividends.

(a) Only 1 and 2
(b) Only 1
(c) Only 2 and 3
(d) Only 1 and 3

Question 10

An investor buys shares at a premium of ₹30 per share, where the face value is ₹120 and the dividend declared is 6%. If she owns 100 shares, which statements are correct?

Statement 1: The investor's income from dividends is ₹720.

Statement 2: The premium paid on shares affects the income from dividends.

Statement 3: If the dividend rate was 12%, her income would be ₹1440.

(a) Only 1
(b) Only 1 and 3
(c) Only 2
(d) All 1, 2, and 3

4 Linear Inequations

TYPE 1

Question 1

Consider the inequality $7 - 2x \geq 3$. Which of the following represents the correct solution set?

Statement 1: $x \leq 2$

Statement 2: $x \geq 2$

Statement 3: $x \leq -2$

(a) Only 1
(b) Only 2

(c) Only 3
(d) None of the above

Question 2

When solving the inequality $-4x < 12$, what is the correct solution, and why do we reverse the inequality symbol?

Statement 1: $x > -3$, because we divide by a negative number.

Statement 2: $x < -3$, because we divide by a negative number.

Statement 3: $x < -3$, because we divide by a positive number.

(a) Only 1
(b) Only 2
(c) Only 3
(d) None of the above

Question 3

Which of the following statements is true for all real numbers a and b?

Statement 1: If $a < b$, then $a - b$ is a negative number.

Statement 2: If $a > b$, then $a - b$ is a positive number.

Statement 3: If $a = b$, then $a - b$ is equal to zero.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 4

What is the solution set for the inequality $\frac{2}{5}x + 3 \leq 8$?

Statement 1: $x \leq 12.5$

Statement 2: $x \leq 10$

Statement 3: $x \leq 25$

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) Only 3

Question 5

What is the correct representation on the number line for the solution set of the inequality $\frac{2x-1}{3} - \frac{3x-2}{4} \leq \frac{2-x}{5}$?

Statement 1: The thick portion of the number line starts at -11 and includes the number.

Statement 2: The thick portion of the number line is to the left of the number 4, not including it.

Statement 3: The number 0 is not included in the solution set.

(a) Only 1
(b) Only 2
(c) Only 2 and 3
(d) All 1, 2, and 3

Question 6

Which statements correctly describe the solution process and set for the inequality $-\frac{8}{2} < -1 - 4x \leq \frac{7}{2}$?

Statement 1: The inequality must be multiplied by 2 to remove the fraction.

Statement 2: The solution set for x is a closed interval on the number line.

Statement 3: The number 2 is included in the solution set.

(a) Only 1
(b) Only 2
(c) Only 3
(d) Only 1 and 2

Question 7

When solving the inequality $14 - 5x + 5x \geq 3x - 40$, which of the following operations will lead to the correct

representation of the solution set on the number line?

Statement 1: Adding 5x to both sides.

Statement 2: Dividing by 8 after simplifying.

Statement 3: The solution set includes integers from -3 to 10.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 8

Find the intersection of sets P and Q where P is the solution set of $8x-1 > 5x+2$ and Q is the solution set of $7x-2=2(3x+6)$.

Statement 1: The set P includes all numbers greater than 1.

Statement 2: The set Q includes all numbers less than 9.

Statement 3: The intersection $P \cap Q$ includes all numbers greater than 1 and less than 9.

(a) Only 1
(b) Only 3
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 9

If John needs a minimum of 360 marks in four tests in his Mathematics course to obtain an A grade, and he has scored 88, 96, and 79 in the first three tests, how many marks does he need in the fourth test to achieve an A grade?

Statement 1: He needs at least 97 marks.

Statement 2: He needs more than 100 marks.

Statement 3: He needs exactly 95 marks.

(a) Only 1
(b) Only 2
(c) Only 3
(d) None of the above

Question 10

Find the three largest consecutive natural numbers such that the sum of one-third of the first, one-fourth of the second, and one-fifth of the third is almost 25.

Statement 1: The three numbers are 14, 15, and 16.

Statement 2: The three numbers are 20, 21, and 22.

Statement 3: The equation to represent the situation is $\frac{x}{3} + \frac{x+1}{4} + \frac{x+2}{5} = 25$.

(a) Only 1
(b) Only 2
(c) Only 3
(d) Only 1 and 3

TYPE 2

Question 11

Assertion (A): To solve the inequality ($2x - 3 > 7$), we can add 3 to both sides of the inequality.

Reason (R): Adding or subtracting the same number from both sides of an inequality does not change the direction of the inequality.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 12

Assertion (A): The solution to the inequality ($1/2\ x \leq 4$) *is* ($x \leq 8$).

Reason (R): Multiplying both sides of an inequality by a positive number preserves the direction of the inequality.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 13

Assertion (A): The inequality ($-3x > 9$) has a solution set of ($x < -3$).

Reason (R): When you multiply or divide by a negative number, you must reverse the inequality symbol.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 14

Assertion (A): If (x) *satisfies* ($2x + 3 < 11$), *then* ($x < 4$).

Reason (R): To isolate (x), we subtract 3 from both sides and then divide by 2, which does not change the direction of the inequality because both operations involve positive numbers.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 15

Assertion (A): When solving the inequality ($\frac{3x}{5} - \frac{2x-1}{3} > 1$), , the solution set is ($x > \frac{16}{3}$).

Reason (R): Multiplying both sides of the inequality by the least common multiple (LCM) of the denominators eliminates the fractions and simplifies the inequality.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 16

Assertion (A): The solution set for the inequality ($-\frac{5}{6}x + \frac{1}{2} \geq \frac{2}{3}x$)includes the integer (-1).

Reason (R): The inequality involves a linear expression in (x), and finding the solution set requires applying inverse operations to isolate (x).

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 17

Assertion (A): If an inequality has no solution, the graph of the solution set on the number line will be empty.

Reason (R): An inequality with no solution means there is no value of (x) that satisfies the inequality, which is represented by an empty set or (ϕ) on the number line.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 18

Assertion (A): If (x) is a solution to the inequality ($2x - 5 \leq 5x + 4 < 11$), then (x) must be greater than (-3) and less than (7/5).

Reason (R): The solution to the inequality ($2x - 5 \leq 5x + 4 < 11$) is the intersection of the solutions to ($2x - 5 \leq 5x + 4$) and ($5x + 4 < 11$).

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 19

Assertion (A): The set of natural numbers that satisfies the inequality $(7x + 3 \geq 2x - 5) and (\frac{x}{4} - \frac{5}{4} \leq 5 - x) is \{1,2,3,4,5\}$.

Reason (R): When solving the given system of inequalities for (x) within the set of natural numbers, the solution set is limited to numbers greater than or equal to (-2) and less than or equal to (5).

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 20

Assertion (A): The smallest integer value of (x) that satisfies (1/3) of the next integer being at least 2 more than one-fourth of the previous integer is 17.

Reason (R): Solving the equation derived from the given conditions $(\frac{x+1}{3} \geq \frac{x-1}{4} + 2)$ leads to the smallest integer solution (x = 17).

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

5 Quadratic Equations in One Variable

TYPE 1

Question 1

Which of the following equations are reducible to a quadratic form?

Statement 1: $\frac{2x+3}{x} = 5$

Statement 2: $x^2 + \frac{2}{x} = 3$

Statement 3: $x + \frac{1}{\sqrt{x}} = 4$

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) Only 1 and 3

Question 2

Consider the process of solving the quadratic equation $3x^2 - 14x + 8 = 0$ for $x \in Q$. Which of the following statements are true?

Statement 1: The equation can be factored into $(3x-4)(x-2) = 0$.

Statement 2: One of the roots of the equation is $x = \frac{4}{3}$.

Statement 3: The equation does not have any roots that are natural numbers.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 3

For the quadratic equation $3x^2 - x - 7 = 0$, calculate the roots using the quadratic formula. Which of the following is the correct pair of roots?

Statement 1: $x = 1.70$ and $x = -1.37$

Statement 2: $x = -1.70$ and $x = 1.37$

Statement 3: $x = \sqrt{7}$ and $x = -\sqrt{7}$

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) None of the above

Question 4

For the quadratic equation $3x^2-7x+1=0$, which of the following statements are true regarding its roots?

Statement 1: The discriminant of the equation is positive.

Statement 2: The roots are rational numbers.

Statement 3: The roots are real and unequal.

(a) Only 1
(b) Only 1 and 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 5

Given the quadratic equation $2x^2 + kx+3=0$, assume that the discriminant is 49. Which of the following statements are true?

Statement 1: The value of k is either 7 or -7.

Statement 2: The roots of the equation are real and unequal.

Statement 3: The sum of the roots is $-\frac{k}{2}$

(a) Only 1 and 2
(b) Only 2 and 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 6

When solving word problems involving quadratic equations, which of the following steps is essential?

Statement 1: Translating the words of the problem into an algebraic equation.

Statement 2: Determining which expressions are not equal to write an inequality.

Statement 3: Solving the resulting equation or equations.

(a) Only 1
(b) Only 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 7

For the quadratic word problem where the sum of Shefali's marks in Mathematics and English is 30, and if she had 2 more marks in Mathematics and 3 less in English, she would have twice the marks in the two subjects. What is the correct set of equations to solve this problem?

Statement 1: $x + y = 30$ and $2(x + 2) = y = 3$

Statement 2: $x + y = 30$ and $(x+2) + (y-3) = 2(x + y)$.

Statement 3: $x + y = 30$ and $(x+2) - (y - 3) = 2(x + y)$.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) None of the above

Question 8

For the equation derived from $(\frac{1}{x-a} + \frac{1}{x-b} = \frac{2}{x-c})$, which results in a quadratic equation $(x^2 - (a + b + c)x + ab + ac + bc = 0)$, select the true statements.

Statement 1: The sum of the roots is $(a + b + c)$.

Statement 2: The product of the roots is $(ab + ac + bc)$.

Statement 3: If ($a = b = c$), the roots of the equation are (0) and ($3a$).

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 9

Consider the quadratic equation ax^2 +bx + c=0. Which of the following statements are true?

Statement 1: If a =0, the equation is not quadratic.

Statement 2: The equation can be factored into two binomials if there are real and rational roots.

Statement 3: The solutions to the equation can be found using the quadratic formula, regardless of the nature of the roots.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 10

Consider the quadratic equation ax^2 +bx + c=0. Which of the following statements are true regarding its solutions?

Statement 1: If $b^2 - 4ac > 0$, the equation has two real and distinct roots.

Statement 2: If $b^2 - 4ac = 0$, the equation has exactly one real root.

Statement 3: If $b^2 - 4ac < 0$, the equation has two complex roots which are not real.

(a) Only 1
(b) Only 1 and 2
(c) Only 1 and 3
(d) All 1, 2, and 3

TYPE 2

Question 11

Assertion (A): The solutions of the equation ($x^2 - 7x + 10 = 0$) are ($x = 2$) *and* ($x = 5$).

Reason (R): The equation ($x^2 - 7x + 10 = 0$) can be factored into ($(x - 2)(x - 5) = 0$).

(a) A is true, R is false
(b) A is false, R is true
(c) Both A and R are true, and R is a correct explanation for A
(d) Both A and R are true, but R is not a correct explanation for A

Question 12

Assertion (A): If ($x = \frac{1}{2}$)is a solution to the equation ($4x^2 - ax - \frac{3}{2} = 0$), then ($a = 4$).

Reason (R): Substituting ($x = \frac{1}{2}$)into the equation ($4x^2 - ax - \frac{3}{2} = 0$) gives $4\left(\frac{1}{2}\right)^2 - a\left(\frac{1}{2}\right) - \frac{3}{2} = 0$), which simplifies to ($a = 4$).

(a) A is true, R is false
(b) A is false, R is true
(c) Both A and R are true, and R is a correct explanation for A
(d) Both A and R are false

Question 13

Assertion (A): The quadratic equation ($3x^2 - 14x + 8 = 0$)has a root ($x = 4$) when (x) belongs to the set of natural numbers.

Reason (R): For a quadratic equation ($ax^2 + bx + c = 0$), a root is valid if it satisfies the equation when substituted for (x).

(a) A is true, R is false

(b) A is false, R is true
(c) Both A and R are true
(d) Both A and R are false

Question 14

Statement: If the quadratic equation ($3x^2 - x - 7 = 0$) is solved using the formula ($x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$)

Assertion (A): The discriminant of the equation is not a perfect square.

Reason (R): When the discriminant is not a perfect square, the roots of the quadratic equation are irrational numbers.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 15

Assertion (A): If (p) *and* (q) are the roots of the quadratic equation ($x^2 + (k+1)x + k + 2 = 0$), *then* ($p \cdot q = k + 2$)

Reason (R): According to Vieta's formulas, the product of the roots of a quadratic equation ($ax^2 + bx + c = 0$) is equal to ($\frac{c}{a}$).

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 16

Assertion (A): The difference between a natural number and 12, when squared, equals 160 implies that the number can be 20.

Reason (R): The quadratic equation derived from the given condition, ($x^2 - 24x + 144 = 160$), simplifies to ($x^2 - 24x - 16 = 0$), which has 20 as one of its roots.

(a) A is true, R is false
(b) A is false, R is true
(c) Both A and R are true
(d) Both A and R are false

Question 17

Assertion (A): The area of a rectangular prayer hall that is 300 m^2 cannot have a length that is a non-integer value in meters.

Reason (R): The length and breadth of the hall must be factors of 300 to yield an area of 300 m^2.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 18

Assertion (A): The fraction whose denominator is one more than twice its numerator, and which when added to its reciprocal equals ($\frac{16}{21}$), *is*($\frac{3}{7}$).

Reason (R): The sum of a fraction and its reciprocal is always greater than 2.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 19

Assertion (A): If two pipes fill a tank in 15 and 25 hours separately, then the part of the tank filled by the two pipes in one hour is the sum of their individual rates.

Reason (R): The rates of the pipes are additive inverses of their time to fill the tank, hence summing them gives the combined rate in one hour.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 20

Assertion (A): For a quadratic equation ($ax^2 + bx + c = 0$), if the discriminant ($D = b^2 - 4ac$) is negative, then the equation has two distinct real roots.

Reason (R): The discriminant determines the nature and number of roots a quadratic equation will have.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

6 Factorisation

TYPE 1

Question 1

Consider the polynomial ($f(x) = 2x^3 - 7x^2 + 5x - 11$). If we apply the Remainder Theorem using the divisor ($x + \frac{5}{2}$), what would be the remainder?

Statement 1: The remainder is the value of ($f(-\frac{5}{2})$).

Statement 2: The remainder is equal to ($\frac{3}{4}$).

Statement 3: To find the remainder, we substitute (x) with ($-\frac{5}{2}$) in the polynomial ($f(x)$).

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 2

What are the characteristics of a polynomial equation of degree n?

Statement 1: It has at most (n) real roots.

Statement 2: It is represented by the general form ($a_0x^n + a_1x^{n-1} + \cdots + a_n$), where ($a_0 \neq 0$).

Statement 3: The degree of the polynomial equation is the exponent of the highest power of (x) that has a non-zero coefficient.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 3

If ($f(x) = 5x^3 + 7x^2 - \frac{4}{5}x + 11$) is divided by ($x - \frac{3}{4}$), according to the Remainder Theorem, what is the remainder?

Statement 1: The remainder is ($f(\frac{3}{4})$).

Statement 2: The remainder can be found without performing long division.

Statement 3: The value of (x) used to find the remainder is ($\frac{3}{4}$).

(a) Only 1
(b) Only 2

(c) Only 1 and 3
(d) All 1, 2, and 3

Question 4

Which of the following statements correctly describe the application of the Remainder Theorem?

Statement 1: To find the remainder when $(x^3 - 7x^2 + 7x - 2)$ is divided by $(x - 2)$, we substitute $(x = 2)$ into the polynomial.

Statement 2: The Remainder Theorem can be used to find the quotient when a polynomial is divided by a binomial of the form $(x - c)$.

Statement 3: If a polynomial $(f(x))$ gives a remainder of 0 when divided by $(x - c)$, then (c) is a root of $(f(x))$.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 5

Consider the polynomial $(f(x) = x^3 - 3x^2 - 4x + 12)$. Select the correct outcomes when using the Factor Theorem.

Statement 1: If $(f(2) = 0)$, then $(x - 2)$ is a factor of $(f(x))$.

Statement 2: If $(f(x))$ is divisible by $(x + 2)$, then $(f(-2) = 0)$.

Statement 3: The polynomial $(f(x))$ cannot have $(x + 3)$ as a factor since $(f(-3) \neq 0)$.

(a) Only 1
(b) Only 1 and 2
(c) Only 2 and 3
(d) All 1, 2, and 3

Question 6

If $(g(x) = x^3 + 3x^2 - 4x + 12)$ and you divide $(g(x))$ by $(x - 3)$, which of the following statements are true based on the Remainder Theorem?

Statement 1: The remainder is equal to $(g(3))$.

Statement 2: The remainder is the same as the coefficient of (x^2) *in* $(g(x))$.

Statement 3: If the remainder is 0, then $(x = 3)$ is a root of the equation $(g(x) = 0)$.

(a) Only 1
(b) Only 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 7

Given the polynomials $(f(x) = x^3 - 2x^2 - 5x - 7)$ and $(g(x) = x^3 + ax^2 - 12x + 6)$, and knowing that both polynomials leave the same remainder when divided by $(x - 2)$, which of the following statements correctly uses this information?

Statement 1: To find the value of (a), set the remainder of $f(x)$ when $(x = 2)$ equal to the remainder of $g(x)$ when $(x = 2)$.

Statement 2: The value of (a) is determined by equating the coefficients of the same degree terms in $f(x)$ and $g(x)$.

Statement 3: The value of (a) is found by ensuring that $f(2) = g(2)$.

(a) Only 1
(b) Only 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 8

Determine the truth of the following statements regarding the factor theorem and polynomial division:

Statement 1: If $(p(a) = 0)$ for a polynomial $(p(x))$, then $(x - a)$ is a factor of $(p(x))$.

Statement 2: The division of a polynomial ($p(x)$) by a binomial ($x - a$) where ($p(a) \neq 0$) will leave a remainder.

Statement 3: ($x^3 + x^2 - 4x - 4$) can be factored as (($x - 2)(x + 1)(x + 2)$).

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 9

Calculate the missing values based on the given polynomial equations:

Statement 1: For the polynomial ($2x^3 + 7x^2 - 4x - 14$), the value of (x) that makes it zero using the factor theorem is ($x = -\frac{7}{2}$).

Statement 2: The polynomial ($x^3 - ax^2 + x + 2$), when divided by ($x + 1$), gives a remainder of 3 if ($a = 2$).

Statement 3: In the polynomial ($2x^3 + ax^2 + 7x - b$), if ($x + 3$) is a factor, then ($a = 9$) and ($b = 6$).

(a) Only 1
(b) Only 3
(c) Only 1 and 2
(d) Only 2 and 3

Question 10

Evaluate the following statements about the factorization and remainder theorem:

Statement 1: If ($x - a$) is a factor of ($p(x)$), then ($p(x)$) divided by ($x - a$) will have a remainder of zero.

Statement 2: ($x^3 + 2x^2 - 5x - 6$) can be factored completely with ($a = 2$) and ($b = 5$) as (($x + 1)(x - 2)(x + 3)$).

Statement 3: The remainder when ($2x^3 + ax^2 + bx - 2$) is divided by ($2x - 3$) is ($\frac{19}{4}$) if ($a = 9$) and ($b = 3$).

(a) Only 1
(b) Only 1 and 2
(c) Only 1 and 3
(d) All 1, 2, and 3

TYPE 2

Question 11

Statement: To find the remainder of the polynomial ($f(x) = 3x^3 - 7x^2 + 11x + 1$) when divided by ($x + 3$), we can evaluate ($f(-3)$).

Assertion (A): The remainder obtained will be ($f(-3) = 3(-3)^3 - 7(-3)^2 + 11(-3) + 1$).

Reason (R): The remainder theorem states that the remainder of a polynomial ($f(x)$) divided by ($x - a$) *is* ($f(a)$).

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 12

Statement: The degree of the polynomial ($f(x) = 7x^4 - 3x^2 + \sqrt{2} - 2$) is 4.

Assertion (A): The degree is determined by the term with the highest power of the variable in the polynomial.

Reason (R): The term ($\sqrt{2}$) is the leading term, which determines the degree of the polynomial.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 13

Statement: To solve for the remainder of $(3x^2 + 5x - 11)$ when divided by $(2x + 5)$, we can use the remainder theorem.

Assertion (A): The remainder is found by evaluating $(f(-\frac{5}{2}))$.

Reason (R): According to the remainder theorem, the remainder of a polynomial $(f(x))$ when divided by $(x - a)$ is equivalent to evaluating $(f(a))$.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 14

Assertion (A): When dividing the polynomial $(f(x) = x^3 + 3x^2 - kx + 4)$ *by* $(x - 2)$, the remainder is (k).

Reason (R): The remainder theorem states that the remainder of a polynomial $(f(x))$ divided by $(x - a)$ *is* $(f(a))$.

(a) A is true, R is false
(b) A is false, R is true
(c) Both A and R are true
(d) Both A and R are false

Question 15

Assertion (A): If the polynomial $(f(x) = x^3 - 7x^2 + 7x - 2)$ leaves the same remainder when divided by $(x + 2)$ as when divided by $(x - 2)$, then the remainder must be zero.

Reason (R): For a polynomial $(f(x))$, *if* $(x - a)$ and $(x - b)$ leave the same remainder, then $(f(a) = f(b))$.

(a) A is true, R is false
(b) A is false, R is true
(c) Both A and R are true
(d) Both A and R are false

Question 16

Assertion (A): To find the value of (a) in the polynomial $(f(x) = x^3 + ax^2 - 12x + 6)$ given that $(f(1) = 1)$ *and* $(f(2) = 2)$, one must solve the system of equations $(1 + a - 12 + 6 = 1)$ and $(8 + 4a - 24 + 6 = 2)$.

Reason (R): The factor theorem implies that for $(f(x))$ to have $(x - r)$ as a factor, $(f(r))$ must equal zero.

(a) A is true, R is false
(b) A is false, R is true
(c) Both A and R are true
(d) Both A and R are false

Question 17

Assertion (A): The polynomial $(f(x) = 2x^3 - 6x^2 + 3x - 2)$ is exactly divisible by the polynomial $(g(x) = x^2 - 3x + 2)$.

Reason (R): If $(f(x))$ is divisible by $(g(x))$, then the remainder when $(f(x))$ is divided by $(g(x))$ is zero.

(a) A is true, R is false
(b) A is false, R is true
(c) Both A and R are true
(d) Both A and R are false

Question 18

Assertion (A): When $(x - 1)$ is a factor of $(x^3 - 7x^2 + 14x - 8)$, dividing the polynomial by $(x - 1)$ will give a remainder of zero.

Reason (R): The Factor Theorem states that if $((x - c))$ is a factor of a polynomial $(f(x))$, then $(f(c) = 0)$.

(a) A is true, R is false
(b) A is false, R is true
(c) Both A and R are true
(d) Both A and R are false

Question 19

Assertion (A): If ($2x + 7$) is a factor of $(2x^3 + 7x^2 - 4x - 14)$, then the value of $(f(-\frac{7}{2}))$ should be -14.

Reason (R): According to the Factor Theorem, for a polynomial $(f(x))$, if $((ax + b))$ is a factor, then $(f(-\frac{b}{a}) = 0)$.

(a) A is true, R is false
(b) A is false, R is true
(c) Both A and R are true
(d) Both A and R are false

Question 20

Assertion (A): The polynomial $(x^3 + x^2 - 4x - 4)$ can be completely factorised using the Factor Theorem when ($x - 2$) is one of its factors.

Reason (R): For the complete factorization of a cubic polynomial, one must find three linear factors, and the presence of a single factor $((x - c))$ implies that the polynomial can be divided by ($x - c$) to reduce it to a quadratic polynomial, which can then be factorised further.

(a) A is true, R is false
(b) A is false, R is true
(c) Both A and R are true
(d) Both A and R are false

7 Ratio and Proportion

TYPE 1

Question 1

Which statements are true regarding ratios?

Statement 1: Ratios can be expressed in different forms such as fractions, decimals, and percentages.

Statement 2: The value of a ratio is changed if the order of the terms is reversed.

Statement 3: Ratios can only be formed between quantities with the same units.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 2

To simplify the ratio (5a + 8b): (6a – 7b), given that a: b = 5 : 3, we:

Statement 1: Substitute the value of a/b in the ratio and simplify.

Statement 2: Divide both the numerator and denominator by b.

Statement 3: The simplified form of the ratio will have integer values only.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 3

To divide ₹581 among three children in the ratio $1\frac{1}{4}: 1\frac{1}{3} : 1\frac{7}{8}$, we should:

Statement 1: Convert the mixed fractions to improper fractions.

Statement 2: Find the LCM of the denominators to convert the ratios into whole numbers.

Statement 3: Multiply the share of each child by the total amount divided by the sum of the ratios.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 4

For the numbers 15, x, 45, to be in continued proportion,

Statement 1: x=30.

Statement 2: 15 is the mean proportional between x and 45.

Statement 3: The ratio of the product of the means to the product of the extremes is 1.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 5

If a: b = c: d and a + b=22 and c + d=44, then:

Statement 1: The value of b when a=10 is 12.

Statement 2: The value of d when c =20 is 24.

Statement 3: The cross multiplication of the means equals the cross multiplication of the extremes.

(a) Only 1
(b) Only 2
(c) Only 3
(d) All 1, 2, and 3

Question 6

Consider the equations: $(\frac{a}{b} + \frac{c}{d} = 2)$ and $(a + c = 2b)$. If $(a = 8)$, $(b = 6)$, and $(c = 4)$, find the value of (d).

Statement 1: $(d = 3)$

Statement 2: $(d = 9)$

Statement 3: $(d = 12)$

(a) Only 1
(b) Only 2
(c) Only 3
(d) None of the above

Question 7

Consider the numbers $(a = 2)$, $(b = 5)$, $(c = 8)$, and $(d = 11)$. Analyze the expression $(\frac{\sqrt{a} + \sqrt{c}}{\sqrt{b} + \sqrt{d}})$ and decide which of the following statements accurately describes the simplified form of this expression:

Statement 1: The expression simplifies to a fraction whose numerator is the square root of a prime number.

Statement 2: The expression simplifies to a value greater than 1.

Statement 3: The expression simplifies to a fraction with an even numerator and an odd denominator.

(a) Only 1
(b) Only 2
(c) Only 3
(d) None of the above

Question 8

Consider the following statements about the properties of ratios:

Statement 1: If $(\frac{a}{b} = \frac{c}{d})$, then by invertendo, $(\frac{b}{a} = \frac{d}{c})$.

Statement 2: The method of componendo states that if $(\frac{a}{b} = \frac{c}{d})$, then $(\frac{a+b}{b} = \frac{c+d}{d})$.

Statement 3: If $(\frac{a}{b} = \frac{c}{d})$ and $(\frac{e}{f} = \frac{g}{h})$, by dividendo, we can write $(\frac{a-b}{b} = \frac{c-d}{d})$ and $(\frac{e-f}{f} = \frac{g-h}{h})$.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 9

Determine which of the following statements are true regarding the operations on proportions:

Statement 1: The operation of alternendo allows us to interchange the means and extremes in a proportion.

Statement 2: When $(\frac{a}{b} = \frac{c}{d})$, applying componendo and dividendo gives us $(\frac{a+b}{a-b} = \frac{c+d}{c-d})$.

Statement 3: Convertendo is applicable when we have a proportion $(\frac{a}{b} = \frac{c}{d})$ allowing us to write $(\frac{a-b}{a} = \frac{c-d}{c})$.

(a) Only 1 and 2
(b) Only 2 and 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 10

In the given examples, algebraic identities are often used to manipulate the equations. If we have $((x-y)^2) and ((x+y)^2)$ as part of an expression being solved using componendo and dividendo, which of the following statements are correct after applying the identity $((x^2 - y^2) = (x - y)(x + y))$?

Statement 1: The expression $((x-y)^2 + (x+y)^2)$ simplifies to $(2x^2 + 2y^2)$.

Statement 2: The expression $((x-y)(x+y))$ simplifies to $(x^2 - y^2)$.

Statement 3: Applying the identity allows us to eliminate the squared terms and reduce the expression to a linear equation.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

TYPE 2

Question 11

Assertion (A): When the price of an item increases from ₹8 to ₹10, the new price is 125% of the original price.

Reason (R): The new price can be calculated by multiplying the original price by the fraction representing the increase in price, which is $(\frac{5}{4})$ in this case.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 12

Assertion (A): The compounded ratio of (5: 7) and (9: 10) is 45: 70.

Reason (R): Compounded ratios are found by multiplying the corresponding terms of the given ratios.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 13

Assertion (A): When finding the duplicate ratio of 3: 7, the result is 9: 49.

Reason (R): The duplicate ratio is found by squaring each term of the original ratio.

(a) A is true, R is false
(b) A is false, R is true

(c) both A and R are true
(d) both A and R are false

Question 14

Assertion (A): To divide ₹581 among three children in the ratio $1\frac{1}{4} : 1\frac{1}{3} : 1\frac{7}{8}$, each child gets a whole number amount.

Reason (R): When a sum of money is divided in a ratio where all terms are fractions, the resulting shares are always in whole numbers after simplification.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 15

Assertion (A): The mean proportional of 4 and 9 is 6.

Reason (R): The mean proportional between two numbers a and b is the square root of the product ab.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 16

Assertion (A): If a: b = 5:6 and b:c = 5:6, then a:c must equal 25:36.

Reason (R): In a continued proportion, the product of the means equals the product of the extremes.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 17

Assertion (A): To find a number that must be added to a set of numbers to make them proportional, one must solve a linear equation.

Reason (R): Proportionality in a set of numbers is maintained by ensuring that the ratio between any two numbers is constant.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 18

Assertion (A): When $(\frac{a}{b} = \frac{c}{d})$ and $(\frac{e}{f} = \frac{g}{h})$, by componendo and dividendo, we can deduce $(\frac{a+e}{a-e} = \frac{c+g}{c-g})$.

Reason (R): Componendo and dividendo involve adding the numerators and denominators of two equal ratios and then dividing the sum by the difference of the numerators.

(a) A is true, R is false
(b) A is false, R is true
(c) Both A and R are true
(d) Both A and R are false

Question 19

Assertion (A): If $(\frac{a}{b} = \frac{c}{d})$, then by the property of componendo and dividendo, we can assert $(\frac{a+b}{a-b} = \frac{c+d}{c-d})$.

Reason (R): Componendo and dividendo is a method where we add and subtract the numerator to/from the denominator on both sides of the equation.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 20

Assertion (A): The equation $(3ax^2 - 2ax + 3a = 0)$ can be proven by

componendo and dividendo to have no real roots.

Reason (R): The componendo and dividendo method is used for proving identities or simplifying ratios, not for determining the nature of the roots of quadratic equations.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

8 Matrices

TYPE 1

Question 1

Consider the following statements about matrices:

Statement 1: A square matrix of order 3 has 9 elements.

Statement 2: The matrix $\begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$ is a zero matrix of order 2 x 2.

Statement 3: Two matrices are equal if they have the same order and their corresponding elements are equal.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 2

Consider matrix $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ and matrix $B = \begin{bmatrix} -1 & -2 \\ -3 & -4 \end{bmatrix}$ Which of the following statements are true?

Statement 1: The sum of matrices A and B is a zero matrix.

Statement 2: The element in the second row, first column of matrix A is 3.

Statement 3: The trace of matrix A, which is the sum of the elements of the leading diagonal, is 5.

(a) Only 1 and 2
(b) Only 2 and 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 3

Given the matrices $C = \binom{x}{y}$ *and* $D = \binom{2}{-5}$, for what values of x and y are the matrices C and D equal?

Statement 1: x must be equal to 2.

Statement 2: y must be equal to -5.

Statement 3: x + y must be equal to -3.

(a) Only 1 and 2
(b) Only 1 and 3
(c) Only 2 and 3
(d) Only 1

Question 4

Analyze the following statements about special types of matrices. Which of the following statements are true?

Statement 1: The identity matrix of order 2 is $= \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$

Statement 2: A column matrix has only one row.

Statement 3: A square matrix has the same number of rows as columns.

(a) Only 1 and 3
(b) Only 2
(c) Only 3
(d) Only 1

Question 5

Given a matrix $C = \begin{bmatrix} 4 & 0 \\ -1 & 3 \end{bmatrix}$, calculate the product of -2C. Which of the following options correctly represents the resulting matrix?

Statement 1: The resulting matrix is $\begin{bmatrix} -8 & 0 \\ 2 & -6 \end{bmatrix}$.

Statement 2: The resulting matrix is $\begin{bmatrix} 8 & 0 \\ -2 & 6 \end{bmatrix}$

Statement 3: Multiplication of a matrix by a scalar is an element-wise operation.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) Only 2 and 3

Question 6

If the matrix equation A + X = 2B is to be solved where $A = \begin{bmatrix} 1 & 2 \\ 3 & 0 \end{bmatrix}$ and B = $\begin{bmatrix} 0 & -1 \\ 1 & 2 \end{bmatrix}$, which of the following statements are true for the matrix X?

Statement 1: The matrix X is equal to $\begin{bmatrix} -1 & 0 \\ -1 & 4 \end{bmatrix}$.

Statement 2: The matrix X can be found by subtracting A from 2B, i.e., X = 2B - A.

Statement 3: The elements of X are obtained by doubling the elements of B and then subtracting the elements of A.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 7

Given matrices $A = \begin{bmatrix} 1 & 5 \\ 2 & 0 \end{bmatrix}$ and B = $\begin{bmatrix} 3 & -1 \\ 4 & 6 \end{bmatrix}$, what is the result of the matrix multiplication AB?

Statement 1: The resulting matrix is $\begin{bmatrix} 23 & 29 \\ 6 & -2 \end{bmatrix}$

Statement 2: The resulting matrix is $\begin{bmatrix} 23 & -2 \\ 6 & 29 \end{bmatrix}$

Statement 3: The first element of the resulting matrix is the sum of the products of the elements of the first row of A and the first column of B

(a) Only 1
(b) Only 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 8

For the matrices $A = \begin{bmatrix} 2 & -2 \\ 5 & -5 \end{bmatrix}$ and B = $\begin{bmatrix} 3 & 4 \\ 3 & 4 \end{bmatrix}$, what are the properties of the matrix product AB?

Statement 1: The product AB is a zero matrix.

Statement 2: The product AB is undefined.

Statement 3: Each element of the product AB is the result of the dot product of corresponding rows of A and columns of B.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) Only 2 and 3

Question 9

For the matrix equation $A^2 - 5A + 7I = 0$ Where $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$, and I is the identity matrix, which of the following options correctly represents the solutions for A^2, 5A, and 7I?

Statement 1: A^2 results in a matrix with elements [9, 3, -3, 4].

Statement 2: 5A is a matrix with elements [15, 5, -5, 10].

Statement 3: 7I is a matrix where all non-diagonal elements are 0 and diagonal elements are 7.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 10

Consider matrices $A = \begin{bmatrix} 2 & -2 \\ -1 & 7 \end{bmatrix}$, $B = \begin{bmatrix} 3 & 1 \\ 4 & -3 \end{bmatrix}$, and the identity matrix $I = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$.

Which of the following statements are true?

Statement 1: A^2 is a matrix where each element is squared.

Statement 2: The matrix 2A−3B is obtained by doubling each element of A and subtracting three times each element of B.

Statement 3: AB=BA

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

TYPE 2

Question 11

Assertion (A): The sum of the elements in the principal diagonal of a square matrix is called the trace of the matrix.

Reason (R): The principal diagonal of a matrix consists of elements from the top left corner to the bottom right corner of a square matrix.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 12

Assertion (A): If a matrix (A) of order 2 x 3 is added to a matrix (B) of order 3 x 2, the resulting matrix will be of order 2 x 3.

Reason (R): Matrices can only be added if they have the same order, which means they must have the same number of rows and columns.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 13

Assertion (A): If $A = \begin{bmatrix} 3 & 5 \\ 1 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 0 \\ 4 & 1 \end{bmatrix}$, then $A - B = \begin{bmatrix} 2 & 5 \\ -3 & 1 \end{bmatrix}$

Reason (R): When subtracting two matrices, each element of matrix A is subtracted from the corresponding element of matrix B.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 14

Assertion (A): The multiplication of a matrix by a scalar results in a matrix whose elements are the product of the scalar and the corresponding elements of the original matrix.

Reason (R): If C = 3 and A = $\begin{bmatrix} 2 & -4 \\ 0 & 1 \end{bmatrix}$,

Then CA = $\begin{bmatrix} 6 & -12 \\ 0 & 3 \end{bmatrix}$.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 15

Assertion (A): To solve the matrix equation AX = B for X, one can add the inverse of A to both sides of the equation.

Reason (R): The inverse of a matrix A is such that A multiplied by its inverse results in the identity matrix.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 16

Assertion (A): The element in the second row and first column of the product matrix AB is obtained by multiplying each element of the second row of matrix A with the corresponding element of the first column of matrix B and taking the sum.

Reason (R): Matrix multiplication is defined as the dot product of the rows of the first matrix with the columns of the second matrix.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 17

Assertion (A): If matrices A and B are of order 2 x 2, and matrix C is of order 2 x 1, then the product ABC is not defined.

Reason (R): Matrix multiplication is only possible if the number of columns in the first matrix matches the number of rows in the second matrix.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 18

Assertion (A): If matrix A is a zero matrix and B is any matrix of compatible dimensions, then AB will also be a zero matrix.

Reason (R): The product of any matrix and a zero matrix, in the correct order of multiplication, results in a zero matrix.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 19

For a square matrix A, if $A^2 - 5A + 7I = O$,where I is the identity matrix and 0 is the zero matrix, then A^2 must be a singular matrix.

Assertion (A): A singular matrix is one that does not have an inverse.

Reason (R): A matrix that satisfies the equation $A^2 - 5A + 7I = O$ is always singular because its determinant is zero.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 20

Given matrices A and B where A is 2 x 2 and B is 2 x 1, the product AB is undefined.

Assertion (A): The number of columns in A must match the number of rows in B for their product to be defined.

Reason (R): Matrix multiplication is only possible when the matrices have compatible dimensions.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

9 Arithmetic and geometric progressions

TYPE 1

Question 1

Identify which of the following sequences are arithmetic progressions (A.P.):

Statement 1: (8, 11, 14, 17, 20, ...)

Statement 2: (10, 8, 6, 4, 2, ...)

Statement 3: (3, 9, 27, 81, ...)

(a) Only 1
(b) Only 1 and 2
(c) Only 2 and 3
(d) All 1, 2, and 3

Question 2

Which of the following statements correctly describes the nature of arithmetic and geometric progressions?

Statement 1: The difference between any two consecutive terms of an A.P. is called the common difference.

Statement 2: In a geometric progression (G.P.), any term divided by its previous term gives the common ratio.

Statement 3: The sum of an infinite A.P. can be a finite number.

(a) Only 1 and 2
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 3

Which of these sequences is not an arithmetic progression?

Statement 1: (1, 4, 7, 10, ...)

Statement 2: (1/2,1, 3/2,2, ...)

Statement 3: (100, 97, 94, 91, ...)

(a) Only 1
(b) Only 2
(c) Only 3
(d) None of the above

Question 4

Given an AP where the first term is 10 and the common difference is 3, evaluate the following statements:

Statement 1: The 5th term of the AP is 22.

Statement 2: The sum of the first 4 terms of the AP is 52.

Statement 3: The 7th term of the AP is more than 30.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 5

Given the arithmetic progression with the sum of the first (n) terms represented as (S_n), evaluate the correctness of the following statements:

Statement 1: If ($S_5 = 10$) and the common difference (d) is 2, the first term (a) is 0.

Statement 2: The sum of the first 100 terms of an AP with the first term ($a = 0.6$) and common difference ($d = 1.1$) *is* ($S_{100} = 50 \times (1.2 + 99 \times 1.1)$).

Statement 3: To find the 20th term of an AP where ($S_{14} = 1050$) and the first term ($a = 10$), we can use the formula ($a_{20} = a + (20 - 1)\, d$) after finding the common difference (d).

(a) Only 1 and 2
(b) Only 2 and 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 6

For an arithmetic progression, the nth term is given by ($T_n = 3n + 4$), and for a geometric progression, the nth term is given by ($G_n = 2 \cdot 3^{n-1}$).

Statement 1: The common difference of the A.P. is 3.

Statement 2: The 5th term of the G.P. is 162.

Statement 3: The sum of the first 5 terms of the A.P. is equal to the 5th term of the G.P.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) Only 2 and 3

Question 7

If the sum of three numbers in a G.P. is 1 and their product is -1, the numbers are:

Statement 1: The second term of the G.P. is -1.

Statement 2: One of the possible values of the common ratio (r) *is* ($\frac{4}{3}$).

Statement 3: The three numbers forming the G.P. could be ($\frac{4}{3}$), -1, ($\frac{3}{4}$).

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 8

A G.P. consists of 5 terms. The first term is 1 and the common ratio is (-2).

Statement 1: The 5th term is -16.

Statement 2: The sum of the first 5 terms is -31.

Statement 3: The sum of the first 5 terms is greater than the 5th term.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 9

If the sum of the first (n) terms of a G.P. is given by ($S_n = \frac{3^n - 1}{2}$), *and* ($n = 4$).

Statement 1: The common ratio (r) of the G.P. is 3.

Statement 2: The first term (a) of the G.P. is ($\frac{1}{2}$).

Statement 3: The sum of the first 4 terms is 40.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) Only 2 and 3

Question 10

Consider the sequences: A = {3, 7, 11, ...} and B = {2, 6, 18, 54, ...}.

Statement 1: Sequence A is an arithmetic progression with a common difference of 4.

Statement 2: Sequence B is a geometric progression with a common ratio of 3.

Statement 3: The sum of the first three terms of Sequence A is greater than the sum of the first three terms of Sequence B.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

TYPE 2

Question 11

Assertion (A): The sum of the first 4 terms of the A.P.: 2, 5, 8, 11, ... is 26.

Reason (R): The sum of an A.P. is given by the formula ($S_n = \frac{n}{2} \times (a_1 + a_n)$), where ($n$) is the number of terms, (a_1) is the first term, and (a_n) is the last term.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 12

Assertion (A): If the first term of an AP is 3 and the common difference is 4, the 5th term is 19.

Reason (R): The nth term of an AP can be calculated using the formula ($a_n = a + (n-1)d$), where (a) is the first term and (d) is the common difference.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 13

The sum of the first 100 natural numbers can be found using the formula for the sum of an AP.

Assertion (A): The sum of the first 100 natural numbers is 5050.

Reason (R): The sum of an AP is given by ($S_n = \frac{n}{2}(a_1 + a_n)$), and since the first 100 natural numbers form an AP with ($a_1 = 1$), ($a_{100} = 100$), and ($n = 100$), the sum $is(\frac{100}{2}(1 + 100))$, which is 5050.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 14

The sum of an AP can also be calculated using the $formula(S_n = \frac{n}{2}(2a + (n-1)d))$.

Assertion (A): For an AP with a first term of 7 and a common difference of 7, the sum of the first 23 terms is 2093.

Reason (R): Applying the formula ($S_n = \frac{n}{2}(2a + (n-1)d))\ with\ (n = 23), (a = 7)$, and ($d = 7$), gives us ($S_{23} = \frac{23}{2}(14 + (23-1) \times 7)$), which calculates to 2093.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 15

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 6

Consider the point P (3, 4) reflected in the origin to get P'. The point P' is then reflected in the line y = -x to get P".

Statement 1: The coordinates of P' are (-3, -4).

Statement 2: The coordinates of P" after the second reflection are (4, 3).

Statement 3: The distance between P and P" is 10 units.

(a) 1 and 2
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 7

Statement 1: The reflection of a point (a, b) in the line y = x is (b, a).

Statement 2: The reflection of a point (a, b) in the y-axis is (-a, b).

Statement 3: The reflection of a point (a, b) in the origin is (-a, -b).

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 8

Statement 1: The reflection of a triangle to the x-axis results in a congruent triangle.

Statement 2: A quadrilateral reflected in the origin will have its vertices' coordinates all negated.

Statement 3: The reflection of a point across the x-axis changes the sign of its y-coordinate only.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

11 Section Formula

TYPE 1

Question 1

To find the coordinates of a point ($R(x, y)$) which divides the line segment joining points $P(x_1,y_1)$ and $Q(x_2,y_2)$ internally in the ratio $m_1:m_2$ which of the following formulas are used?

Statement 1: ($x = \frac{m_1x_2+m_2x_1}{m_1+m_2}$)

Statement 2: ($y = \frac{m_1y_2+m_2y_1}{m_1+m_2}$)

Statement 3: ($x = \frac{m_1+m_2}{m_1x_2+m_2x_1}$)

(a) Only 1 and 2
(b) Only 3
(c) Only 1
(d) All 1, 2, and 3

Question 2

If the mid-point (M) of the line segment (PQ) is found using the mid-point formula, and the coordinates of (P) and (Q) are ($P(4,8)$) and ($Q(10,2)$) respectively, what are the coordinates of (M)?

Statement 1: ($M = (7,5)$)

Statement 2: ($M = ((4 + 10)/2, (8 + 2)/2)$)

Statement 3: ($M = (5,7)$)

(a) Only 1
(b) Only 2
(c) 1 and 2
(d) All 1, 2 and 3

Question 3

The centroid (G) of a triangle (ABC) with vertices A (x_1,y_1), B (x_2,y_2), C (x_3,y_3) is given by certain coordinates. Which of the following statements correctly describe the coordinates of G?

Statement 1: $G = \left(\frac{x_1+x_2+x_3}{3}, \frac{y_1+y_2+y_3}{3}\right)$

Statement 2: $G = \left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$

Statement 3: $G = \left(\frac{\frac{2(x_1+x_2+x_3)}{3}, 2(y_1+y_2+y_3)}{3}\right)$

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) None of the above

Question 4

Given the points A (2, 5) and B (x, y) which are divided internally by the point C (-1, 2) in the ratio 3:4, what are the coordinates of B?

Statement 1: The x-coordinate of B is -5.

Statement 2: The y-coordinate of B is 2

Statement 3: The coordinates of B are (5, -2).

(a) Only 1
(b) Only 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 5

If the line segment joining points A (-4, -3) and B (2, -1) is trisected at points P and Q, which of the following statements is correct regarding the coordinates of P and Q?

Statement 1: The coordinates of P are (−2, −3).

Statement 2: The coordinates of Q are (0, −1).

Statement 3: Point Q divides the line segment AB in the ratio 2:1 internally.

(a) Only 1
(b) Only 2
(c) 1 and 3
(d) 2 and 3

Question 6

Determine the truthfulness of the following statements regarding the division of line segments by a point:

Statement 1: The point P (2, -5) divides the line segment joining A (-3, 5) and B (4, -9) in the ratio of 5:2 internally.

Statement 2: The x-coordinate of the point that divides the line segment joining A (-4, 2) and B (3, 6) in the ratio of 1:1 is -0.5.

Statement 3: The length of the line segment AP, where A is (-4, 2) and P is the point dividing AB (with B being (3, 6)) in the ratio of 1:1, is $\sqrt{65}$ units.

(a) Only 1
(b) Only 2
(c) 1 and 2
(d) All 1, 2, and 3

Question 7

Consider the parallelogram ABCD with vertices A (10, –6), B (2, –6), and C(–4, –2). If the coordinates of the mid-point of diagonal BD are (3, –4), what are the coordinates of vertex D?

Statement 1: The coordinates of D are (4, –2).

Statement 2: The coordinates of D are (6, 0).

Statement 3: The coordinates of D are (8, –6).

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) Only 3

Question 8

Given the vertices of a triangle A (1, 2), B (5, 6), and C(11, 12), if the mid-point of the side AB is (3, 4) and the mid-point of side BC is (8, 9), which of the following statements are true?

Statement 1: The mid-point of side AC is (6, 7).

Statement 2: The centroid of the triangle is (5.67, 6.67).

Statement 3: The mid-point of side AC is not (6, 7) because the coordinates are not the average of the coordinates of A and C.

(a) Only 1
(b) Only 2
(c) 1 and 2
(d) Only 3

Question 9

If the centroid of a triangle ABC is at G (4, 3) and the vertices of the triangle are A (1, y_1), B (x_2, b), and C (a, 1), where G is the centroid, which of the following equations must be true?

Statement 1: $(\frac{x_1+x_2+a}{3} = 4)$ and $(\frac{y_1+b+1}{3} = 3)$

Statement 2: The length of side BC can be found using the distance formula with points B and C.

Statement 3: The coordinates of B and C are (4, 5) and (7, 1) respectively if a = 5 and b = 7.

(a) Only 1
(b) Only 2
(c) 1 and 2
(d) All 1, 2, and 3

12 Equation of a Straight Line

TYPE 1

Question 1

Consider the line with the equation $2x-3y=6$.

Statement 1: The slope of this line is $\frac{2}{3}$.

Statement 2: The y-intercept of this line is –2.

Statement 3: This line is parallel to the line with the equation $3y=2x+12$.

(a) Only 1
(b) Only 2

(c) Only 1 and 3
(d) All 1, 2, and 3

Question 2

A line passes through the points (1,2) and (3, −2).

Statement 1: The slope of the line is −2.

Statement 2: An equation of the line in slope-intercept form is $y = -2x + 4$.

Statement 3: The line crosses the y-axis above the origin.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2 and 3

Question 3

Given the line equation ($y = 7x - 35$),

Statement 1: The slope of the line is 7.

Statement 2: The y-intercept of the line is 35.

Statement 3: The line passes through the point (5,0).

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 4

Line L is perpendicular to the with equation $3x - 4y = 12$ and passes through the point (1,4).

Statement 1: The slope of line L is 4/3

Statement 2: An equation of line L is $y - 4 = \frac{4}{3}(x - 1)$

Statement 3: Line L intersects the y-axis at $y = 4$.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) None of the above

Question 5

Consider the following statements regarding the line that passes through the point P (3,2) and cuts the x-axis and the y-axis at ratios 3:4.

Statement 1: The x-intercept of the line is 4 units.

Statement 2: The y-intercept of the line is 3 units.

Statement 3: The equation of the line is $4x+3y-18=0$.

(a) Only 1
(b) Only 2
(c) All 1, 2 and 3
(d) None of the above

Question 6

For a rectangle with vertices at A (−1, −1), B (4, −1), C (4,2), and D (−1,2), which of the following statements are true regarding its diagonals?

Statement 1: The slope of diagonal AC is $\frac{3}{5}$

Statement 2: The equation of diagonal BD is $y = \frac{3}{5}x + 3$.

Statement 3: The diagonals intersect at the point (1.5,0.5).

(a) Only 1
(b) Only 2
(c) 1 and 3
(d) All 1, 2, and 3

Question 7

If two lines with slopes (m_1) and (m_2) are perpendicular, which of the following statements must be true?

Statement 1: $(m_1 \cdot m_2 = -1)$

Statement 2: $(m_1 = -m_2)$

Statement 3:($m_1 = \frac{1}{m_2}$)

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 8

Which of the following are the correct steps to find the slope of a line perpendicular to the line ($4x - 6y = 12$)?

Statement 1: Convert the equation to slope-intercept form to find the slope (m_1).

Statement 2: Use the relationship ($m_1 \cdot m_2 = -1$) to find the perpendicular slope (m_2).

Statement 3: Take the reciprocal of (m_1) to find (m_2).

(a) Only 1
(b) Only 1 and 2
(c) Only 2 and 3
(d) All 1, 2, and 3

Question 9

Consider the equation of the line parallel to line AB, where AB joins points A (7, -1) and B (0, 3). Which of the following statements is/are true regarding the line parallel to AB?

Statement 1: The slope of the line parallel to AB is $-\frac{4}{7}$

Statement 2: The y-intercept of the line parallel to AB and passing through C (1, 20) is -20.

Statement 3: The equation of the line parallel to AB passing through point P (-5, 1) is 4x+7y+13=0.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 10

For the line perpendicular to line AB that passes through point P (4, -1), which of the following statements is/are true?

Statement 1: The slope of the line perpendicular to AB is 1.

Statement 2: The x-intercept of the line perpendicular to AB is 3.

Statement 3: The equation of the line perpendicular to AB through P (4, -1) is x−y+3=0.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

13 Similarity

TYPE 1

Question 1

Given the AA (Angle-Angle) rule of similarity, which statements are true for two triangles to be similar?

Statement 1: The corresponding angles of the triangles are equal.

Statement 2: The lengths of the corresponding sides are proportional.

Statement 3: The triangles must have at least one pair of equal corresponding sides.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) Only 1 and 3

Question 2

Which of the following is a correct step in proving the similarity of triangles by the AA rule?

Statement 1: Identifying two pairs of corresponding angles as equal.

Statement 2: Showing the ratio of the sides is equal to the ratio of their perimeters.

Statement 3: Using the angle sum property to find the third angle.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 3

Consider triangles ABC and XYZ. The lengths of the sides of triangle ABC are 6 cm, 8 cm, and 10 cm, and the lengths of the sides of triangle XYZ are 9 cm, 12 cm, and 15 cm. Additionally, the angle between the 6 cm and 8 cm sides in triangle ABC is equal to the angle between the 9 cm and 12 cm sides in triangle XYZ.

Determine the rule by which these triangles are similar.

Statement 1: Side-Side-Side (SSS) similarity

Statement 2: Angle-Angle (AA) similarity

Statement 3: Side-Angle-Side (SAS) similarity

(a) Only 1
(b) Only 2
(c) Only 3
(d) 1 and 3

Question 4

If $\triangle ABC \sim \triangle DEF$ with sides AB=6 cm, BC=8 cm, AC=10 cm, and DE=3 cm, what are the lengths of sides DF and EF?

Statement 1: DF is 4 cm.

Statement 2: EF is 5 cm.

Statement 3: The ratio of the areas of $\triangle ABC$ to $\triangle DEF$ is 4:1.

(a) Only 1
(b) Only 2
(c) 1 and 2
(d) All 1, 2, and 3

Question 5

Which statements are true regarding the Basic Proportionality Theorem and its converse?

Statement 1: If a line divides two sides of a triangle in the same ratio, then the line is parallel to the third side.

Statement 2: The Basic Proportionality Theorem can be used to prove that the internal bisector of an angle of a triangle divides the opposite side internally in the same ratio of the other two sides.

Statement 3: The converse of the Basic Proportionality Theorem is not always true.

(a) Only 1
(b) Only 1 and 2
(c) Only 2 and 3
(d) All 1, 2, and 3

Question 6

If XY is parallel to BC in triangle ABC, and AX = 3 cm, XB = 15 cm, and BC = 6 cm, what is the length of XY?

Statement 1: XY = 1 cm

Statement 2: XY = 3 cm

Statement 3: XY = 2 cm

(a) Only 1
(b) Only 2
(c) Only 3
(d) None of the above

Question 7

In a triangle ABC with DE parallel to BC, if AD = 3x, DB = x, and AE = 4x, which of the following is true for x to ensure DE is parallel to BC?

Statement 1: x can be any real number.

Statement 2: x has to be greater than 0.

Statement 3: The ratio AD/DB should be equal to AE/EC.

(a) Only 2
(b) Only 1 and 2
(c) Only 2 and 3
(d) All 1, 2, and 3

Question 8

Given a triangle ABC where DE is parallel to BC. If AD/DB = 2/3 and AE/EC = 4/5, which of the following statements is true?

Statement 1: Triangle ADE is similar to triangle ABC.

Statement 2: The ratio of the areas of triangle ADE to triangle ABC is 8/25.

Statement 3: DE/BC = 4/5.

(a) Only 1
(b) Only 1 and 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 9

If $\triangle ABC \sim \triangle PQR$ with $\frac{AB}{PQ} = \frac{3}{4}$ and area of $\triangle ABC$ is 81 cm^2, what is the area of $\triangle PQR$?

Statement 1: 48 cm^2,

Statement 2: 64 cm^2

Statement 3: 54 cm^2

(a) Only 1
(b) Only 2
(c) Only 3
(d) None of the above

Question 10

Given a trapezium ABCD with AB parallel to CD, and the diagonals intersecting at point O. If the area of triangle AOB is 1/5th of the area of triangle COD, which of the following statements are true?

Statement 1: The length of AB is one-fifth of the length of CD.

Statement 2: The triangles AOB and COD are similar.

Statement 3: The ratio of AB to CD is the square root of 1/5.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) Only 2 and 3

14 Locus

TYPE 1

Question 1

Consider two fixed points A and B on a plane. If a point P moves such that it is always equidistant from A and B, which of the following statements are true regarding the locus of P?

Statement 1: The locus of point P is a straight line perpendicular to the segment AB.

Statement 2: The locus of point P is the segment AB itself.

Statement 3: Every point on the locus is equidistant from A and B.

(a) Only 1
(b) Only 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 2

If the locus of a point P is to be a straight line parallel to a fixed straight line at a distance of 5 units, which of the following conditions must be satisfied?

Statement 1: P must move at a constant distance from the fixed line.

Statement 2: The distance of P from any point on the fixed line must be 5 units.

Statement 3: The perpendicular distance from P to the fixed line must be 5 units.

(a) Only 1
(b) Only 2
(c) Only 3
(d) Only 1 and 3

Question 3

In a coordinate plane, the locus of a point P moving such that it is always at a distance of 4 units from the point C(3,2) is a circle. What is the length of the radius of this circle?

Statement 1: 4 units

Statement 2: 3 units

Statement 3: 5 units

(a) Only 1
(b) Only 2
(c) Only 3
(d) None of the above

Question 4

Consider two intersecting straight lines AB and CD with an intersection point O. Suppose a point P moves such that it is always equidistant from lines OB and OD. Which of the following statements is/are true about the locus of P?

Statement 1: The locus of P is the angle bisector of angle BOD.

Statement 2: The locus of P is the angle bisector of angle AOC.

Statement 3: The locus of P is a pair of straight lines that bisect the angles formed between AB and CD.

(a) Only 1
(b) Only 3
(c) Both 1 and 3
(d) Only 2

Question 5

Which statements are true about the loci?

Statement 1: The locus of a point equidistant from two fixed points A and B is the perpendicular bisector of AB.

Statement 2: The locus of points equidistant from three non-collinear points forms a single unique point.

Statement 3: The locus of points equidistant from two intersecting lines is the angle bisector of the lines.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 6

Identify the correct statements about the construction methods of Loci:

Statement 1: To find a point equidistant from two given points, one must draw circles with diameters equal to the distance between the points.

Statement 2: The intersection of the perpendicular bisectors of two sides of a triangle gives a point equidistant from the three vertices of the triangle.

Statement 3: The locus of a point equidistant from two lines is a line that is perpendicular to one of the two lines at their point of intersection.

(a) Only 1
(b) Only 2
(c) Only 2 and 3
(d) Only 1 and 3

Question 7

In the construction of a triangle ABC with AB = 3.5 cm, BC = 6 cm, and ∠ABC = 120°, which of the following statements are true when constructing the locus of a point P equidistant from AB and BC?

Statement 1: The locus of point P is on the perpendicular bisector of segment BC.

Statement 2: The locus of point P is on the bisector of ∠ABC.

Statement 3: The point P lies on the circumference of the circle with BC as diameter.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 8

Given a circle with center A and radius 3.5 cm, and two points X and Y on the circle such that they are equidistant from AC and BC, what is the length of XY?

Statement 1: The length of XY is equal to the radius of the circle.

Statement 2: The length of XY is a chord of the circle.

Statement 3: The length of XY is approximately 4.9 cm, given that XY is a chord in the circle subtending an angle of 60 degrees at the center.

(a) Only 1
(b) Only 2
(c) Only 3
(d) Only 2 and 3

Question 9

In constructing a locus of point M which is the midpoint of a variable chord AB of a circle with radius 1.5 cm and center O, which of the following statements are true?

Statement 1: The locus of M is another circle with radius 1.5 cm.

Statement 2: The locus of M is a circle with diameter OA.

Statement 3: The locus of M passes through the center O of the original circle.

(a) Only 1
(b) Only 2
(c) Only 2 and 3
(d) All 1, 2, and 3

Question 10

The bisectors of ∠A and ∠B of a quadrilateral ABCD intersecting at point P, which of the following statements are correct if P is equidistant from AD and BC?

Statement 1: Point P lies on the bisector of ∠A.

Statement 2: Point P lies on the bisector of ∠B.

Statement 3: The distances from P to AD and BC are equal because of the properties of the bisectors of angles A and B.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

15 Circles

TYPE 1

Question 1

In a circle, if ∠PQR = 45° where P and R are points on the circle and Q is the center, what is the measure of the angle subtended by the same arc PR at any point on the remaining part of the circle?

Statement 1: It is 22.5°

Statement 2: It is 45°

Statement 3: It is 90°

(a) Only 1
(b) Only 2
(c) Only 3
(d) None of the above

Question 2

Given a circle with center O and two chords AB and CD that intersect at point E inside the circle. Consider the following statements:

Statement 1: ∠AEB+∠CED=180°

Statement 2: ∠AEB=∠COD.

Statement 3: If AB and CD are equal in length, then ∠AEB=∠CED.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) Only 1 and 3

Question 3

For two circles intersecting at points A and B, if AC and AD are the diameters of the two circles respectively, which of the following statements is true?

Statement 1: ∠ABC is a right angle.

Statement 2: ∠ABD is a right angle.

Statement 3: Point B lies on the line segment CD.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) Only 1 and 3

Question 4

If in a cyclic quadrilateral ABCD, angle A is 70° and angle C is 110°, then the angles B and D are:

Statement 1: Angle B is 70° and angle D is 110°.

Statement 2: Angle B is 110° and angle D is 70°.

Statement 3: Angle B is 80° and angle D is 100°.

(a) Only 1
(b) Only 2
(c) Only 3
(d) None of the above

Question 5

Using the circle theorems, if the diameter of a circle subtends an angle of 45°at a point on the circle, what is the value of the angle that the diameter subtends at the center of the circle?

Statement 1: The angle at the center of the circle is 45° because the angle at the center is equal to the angle at the circumference.

Statement 2: The angle at the center of the circle is 90° because it is twice the angle at the circumference.

Statement 3: The angle at the center of the circle is 135° because it is supplementary to the angle at the circumference.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) None of the statements are correct

Question 6

Which of the following statements is true regarding a cyclic quadrilateral and its properties?

Statement 1: The sum of the opposite angles of a cyclic quadrilateral is 180°.

Statement 2: If the diagonals of a cyclic quadrilateral bisect each other, the quadrilateral is a rectangle.

Statement 3: In a cyclic quadrilateral, the exterior angle is equal to the interior opposite angle.

(a) Only 1
(b) Only 1 and 3
(c) Only 2
(d) All 1, 2, and 3

Question 7

A point P is outside a circle with center O. Tangents PA and PB are drawn to the circle. Which of the following statements are true?

Statement 1: The lengths of tangents PA and PB from point P to the circle are equal.

Statement 2: The line segment OP is perpendicular to the tangent at the point of contact.

Statement 3: The angle between the tangents PA and PB is 90 degrees.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 8

Given a circle with center O, chord PQ is parallel to diameter AB, and R is a point on the circle such that PR is a diameter. Which of the following statements are true?

Statement 1: The angle subtended by arc PQ at point R is a right angle.

Statement 2: Chord PQ is equal in length to radius OR.

Statement 3: The angle subtended by arc PR at any point on the remaining part of the circle other than Q is 90°.

(a) Only 1
(b) Only 2
(c) Only 1 and 3

(d) None of the above

Question 9

A circle is touching the side BC of a triangle ABC at P and is touching AB and AC when produced at Q and R, respectively. If AQ = AR and AQ + QR = 24 cm, which of the following are correct?

Statement 1: The perimeter of triangle ABC is 48 cm.

Statement 2: The tangents AP and AQ are equal in length.

Statement 3: The length of tangent QR is 12 cm.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 10

In a circle with center O, if ∠BDC = 65° where D lies on the circle, and BC is a tangent to the circle at B, find the angle ∠BOC:

Statement 1: ∠BOC is 130° because it is twice the angle ∠BDC.

Statement 2: ∠BOC is 115° because it is equal to 2 × 65° - 90°.

Statement 3: ∠BOC is 155° because it is the sum of ∠BDC and 90°.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) None of the above

16 Constructions

TYPE 1

Question 1

A point P is outside of circle O. Which of the following statements are true regarding the construction of tangents from point P to the circle?

Statement 1: There can be exactly two tangents drawn from point P to circle O.

Statement 2: The tangents from point P to the circle will be perpendicular to the radius of the circle at the points of contact.

Statement 3: The line joining the center of the circle O to point P is the bisector of the angle formed by the two tangents.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 2

In the construction process of tangents to a circle from an external point P, what are the correct steps?

Statement 1: Draw a line segment from point P to the center O of the circle.

Statement 2: Construct the perpendicular bisector of the line segment OP to find point M.

Statement 3: Use point M to draw a circle that intersects the original circle at two points, which are the points of tangency.

(a) Only 1
(b) Only 2

(c) Only 1 and 3
(d) All 1, 2, and 3

Question 3

Consider the construction steps for creating tangents to a circle from an external point. If the distance from the external point to the center of the circle is 5 cm, and the radius of the circle is 2.5 cm, what is the length of the tangents?

Statement 1: The tangents will be 4.33 cm each.

Statement 2: The external point, the point of tangency, and the center of the circle form a right triangle.

Statement 3: The length of the tangents can be found by applying the formula $\ell = \sqrt{d^2 - r^2}$, where

ℓ is the length of the tangent, d is the distance from the external point to the center, and r is the radius of the circle.

(a) Only 1
(b) Only 2
(c) Only 2 and 3
(d) All 1, 2 and 3

Question 4

A point P is taken on the circumference of the larger circle with radii 3 cm and 5 cm. Two tangents are drawn from point P to the smaller circle. Which of the following statements are true regarding the construction and its properties?

Statement 1: The tangents from point P to the smaller circle will be equal in length.

Statement 2: The point of contact of the tangents on the smaller circle will lie on the line joining point P to the center of the concentric circles.

Statement 3: The length of each tangent can be calculated using the Pythagorean theorem if the distance from point P to the center of the circles is known.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 5

Given a regular hexagon with side length 1.5 cm, the steps to construct a circle that touches all the sides (inscribed circle) include:

Statement 1: Drawing the bisectors of the angles of the hexagon.

Statement 2: Drawing a perpendicular from the intersection point of the bisectors to one side of the hexagon.

Statement 3: Using the intersection point as the center and the perpendicular as the radius, drawing the inscribed circle.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 6

To construct the circumcircle of a triangle ABC, which of the following statements are true?

Statement 1: The perpendicular bisectors of the sides of the triangle meet at the center of the circumcircle.

Statement 2: The radius of the circumcircle is equal to the length of the side AB.

Statement 3: The circumcentre lies inside the triangle for an acute-angled triangle.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 7

In constructing a cyclic quadrilateral ABCD, what conditions must be satisfied?

Statement 1: The quadrilateral must have one pair of opposite angles that are supplementary.

Statement 2: The perpendicular bisector of side BC must pass through the midpoint of side AD.

Statement 3: Point D must be equidistant from points B and C.

(a) Only 1
(b) Only 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 8

When constructing a regular hexagon inscribed in a circle, which of the following are necessary steps?

Statement 1: All sides of the hexagon must be equal to the radius of the circle.

Statement 2: Each angle in the hexagon must measure 120 degrees.

Statement 3: The circle must pass through all six vertices of the hexagon.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 9

For the incircle of a triangle ABC to touch the side AB, which of the following is true?

Statement 1: The incentre must be equidistant from the sides of the triangle.

Statement 2: The incentre is the point where the angle bisectors of the triangle intersect.

Statement 3: The radius of the incircle is equal to the length of AB.

(a) Only 2
(b) Only 1 and 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 10

To construct the inscribed circle of a triangle, the steps involve:

Statement 1: Drawing the internal bisectors of two angles of the triangle.

Statement 2: Drawing a perpendicular from the incentre to one of the sides of the triangle.

Statement 3: Using the incentre as the center, drawing a circle that touches all the sides of the triangle.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

17 Mensuration

TYPE 1

Question 1

Consider a solid cylinder with a radius of 5 cm and a height of 10 cm. Determine which of the following statements are correct:

Statement 1: The curved (lateral) surface area of the cylinder is $2\pi \times 5 \times 10$ cm².

Statement 2: The total surface area of the cylinder is $2\pi \times 5 \times (10+5)$ cm².

Statement 3: The volume of the cylinder is $\pi \times 5^2 \times 10$ cm³.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 2

A cylindrical can has a diameter of 14 cm and a height of 20 cm. The can is to be painted on the outside. Which of the following statements are correct regarding the paint needed for the exterior surface?

Statement 1: The area to be painted includes the curved surface area and the area of the circular base.

Statement 2: The curved surface area alone is $2\pi \times 7 \times 20$ cm².

Statement 3: The total exterior surface area to be painted is $2\pi \times 7 \times (20+7)$ cm².

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 3

Consider the formulas and calculations given in the examples for cylinders. Identify which of the following statements are correct:

Statement 1: The volume of a cylinder with a base radius of 7 cm and height of 30 cm is 4620 cm³.

Statement 2: For a cylindrical roller to cover an area of 5500 m², it must roll over the surface 200 times.

Statement 3: The total surface area needed for constructing a cylindrical tank with a radius of 35 cm and height of 1 m is 47.10 m².

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 4

Which of the following statements are true regarding the cylindrical shapes described in the problems?

Statement 1: The lateral surface area of a cylinder with a radius of 3 cm and height of 5 cm is 94.2 cm².

Statement 2: The total surface area of a closed cylindrical petrol storage tank that is 42 m in diameter and 4.5 m high is 87.12 m².

Statement 3: The number of revolutions a cylindrical roller of radius 1.75 m and length 2.5 m would make to cover an area of 5500 m^2 is 200.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 5

If the slant height of a cone is 10 cm and the height is 6 cm, calculate the radius of the base and the total surface area of the cone. Which combination of the following values is correct?

Statement 1: The radius of the base is 8 cm.

Statement 2: The total surface area of the cone is 180π cm^2.

Statement 3: The slant height is equal to the length of the arc of the sector used to create the cone.

(a) Only 1 and 3
(b) Only 2 and 3
(c) Only 2
(d) All 1, 2, and 3

Question 6

A conical tent is made from a canvas of area 551 m^2 with 1 m^2 wastage. The tent has a base radius of 7 m. Identify the accurate statements:

Statement 1: The slant height of the tent is 25 m.

Statement 2: The height of the tent is 24 m.

Statement 3: The volume of the conical tent is 1232 m^3.

(a) Only 1
(b) Only 3
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 7

A hemisphere has a surface area of $3\pi r^2$. What would be the surface area of a full sphere with the same radius?

Statement 1: The surface area of the full sphere would be $6\pi r^2$

Statement 2: The surface area of the full sphere would be $4\pi r^2$

Statement 3: The surface area of the full sphere would be twice the surface area of the hemisphere.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) Only 2 and 3

Question 8

Rashmi is constructing a bird-bath for her garden, which is in the shape of a cylinder with a hemispherical depression at one end. If the height of the cylinder is reduced by 15 cm and the diameter remains the same, how does the surface area of the tin sheet required for making the bird-bath change?

Statement 1: The curved surface area of the cylinder will decrease.

Statement 2: The curved surface area of the hemisphere will not change.

Statement 3: The total surface area required for the tin sheet will decrease.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 9

A cylindrical rod with a diameter of 4 cm and height of 21 cm is melted and recast

into spherical balls of radius 1 cm each. How many balls are formed?

Statement 1: The volume of the rod is $\pi \times 2^2 \times 21$ cm³.

Statement 2: The volume of each ball is $\frac{4}{3}\pi \times 1^3$ cm³.

Statement 3: 66 balls are formed.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 10

If a sphere and a cylinder have the same volume, and the height of the cylinder is twice the radius of its base, which of the following is true about the radius of the sphere (r_s) and the radius of the cylinder's base (r_c)?

Statement 1: $r_s = r_c$

Statement 2: $r_s > r_c$

Statement 3: $r_s < r_c$

(a) Only 1
(b) Only 2
(c) Only 3
(d) Cannot be determined from the given information

TYPE 2

Question 11

Statement: The lateral surface area of a cylinder can be unfolded into a rectangle.

Assertion (A): The height of the cylinder becomes the breadth of the rectangle.

Reason (R): The lateral surface area of a cylinder is a curved surface that can be represented by a rectangular shape when unfolded.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 12

Assertion (A): The volume of a right circular cylinder with a radius of 7 cm and height of 24 cm is 3696 cm³.

Reason (R): The formula for the volume of a cylinder is $V=\pi r^2 h$, where r is the radius and h is the height.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 13

Assertion (A): If a conical tent has a base radius of 7 m and a slant height of 25 m, then the curved surface area of the tent is 550 m².

Reason (R): The formula for the curved surface area of a cone is π rl, where r is the radius and l is the slant height.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 14

Assertion (A): If a hemisphere and a solid sphere have the same total surface area, then their volumes will also be equal.

Reason (R): Total surface area and volume are directly proportional for geometric shapes such as spheres and hemispheres.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 15

Assertion (A): The volume of a sphere with radius r is $\frac{4}{3}\pi r^3$.

Reason (R): The volume of the sphere is derived from the integral of infinitely many concentric spherical shells of infinitesimal thickness.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 16

Assertion (A): The surface area of a solid is always equal to the sum of the areas of its individual faces.

Reason (R): For any given solid, the surface area is a measure of the total area that the surface of the object occupies.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 17

The total volume of a rocket model consisting of a cylinder, cone, and hemisphere is found by adding the individual volumes of the three shapes.

Assertion (A): The total volume of the rocket is $\frac{1}{3}\pi r^2 h_{cone} + \pi r^2 h_{cylinder} + \frac{2}{3}\pi r^3$ where r is the common radius and h_{cone} and $h_{cylinder}$ are the heights of the cone and cylinder, respectively.

Reason (R): The volume of a cone is $\frac{1}{3}\pi r^2 h$, the volume of a cylinder is $\pi r^2 h$, and the volume of a hemisphere is $\frac{2}{3}\pi r^3$.

(a) A is true, R is false
(b) A is false, R is true
(c) Both A and R are true
(d) Both A and R are false

Question 18

A child reshapes a cone into a sphere while maintaining the volume. The height of the cone is 24 cm and the radius of its base is 6 cm.

Assertion (A): The radius of the sphere will be 6 cm.

Reason (R): The volume of a cone and a sphere are both calculated using the radius.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 19

Assertion (A): If a hollow sphere of internal radius 6 cm and external radius 8 cm is melted to form small cones of base radius 2 cm and height 8 cm, the number of cones formed will be less than 40.

Reason (R): The volume of the hollow sphere is less than the combined volume of 40 cones of the given dimensions.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

Question 20

Assertion (A): When a solid sphere is completely submerged in water inside a cylindrical vessel, the rise in water level depends on the sphere's volume.

Reason (R): The displaced water volume by the sphere is equal to the volume of the sphere due to the principle of flotation.

(a) A is true, R is false
(b) A is false, R is true
(c) both A and R are true
(d) both A and R are false

18 Trigonometric Identities

TYPE 1

Question 1

Given a right triangle with sides of lengths 6, 8, and 10 units, which of the following sets of trigonometric functions are correct for the angle opposite the side of length 6?

Statement 1: $\sin(\theta) = \frac{3}{5}$

Statement 2: $\cos(\theta) = \frac{4}{5}$

Statement 3: $\tan(\theta) = \frac{3}{4}$

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 2

Consider the fundamental trigonometric identities. If $(\sin^2(A) = \frac{1}{4})$ *for* $(0° \leq A \leq 90°)$, which of the following statements are true?

Statement 1: $(\cos^2(A) = \frac{3}{4})$

Statement 2: $(1 + \tan^2(A) = \sec^2(A))$

Statement 3: $(\sec(A) = 2)$

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 3

If in a right triangle, the angle (A) has a tangent of $(\frac{1}{\sqrt{3}})$, , which of the following statements must be true?

Statement 1: The angle (A) is 30 degrees.

Statement 2: The cotangent of (A) is $(\sqrt{3})$.

Statement 3: The cosine of (A) is $(\frac{\sqrt{3}}{2})$.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 4

A triangle has sides of 7, 24, and 25 units. For the angle opposite the side of length 7, which of the following trigonometric ratios are correctly calculated?

Statement 1: $(\sin(\theta) = \frac{7}{25})$

Statement 2: $(\cos(\theta) = \frac{24}{25})$

Statement 3: $(\tan(\theta) = \frac{7}{24})$

(a) Only 1
(b) Only 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 5

If $(\sin(A) = \frac{5}{13})$ and $(\cos(A) = \frac{12}{13})$ for an acute angle (A), which of the following statements are true?

Statement 1: $(\tan(A) = \frac{5}{12})$.

Statement 2: $(5\sin(A) - 2\cos(A) = 1)$.

Statement 3: $(\csc^2(A) - \sec^2(A) = -\frac{119}{169})$.

(a) Only 1
(b) Only 1 and 2

(c) Only 2 and 3
(d) All 1, 2, and 3

Question 6

Given ($\tan(\theta) = \frac{1}{\sqrt{5}}$), calculate the value of ($\csc^2(\theta) - \sec^2(\theta)$). Which of the following options is correct?

Statement 1: ($\csc^2(\theta) - \sec^2(\theta) = 1$).

Statement 2: ($\csc^2(\theta) - \sec^2(\theta) = -1$).

Statement 3: ($\csc^2(\theta) - \sec^2(\theta) = \frac{24}{25}$).

(a) Only 1
(b) Only 2
(c) Only 3
(d) None of the above

Question 7

Consider the following statements regarding trigonometric identities:

Statement 1: ($\cos^2(A) + \cos^2(45° - A) = 1$)can be derived using the Pythagorean identity.

Statement 2: The identity ($\sec^2(\theta) - 2\sin^4(\theta) = \tan^2(\theta)$) is equivalent to ($\tan^2(\theta) + 1 = \sec^2(\theta)$).

Statement 3: ($\csc(A) + \cot(A) - 1 = \cos(A)$) is a valid trigonometric identity.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 8

Analyze the validity of the following trigonometric identities:

Statement 1: ($\cos(A) \cdot \cot(A) - 1$)can be simplified to ($-\sin^2(A)$).

Statement 2: ($\sec^2(A) - \tan^2(A) = 1$) holds true for all values of (A).

Statement 3: The identity ($\frac{1}{\sin(A)+\cos(A)} + \frac{1}{\sin(A)-\cos(A)} = \frac{2}{\sin(2A)}$) is correct after applying the sine double-angle formula.

(a) Only 2
(b) Only 3
(c) Only 1 and 2
(d) Only 2 and 3

Question 9

Consider the identity: ($\tan^2\theta + 1 = \sec^2\theta$). Which of the following statements is/are true for angle (θ) *where*($0 < \theta < 90°$)?

Statement 1: If ($\tan\theta = \frac{1}{2}$), then ($\sec\theta$) can be calculated using the identity.

Statement 2: If ($\sec\theta = 2$), then ($\tan\theta$) must be ($\sqrt{3}$).

Statement 3: The identity can be derived from the Pythagorean theorem applied to a right triangle.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 10

Using the trigonometric ratios of complementary angles, which of the following is/are correct for an acute angle (A)?

Statement 1: ($\cos(90° - A) = \sin A$)

Statement 2: ($\tan(90° - A) = \cot A$)

Statement 3: ($\sec(90° - A) = \csc A$)

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

19 Trigonometrical Tables

TYPE 1

Question 1

To find the value of ($\sin 53°34'$), you would need to:

Statement 1: Look up the value for ($\sin 53°30'$) in the natural sines table.

Statement 2: Locate the mean difference for ($4'$) in the appropriate column.

Statement 3: Add the mean difference for ($4'$) to the value ($\sin 53°30'$).

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 2

Which of the following statements about the cosine function are true?

Statement 1: The value of ($\cos\ \theta$) decreases as (θ) increases.

Statement 2: To find the value of ($\cos 49°21'$), one should subtract the mean difference for ($3'$) from ($\cos 49°18'$).

Statement 3: ($\cos 0°$) is the maximum value for the cosine function.

(a) Only 1 and 2
(b) Only 1 and 3
(c) Only 2 and 3
(d) All 1, 2, and 3

Question 3

To calculate ($\tan 65°41'$), the following steps are required:

Statement 1: Start with the value of ($\tan 65°36'$).

Statement 2: Add the mean difference for ($5'$) to the value of ($\tan 65°36'$).

Statement 3: The mean difference for ($5'$) is always greater than the mean difference for ($1'$).

(a) Only 1 and 2
(b) Only 1
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 4

When using trigonometrical tables to find an angle (θ) *where* ($\sin\ \theta = 0.2826$), what steps should be taken?

Statement 1: Identify the value just less than 0.2826 in the sine table.

Statement 2: Determine the difference between 0.2826 and the identified value.

Statement 3: Locate the mean difference corresponding to this difference in the table.

(a) Only 2
(b) Only 1 and 3
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 5

In the calculation of tan (65°41'), which of the following statements are true?

Statement 1: The mean difference for 5 minutes is subtracted from the tangent value of 65°36'

Statement 2: The tangent value decreases as the angle increases.

Statement 3: The mean difference for 5 minutes is added to the tangent value of 65°36'.

(a) Only 1
(b) Only 2
(c) Only 3
(d) Both 1 & 2

Question 6

The process to find the value of $(2 \sin \theta - \cos \theta)$ *when* $(\tan \theta = 0.3726)$ involves:

Statement 1: Finding the values of $(\sin \theta)$ and $(\cos \theta)$ from their respective tables.

Statement 2: Multiplying the sine value by 2 before subtracting the cosine value.

Statement 3: Using the mean difference for (2') to adjust the cosine value.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 7

What does the mean difference represent in trigonometrical tables?

Statement 1: It's the change in the trigonometric value per minute within an interval.

Statement 2: It's the difference between the values of trigonometric functions at (0°) and (90°).

Statement 3: It's used to calculate values between the given angles in the table.

(a) Only 1 and 3
(b) Only 1
(c) Only 3
(d) All 1, 2, and 3

Question 8

For finding the value of $(\cos 49°21')$,you would:

Statement 1: Begin with the value of $(\cos 49°18')$.

Statement 2: Subtract the mean difference for (3') from this value.

Statement 3: The value for $(\cos 49°21')$ is greater than the value for $(\cos 49°18')$.

(a) Only 1 and 2
(b) Only 1
(c) Only 1 and 3
(d) None of the above

Question 9

In trigonometrical tables, if you need to find a value that is not directly listed, which statements are true?

Statement 1: You can interpolate between the closest values that are listed.

Statement 2: Interpolation involves using the mean difference columns.

Statement 3: The mean difference is always added, regardless of whether the function is increasing or decreasing.

(a) Only 1 and 2
(b) Only 2 and 3
(c) Only 1
(d) All 1, 2, and 3

20 Heights and Distances

TYPE 1

Question 1

An electrician needs to repair an electric fault on a pole of height 5 meters. He has a ladder that he places 1.3 meters away from the pole, and the ladder forms an angle of 60 degrees with the ground.

Statement 1: The length of the ladder needed is 4.27 meters.

Statement 2: The ladder should be placed 2.13 meters away from the pole for safety.

Statement 3: The electrician can determine the correct placement of the ladder using the sine of the angle of elevation.

(a) Only 1
(b) Only 2
(c) Only 3
(d) Only 1 and 3

Question 2

A person is standing and looking at the top of a building with an angle of elevation of 30 degrees. If the person moves 20 meters closer to the building, the angle of elevation changes to 45 degrees.

Statement 1: The height of the building can be found using the tangent of the angles of elevation.

Statement 2: The original distance of the person from the building can be found using only the angle of 45 degrees.

Statement 3: The change in the angle of elevation is due to the change in the horizontal distance from the observer to the building.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 3

A person standing on the bank of a river observes the angle of elevation of the top of a tree on the opposite bank to be 60°.

When they move 50 m away from the bank, they find the angle of elevation to be 30°. Given the breadth of the river is 25 m, which of the following statements are true?

Statement 1: The height of the tree is 43.3 meters.

Statement 2: The height of the tree can be found using the tangent of 30°.

Statement 3: To find the height of the tree, the breadth of the river must be known.

(a) Only 1 and 2
(b) Only 2 and 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 4

If the angle of elevation to the top of a tower from point P on the ground is 60°, and the angle of depression to point P from the top of the tower is 45°, with a pole 6 m high fixed on the top of the tower:

Statement 1: The height of the tower is the same as the length of the pole.

Statement 2: The height of the tower can be determined using the tangent of 45°.

Statement 3: The height of the tower is 8.19 meters.

(a) Only 2
(b) Only 3
(c) Only 1 and 2
(d) Only 1 and 3

Question 5

A boy is standing 20 meters away from a flagstaff. He observes that the angle of elevation to the top of the flagstaff is 24°. If the boy's height is 1.7 meters, what is the height of the flagstaff?

Statement 1: The height of the flagstaff can be found using the tangent of the angle of elevation.

Statement 2: The distance from the boy to the flagstaff is irrelevant for calculating the height of the flagstaff.

Statement 3: The height of the boy must be added to the result obtained using the tangent of the angle of elevation.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 6

Two poles of equal heights are standing opposite each other on either side of the road which is 80 meters wide. From a point between them on the road, the angles of elevation of the top of the poles are 60° and 30° respectively. What is the height of the poles?

Statement 1: The height of the poles can be calculated using the tangent of the angles of elevation.

Statement 2: The width of the road must be subtracted from the distance of the point of observation to one pole to find the distance to the other pole.

Statement 3: The trigonometric function cotangent is necessary to solve for the height of the poles.

(a) Only 1
(b) Only 1 and 2
(c) Only 2 and 3
(d) Only 1 and 3

Question 7

A man standing on the ground observes the top of a tower at an angle of elevation of 30°. If the tower is 50 meters high, how far is the man from the base of the tower?

Statement 1: Using $\tan(30°) = \frac{1}{\sqrt{3}}$, the distance from the man to the base of the tower is 50 meters.

Statement 2: The distance can be found by using the formula
distance=height of tower × tan(angle of elevation).

Statement 3: The distance from the man to the base of the tower is $50\sqrt{3}$ meters.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) Only 3

Question 8

A balloon is observed at an angle of elevation of 60° and then 30° by an observer at two different points on the ground. If the distance between the two points is 20 meters and the balloon is directly above the line between the two points, what is the height of the balloon?

Statement 1: The height of the balloon can be found using the tangent of the angles of elevation.

Statement 2: If the balloon is 20 meters above the first point, it is also 20 meters above the second point.

Statement 3: The height of the balloon is 10 meters.

(a) Only 1
(b) Only 1 and 2
(c) Only 1 and 3
(d) Only 2 and 3

Question 9

A spherical balloon of radius r subtends an angle θ at the eye of an observer. If the angle of elevation of its center is φ, which of the following statements are correct for finding the height of the center of the balloon above the observer's eye level?

Statement 1: The height of the center of the balloon is given by $h = r \sin \varphi \operatorname{cosec}(\theta/2)$.

Statement 2: The angle θ is equal to the angle subtended by the tangents from the observer's eye to the balloon.

Statement 3: The height of the center of the balloon can be found without knowing the radius of the balloon.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 10

A man standing at the top of a tower observes a car approaching the tower with a uniform speed. Initially, the angle of depression from the man to the car is 30°, and six seconds later, the angle of depression is 60°. Which of the following statements are correct given that the height of the tower is h meters?

Statement 1: The distance the car travels in six seconds is h meters.

Statement 2: The total time taken by the car to reach the foot of the tower from the point of initial observation is 3 seconds.

Statement 3: The distance of the car from the tower at the initial point of observation is $h\sqrt{3}$ meters.

(a) Only 1
(b) Only 3
(c) Only 2 and 3
(d) All 1, 2, and 3

21 Measures of Central Tendency

TYPE 1

Question 1

Calculate the new mean if the number x is added to the data set with a current mean of m and n observations.

Statement 1: New mean $= \frac{(nm+x)}{n}$

Statement 2: New mean $= \frac{(nm+x)}{n+1}$

Statement 3: New mean $= m + \frac{x}{n}$

(a) Only 1
(b) Only 2
(c) Only 3
(d) Only 1 and 3

Question 2

The concept of median is illustrated. If there are (n) observations arranged in ascending or descending order, which of the following statements correctly describe how to find the median?

Statement 1: If (n) is odd, the median is the ($(n+1)/2$)th observation.

Statement 2: If (n) is even, the median is the average of the ($n/2$)th and $(n/2+1)th$ observations.

Statement 3: The median is affected by extremely high or low values in the dataset, unlike the mean.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) Only 1 and 3

Question 3

Consider the following set of numbers: {7,3,3,6,9,8,5}. After arranging the data in ascending order and calculating the median and lower quartile (Q1), which of the following statements are true?

Statement 1: The median of the dataset is 6.

Statement 2: The lower quartile (Q1) is 3.5.

Statement 3: The upper quartile (Q3) is greater than the median.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 4

A class of 60 students has their heights recorded. If the median height is 154.5 cm and the upper quartile is 155 cm, which of the following statements is true about the height distribution?

Statement 1: At least 50% of the students are 154.5 cm tall or shorter.

Statement 2: At least 25% of the students are taller than 155 cm.

Statement 3: The interquartile range of the students' heights is 2 cm.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 5

Given the steps for estimating the mode from a histogram:

Statement 1: To estimate the mode, you need to draw two straight lines from the corners of the modal class rectangle to the opposite corners of the highest rectangle on either side.

Statement 2: The point where the two lines intersect the x-axis gives the mode directly.

Statement 3: The mode can be estimated from a histogram regardless of whether the frequency distribution is continuous or discrete.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) Only 3

Question 6

For constructing an ogive from the given frequency distribution, identify the correct statements:

Statement 1: An ogive is a graph that represents the cumulative frequency of each class interval.

Statement 2: The cumulative frequency is plotted against the upper-class limit of each interval on the x-axis.

Statement 3: The 'less than' ogive will show a descending curve when plotted.

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) Only 2 and 3

Question 7

For a distribution of marks obtained by 200 students, if the lower quartile is represented by a point on the ogive graph with coordinates (42, 50), what does this indicate?

Statement 1: 50 students scored less than 42 marks.

Statement 2: 42 marks is the minimum score obtained by the top 75% of students.

Statement 3: The lower quartile corresponds to the score below which 25% of the students scored.

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 8

The pass percentage in an examination is 35 marks. Using the ogive, it was determined that 34 students scored below 35 marks. Consider the following statements:

Statement 1: 34 students failed the examination.

Statement 2: The point on the ogive representing 35 marks on the x-axis and the cumulative frequency on the y-axis indicates the number of students who did not pass.

Statement 3: The percentage of students who did not pass the examination can be calculated as ($34/200 \times 100\%$).

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 9

Calculate the new mean if the number x is added to the data set with a current mean of m and n observations.

New mean = $\frac{nm+x}{n}$

New mean = $\frac{nm+x}{n+1}$

New mean = $m + \frac{x}{n}$

(a) Only 1
(b) Only 2
(c) Only 3
(d) Only 1 and 3

Question 10

Consider the following statements regarding the calculation of the mean:

Statement 1: For grouped data, the mean can be found by multiplying each midpoint of a class by the class frequency and dividing the sum of these products by the total number of observations.

Statement 2: When all observations in a data set are multiplied by a constant, the mean of the data set is also multiplied by that constant.

Statement 3: The arithmetic mean is not affected by extreme values in the data set.

(a) Only 1
(b) Only 1 and 2
(c) Only 2 and 3
(d) All 1, 2, and 3

22 Probability

TYPE 1

Question 1

A deck of 52 cards is used. Which statements are true regarding the probability of drawing a particular card?

Statement 1: The probability of drawing an Ace is $\frac{1}{13}$

Statement 2: The probability of drawing any given card is $\frac{1}{52}$

Statement 3: The probability of drawing a Queen of Hearts is $\frac{1}{4}$

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) Only 2 and 3

Question 2

Consider a bag containing 5 red balls and 3 green balls. If one ball is drawn randomly, which of the following statements is correct?

Statement 1: The probability of drawing a red ball is $\frac{3}{8}$

Statement 2: The probability of not drawing a green ball is $\frac{5}{8}$

Statement 3: The probability of drawing a ball that is neither red nor green is 0.

(a) Only 1
(b) Only 2 and 3
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 3

Consider a die with faces showing letters A, B, C, D, E, A. If the die is thrown once, which of the following statements are true regarding the probability of outcomes?

Statement 1: The probability of getting an A is $\frac{1}{3}$

Statement 2: The probability of getting a B is $\frac{1}{5}$

Statement 3: The probability of not getting an A is $\frac{2}{3}$

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 4

Three-digit numbers are made using the digits 4, 5, 9 without repetition. If a number is selected at random, what is the probability that the number will have the following properties?

Statement 1: The number is a multiple of 5.

Statement 2: The number ends with 9.

Statement 3: The number is a multiple of 3.

(a) Only 1 and 2
(b) Only 2
(c) Only 1 and 3
(d) Only 2 and 3

Question 5

Consider a box containing 150 apples. If the probability of an apple being rotten is 0.06, which of the following statements are true?

Statement 1: There are 9 rotten apples in the box.

Statement 2: The number of good apples in the box is 141.

Statement 3: The probability of selecting a good apple is $\frac{141}{150}$

(a) Only 1
(b) Only 2
(c) Only 1 and 2
(d) All 1, 2, and 3

Question 6

From a standard deck of 52 playing cards, consider the following statements regarding the probability of drawing specific cards.

Statement 1: The probability of drawing an ace is $\frac{1}{13}$

Statement 2: The probability of drawing a red card is $\frac{1}{2}$

Statement 3: The probability of drawing a card that is neither a king nor a queen is $\frac{11}{13}$

(a) Only 1
(b) Only 2
(c) Only 2 and 3
(d) None of the above

Question 7

When three coins are tossed simultaneously, what are the probabilities of the following events?

Statement 1: The probability of getting three heads is $\frac{1}{8}$

Statement 2: The probability of getting two heads is $\frac{3}{8}$

Statement 3: The probability of getting at least one head is $\frac{7}{8}$

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 8

Consider a pack of 52 cards where the king of clubs has been removed. What are the probabilities of the following events?

Statement 1: Drawing a king is $\frac{3}{51}$

Statement 2: Drawing a black face card is $\frac{3}{51}$

Statement 3: Drawing either an ace or a queen is $\frac{7}{51}$

(a) Only 1
(b) Only 2
(c) Only 1 and 3
(d) All 1, 2, and 3

Question 9

Given two dice are tossed, assess the following statements about the outcomes:

Statement 1: The probability of rolling an even number on both dice is greater than rolling an odd number on both dice.

Statement 2: There are more outcomes where at least one die shows a '5' than outcomes where both dice show the same number.

Statement 3: The probability of the sum of the two numbers being exactly 7 is 1/6.

(a) Only 1
(b) Only 3
(c) Only 1 and 2
(d) Only 2 and 3

Question 10

For the event of rolling two different dice, identify the correct probabilities:

Statement 1: Rolling a sum of 8 and rolling a sum of 13 have the same probability.

Statement 2: The probability of rolling a sum less than or equal to 12 is 35/36.

Statement 3: The probability of rolling doublets is 1/6.

(a) Only 3
(b) Only 2
(c) Only 1 and 3
(d) None of the statements are correct

TYPE 2

Question 11

Event A: A fair coin lands on heads.

Event B: A six-sided die rolls a number greater than 4.

Event C: Drawing a red card from a standard deck of cards.

Which of the above event(s) has a probability of 0.5?

(a) Both events A and B
(b) Both events B and C
(c) Event A only
(d) Event C only

Question 12

Event A: Rolling an even number on a six-sided die.

Event B: Picking a heart from a deck of cards.

Event C: A leap year having 366 days.

Which of the above event(s) has a probability of 1?

(a) Both events A and B
(b) Both events B and C
(c) Event C only
(d) All events A, B, and C

Question 13

Event A: Drawing an ace from a standard deck of cards.

Event B: It will snow in the Sahara Desert tomorrow.

Event C: The next traffic light you see will be green.

Which of the above event(s) has a probability of 0?

(a) Both events A and B
(b) Event B only
(c) Both events B and C
(d) All events A, B, and C

Question 14

Event A: A randomly chosen month has 31 days.

Event B: A new-born baby is a girl.

Event C: A randomly chosen day from Monday, Tuesday, and Wednesday is a Monday.

Which of the above event(s) has a probability closest to 1/3?

(a) Event A only
(b) Event B only
(c) Event C only
(d) Both events B and C

Question 15

Event A: Drawing a black king from a standard deck of cards.

Event B: A tossed coin lands on tails.

Event C: A randomly chosen day is a weekend.

Which of the above event(s) has a probability of 0.5?

(a) Event A only
(b) Event B only
(c) Both events A and B
(d) Both events B and C

Question 16

Event A: Rolling a prime number on a six-sided die.

Event B: Drawing a spade from a standard deck of cards.

Event C: Tomorrow will be a weekday.

Which of the above event(s) has a probability greater than 0.5?

(a) Both events A and B
(b) Both events B and C
(c) Event C only
(d) Event A only

Question 17

Event A: A randomly chosen year is a leap year.

Event B: Picking a queen from a deck of cards.

Event C: A breakfast egg breaks when dropped from a height of 1 meter.

Which of the above event(s) has a probability of 1?

(a) Event C only
(b) Both events A and B
(c) Both events B and C
(d) All events A, B, and C

Question 18

Event A: Selecting a blue ball from a bag containing red and blue balls in equal quantity.

Event B: A day in April having rain.

Event C: The sun rises in the east.

Which of the above event(s) has a probability of 1?

(a) Event A only
(b) Both events A and B
(c) Event C only
(d) Both events B and C

Question 19

Event A: Choosing a vowel from the English alphabet.

Event B: A fair six-sided die shows a number less than 7.

Event C: A solar eclipse happens tomorrow.

Which of the above event(s) has a probability of 0?

(a) Event A only
(b) Event B only
(c) Event C only
(d) Both events A and C

Question 20

Event A: It will rain tomorrow.

Event B: A random number chosen between 1 and 100 is odd.

Event C: A tossed fair coin lands on either heads or tails.

Which of the above event(s) has a probability of 1?

(a) Both events A and B
(b) Event B only
(c) Event C only
(d) All events A, B, and C

ANSWERS

Chapter 1: Goods and Services Tax (GST)

1. (d)	3. (d)	5. (a)	7. (a)	9. (b)
2. (b)	4. (b)	6. (b)	8. (d)	10. (d)

Chapter 2: Banking

1. (c)	3. (c)	5. (d)	7. (b)	9. (c)
2. (c)	4. (a)	6. (c)	8. (c)	10. (a)

Chapter 3: Shares and Dividends

1. (c)	3. (c)	5. (d)	7. (d)	9. (a)
2. (c)	4. (a)	6. (a)	8. (a)	10. (b)

Chapter 4: Linear Inequations

1. (a)	5. (b)	9. (a)	13. (c)	17. (c)
2. (a)	6. (d)	10. (b)	14. (a)	18. (c)
3. (d)	7. (c)	11. (c)	15. (b)	19. (a)
4. (b)	8. (a)	12. (b)	16. (c)	20. (c)

Chapter 5: Quadratic Equations in One Variable

1. (c)	5. (a)	9. (d)	13. (a)	17. (b)
2. (c)	6. (c)	10. (d)	14. (c)	18. (a)
3. (b)	7. (a)	11. (c)	15. (c)	19. (c)
4. (c)	8. (c)	12. (c)	16. (a)	20. (d)

Chapter 6: Factorisation

1. (c)	5. (b)	9. (b)	13. (c)	17. (c)
2. (d)	6. (c)	10. (a)	14. (c)	18. (c)
3. (d)	7. (c)	11. (c)	15. (d)	19. (a)
4. (c)	8. (c)	12. (a)	16. (a)	20. (c)

Chapter 7: Ratio and Proportion

1. (c)	5. (d)	9. (a)	13. (c)	17. (c)
2. (c)	6. (a)	10. (c)	14. (a)	18. (d)
3. (d)	7. (d)	11. (c)	15. (b)	19. (c)
4. (a)	8. (d)	12. (b)	16. (c)	20. (d)

Chapter 8: Matrices

1. (d)	5. (c)	9. (d)	13. (b)	17. (b)
2. (a)	6. (b)	10. (b)	14. (c)	18. (c)
3. (a)	7. (c)	11. (c)	15. (b)	19. (d)
4. (a)	8. (c)	12. (b)	16. (c)	20. (b)

Chapter 9: Arithmetic and Geometric Progressions

1. (b)	5. (d)	9. (d)	13. (c)	17. (c)
2. (a)	6. (c)	10. (c)	14. (c)	18. (d)
3. (d)	7. (d)	11. (c)	15. (d)	19. (c)
4. (c)	8. (c)	12. (c)	16. (b)	20. (c)

Chapter 10: Reflection

1. (d)	3. (d)	5. (c)	7. (d)
2. (b)	4. (a)	6. (a)	8. (d)

Chapter 11: Section Formula

1. (a)	3. (a)	5. (d)	7. (a)	9. (c)
2. (c)	4. (b)	6. (c)	8. (c)	

Chapter 12: Equation of a Straight Line

1. (d)	3. (c)	5. (d)	7. (a)	9. (a)
2. (d)	4. (d)	6. (c)	8. (b)	10. (c)

Chapter 13: Similarity

1. (c)	3. (d)	5. (b)	7. (c)	9. (d)
2. (b)	4. (c)	6. (a)	8. (a)	10. (d)

Chapter 14: Locus

1. (c)	3. (a)	5. (c)	7. (b)	9. (c)
2. (d)	4. (a)	6. (b)	8. (b)	10. (d)

Chapter 15: Circles

1. (a)	3. (c)	5. (b)	7. (c)	9. (b)
2. (c)	4. (a)	6. (b)	8. (c)	10. (a)

Chapter 16: Constructions

1. (d)	3. (d)	5. (d)	7. (a)	9. (b)
2. (d)	4. (c)	6. (c)	8. (c)	10. (d)

Chapter 17: Mensuration

1. (d)	5. (a)	9. (c)	13. (c)	17. (c)
2. (b)	6. (d)	10. (b)	14. (a)	18. (a)
3. (a)	7. (d)	11. (c)	15. (c)	19. (a)
4. (c)	8. (d)	12. (c)	16. (b)	20. (c)

Chapter 18: Trigonometric Identities

1. (d)	3. (d)	5. (a)	7. (c)	9. (d)
2. (c)	4. (d)	6. (d)	8. (a)	10. (d)

Chapter 19: Trigonometrical Tables

1. (d)	3. (a)	5. (c)	7. (a)	9. (a)
2. (a)	4. (d)	6. (c)	8. (a)	

Chapter 20: Heights and Distances

1. (d)	3. (d)	5. (c)	7. (d)	9. (b)
2. (c)	4. (a)	6. (a)	8. (a)	10. (b)

Chapter 21: Measures of Central Tendency

1. (b)	3. (c)	5. (d)	7. (c)	9. (b)
2. (c)	4. (c)	6. (c)	8. (d)	10. (b)

Chapter 22: Probability

1. (c)	5. (d)	9. (d)	13. (b)	17. (a)
2. (b)	6. (d)	10. (a)	14. (c)	18. (c)
3. (c)	7. (d)	11. (c)	15. (b)	19. (c)
4. (c)	8. (a)	12. (c)	16. (c)	20. (c)

PHYSICS

1 Force

TYPE 1

Question 1

Assertion: When a force is applied at the pivot point of a door, the door will rotate.

Reason: The moment of force depends only on the magnitude of the force applied, regardless of the point of application.

(a) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 2

Assertion: A force causing clockwise rotation produces a negative moment.

Reason: The sign convention for moments is that clockwise moments are taken as negative and counter-clockwise moments as positive.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 3

Assertion: The wheel of a bicycle turns more effectively when force is applied to the rim rather than closer to the axle.

Reason: Applying a force closer to the pivot point requires more force to produce the same moment because the moment arm is shorter.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 4

Assertion: Centripetal force is necessary for an object to move in a circular path.

Reason: Centripetal force acts towards the center of the circular path, which is essential to change the direction of the object moving in a circular path.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 5

Assertion: A couple consists of two forces of equal magnitude but opposite directions acting on the same line.

Reason: A couple creates a turning effect or rotational motion without a resultant linear force.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 6

Assertion: The tension in a string attached to a ball moving in a circular path provides the necessary centripetal force.

Reason: The tension in the string is directed towards the center of the circular path, which is opposite to the direction of the centrifugal force.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 7

Assertion: A ball tied at the end of a string moving in a circular path on a merry-go-round will experience a real force known as centrifugal force.

Reason: The centrifugal force is the reaction force to the centripetal force acting on the ball due to the tension in the string.

(a) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 8

Assertion: The center of gravity of a uniform square lamina lies at the intersection of its diagonals.

Reason: The intersection of the diagonals is the geometric center of the square lamina, which is the point where the material is most uniformly distributed around.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 9

Assertion: A hollow cone has its center of gravity at a height h/3 from the base, on its axis.

Reason: The center of gravity is located at a point where the cone could be perfectly balanced on the tip of a pencil.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 10

Assertion: A body can have its center of gravity outside its material substance.

Reason: The center of gravity depends on the shape and the distribution of mass within the body.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false

TYPE 2

Question 11

Statement 1: The centre of gravity is the point where the entire weight of a body acts irrespective of its position.

Statement 2: The centre of gravity and balance point of a body are always the same.

Statement 3: For irregularly shaped objects, the centre of gravity can be outside the material of the body.

(a) Only 1

(b) Only 2

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 12

Statement 1: In uniform circular motion, the speed of the object is constant.

Statement 2: The direction of velocity in uniform circular motion changes at each point of the path.

Statement 3: Uniform circular motion is an example of accelerated motion due to the change in direction.

(a) Only 1

(b) Only 1 and 2

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 13

Statement 1: Centripetal force is necessary for an object to maintain its circular path.

Statement 2: Centrifugal force is a real force that acts opposite to the centripetal force.

Statement 3: Centripetal force is always directed towards the center of the circular path.

(a) Only 1 and 3

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

Question 14

Statement 1: The motion of a pendulum is an example of uniform circular motion.

Statement 2: The restoring force in a pendulum is provided by gravity.

Statement 3: The period of a pendulum depends on its length and the acceleration due to gravity.

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 1

(d) All 1, 2, and 3

Question 15

Statement 1: The force of gravity between two masses is directly proportional to the product of their masses.

Statement 2: The gravitational force increases as the distance between two masses decreases.

Statement 3: The gravitational force acts along the line joining the centres of two masses.

(a) Only 1 and 3

(b) Only 1

(c) Only 2

(d) All 1, 2, and 3

Question 16

Statement 1: Gravitational potential energy depends on the height of an object above the ground.

Statement 2: The potential energy of an object increases as it moves closer to the Earth's surface.

Statement 3: The formula for gravitational potential energy is *mgh*, where m is mass, g is acceleration due to gravity, and h is height.

(a) Only 1 and 3

(b) Only 2

(c) Only 3

(d) All 1, 2, and 3

Question 17

Statement 1: A satellite in orbit around Earth is in a state of continuous free-fall towards Earth.

Statement 2: The centripetal force for a satellite in orbit is provided by Earth's gravitational pull.

Statement 3: The speed of a satellite in orbit remains constant if its altitude remains unchanged.

(a) Only 1 and 2

(b) Only 3

(c) Only 1

(d) All 1, 2, and 3

Question 18

Statement 1: Planets move in elliptical orbits with the Sun at one of the foci.

Statement 2: A line segment joining a planet and the Sun sweeps out equal areas during equal intervals of time.

Statement 3: The square of the orbital period of a planet is proportional to the cube of the semi-major axis of its orbit.

(a) Only 1 and 3

(b) Only 1

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 19

Statement 1: A car moving at a speed of 20 m/s in a circle of radius 50 m has a centripetal acceleration of 8 m/s^2.

Statement 2: The centripetal force required for this motion is 4000 N if the mass of the car is 500 kg.

Statement 3: The period of this motion is 15.7 seconds.

(a) Only 1 and 2

(b) Only 1 and 3

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 20

Statement 1: Centripetal acceleration is directly proportional to the square of the linear velocity.

Statement 2: The direction of linear velocity in circular motion is tangential to the circle.

Statement 3: The magnitude of linear velocity remains constant in uniform circular motion.

(a) Only 1 and 2

(b) Only 1 and 3

(c) Only 2 and 3

(d) All 1, 2, and 3

2 Work, Energy and Power

TYPE 1

Question 1

Assertion: When a coolie stands still carrying a load on his head, no work is done on the load.

Reason: Work requires a force to cause displacement, and standing still involves no displacement.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 2

Assertion: The work done by gravity on a freely falling object is positive.

Reason: In free fall, the displacement of the object is in the same direction as the force of gravity.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 3

Assertion: If two different forces do the same amount of work on an object, they must be equal in magnitude.

Reason: The work done is calculated as the product of force and displacement in the direction of the force.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 4

Assertion: The energy transferred to an object is always equal to the work done on the object.

Reason: Energy is the capacity to do work, and when work is done, energy is transferred.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 5

Assertion: The kinetic energy of a body is solely dependent on its velocity.

Reason: Kinetic energy is defined as the work needed to accelerate a body of a given mass from rest to its stated velocity.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 6

Assertion: Vibrational kinetic energy is a form of energy that a body possesses due to its motion about a mean position.

Reason: In the case of a polyatomic molecule, the vibrational kinetic energy is the result of the individual atoms moving diatomic or polyatomic motion only.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 7

Assertion: A microphone converts sound energy directly into electrical energy.

Reason: The microphone creates this energy conversion through the chemical reaction occurring within its structure.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 8

Assertion: An electric bell converts electrical energy into sound energy.

Reason: The electric bell uses electromagnetic forces to move a striker against a bell, thus creating sound.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 9

Assertion: When a body is dropped from a height, its potential energy at the highest point is converted entirely into kinetic energy just before it hits the ground.

Reason: The conservation of mechanical energy principle states that the total mechanical energy of an isolated system remains constant if only conservative forces are doing work.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 10

Assertion: The kinetic energy of a freely falling body is zero at the highest point of its trajectory.

Reason: At the highest point, the body has maximum potential energy and zero velocity.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

TYPE 2

Question 11

Statement 1: Work is done only when a force causes displacement.

Statement 2: The amount of work done is independent of the direction of the force.

Statement 3: Work is a scalar quantity.

(a) Only 1 and 3

(b) Only 2

(c) Only 1 and 2

(d) All 1, 2, and 3

Question 12

Statement 1: Kinetic energy of a body is directly proportional to the square of its velocity.

Statement 2: Potential energy depends on the height of an object from the ground.

Statement 3: The unit of energy in the SI system is Joule.

(a) Only 1

(b) Only 2 and 3

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 13

Statement 1: Power is defined as the rate of doing work.

Statement 2: The SI unit of power is Watt.

Statement 3: Power depends only on the amount of work done, not on time.

(a) Only 1 and 2

(b) Only 3

(c) Only 1

(d) All 1, 2, and 3

Question 14

Statement 1: The gravitational potential energy of an object is given by the formula $U = mgh$.

Statement 2: The potential energy of an object is maximum at the ground level.

Statement 3: Gravitational potential energy depends on the mass of the object and its height from the ground.

(a) Only 1 and 3

(b) Only 2

(c) Only 3

(d) All 1, 2, and 3

Question 15

Statement 1: A body with zero velocity necessarily has zero kinetic energy.

Statement 2: The kinetic energy of a body is independent of its mass.

Statement 3: Kinetic energy can be transformed into other forms of energy.

(a) Only 1 and 3

(b) Only 2

(c) Only 3

(d) All 1, 2, and 3

Question 16

Statement 1: Work done by a force is given by $W = F \times d \times cos(\theta)$, where θ is the angle between force and displacement.

Statement 2: Work done is maximum when the force is perpendicular to the direction of displacement.

Statement 3: The work done is zero if the displacement is zero.

(a) Only 1 and 3

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

Question 17

Statement 1: A force does negative work when it acts in the direction opposite to the direction of displacement.

Statement 2: The work done by the gravitational force is positive when an object falls freely.

Statement 3: The work done is negative when an object is pushed against the direction of the force.

(a) Only 1 and 2

(b) Only 3

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 18

Statement 1: The work-energy theorem states that the change in kinetic energy of a body is equal to the work done on it.

Statement 2: The kinetic energy of an object at rest is not necessarily zero.

Statement 3: The total mechanical energy of a system is conserved if only conservative forces do work.

(a) Only 1 and 3

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

Question 19

A 10 kg object is lifted vertically upward by 5 meters.

Statement 1: The work done against gravity is 500 J.

Statement 2: The potential energy of the object increases by 50 J.

Statement 3: The gravitational force acting on the object is 98 N.

(a) Only 1 and 3

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

Question 20

An object of mass 2 kg is lifted to a height of 5 m.

Statement 1: The increase in potential energy is 10 J.

Statement 2: The formula used is $U = mgh$.

Statement 3: The increase in potential energy is 100 J.

(a) Only 2 and 3

(b) Only 1

(c) Only 2

(d) All 1, 2, and 3

3 Machines

TYPE 1

Question 1

Assertion: For an ideal machine, the work output is always equal to the work input, making the efficiency 100%.

Reason: An ideal machine has no energy losses due to factors like friction or deformation.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false

Question 2

Assertion: The mechanical advantage of a machine can be greater than, less than, or equal to one.

Reason: A mechanical advantage greater than one signifies that the machine can only change the direction of effort and not amplify the force.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 3

Assertion: The velocity ratio (VR) of a machine is defined as the ratio of the velocity of effort to the velocity of load.

Reason: Because velocity is distance over time, the VR can be calculated using the distances moved by the effort and load in the same time interval.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 4

Assertion: Class III levers have a mechanical advantage less than 1.

Reason: This is because the effort is applied closer to the fulcrum than the load, which results in a loss of force but a gain in the speed and distance of the load movement.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 5

Assertion: In a class I lever, if the effort arm is longer than the load arm, the lever can lift heavier loads with less effort.

Reason: A longer effort arm in a class I lever increases the mechanical advantage because it allows for a greater movement of the load per unit of effort displacement.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 6

Assertion: A single fixed pulley changes the direction of the effort force applied to lift a load.

Reason: The mechanical advantage of a single fixed pulley is one because it does not multiply the effort force.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 7

Assertion: In a single movable pulley system, the effort needed to lift the load is half the weight of the load.

Reason: A single movable pulley has a mechanical advantage of two, which means the effort force is divided by the mechanical advantage to lift the load.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 8

Assertion: The velocity ratio in a system of n pulleys is 2^n.

Reason: Because each additional movable pulley doubles the distance the effort moves compared to the load.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 9

Assertion: In a block and tackle system with n pulleys, the effort required to lift the load is divided by n.

Reason: The tension in each segment of the string is equal, and thus each pulley contributes to the division of effort.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 10

Assertion: The efficiency of a pulley system is always less than 100% in practical situations.

Reason: Friction and the weight of the pulley system components are typically negligible.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

TYPE 2

Question 11

A ball is thrown vertically upward.

Statement 1: The ball's potential energy is maximum at the highest point.

Statement 2: The kinetic energy is zero when the ball reaches its highest point.

Statement 3: The total mechanical energy of the ball remains constant during the flight.

(a) Only 1

(b) Only 2

(c) Only 1 and 2

(d) All 1, 2, and 3

Question 12

A pendulum swings from its extreme position to the mean position.

Statement 1: Its potential energy decreases.

Statement 2: Its kinetic energy increases.

Statement 3: Its total mechanical energy remains constant.

(a) Only 1

(b) Only 2

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 13

A ski jumper goes from the top to the bottom of the mountain slope.

Statement 1: His potential energy decreases.

Statement 2: His kinetic energy increases.

Statement 3: His total mechanical energy remains constant if air resistance is neglected.

(a) Only 1

(b) Only 2

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 14

A crowbar is used to lift a heavy object.

Statement 1: It acts as a force multiplier.

Statement 2: Its mechanical advantage can be greater than 1.

Statement 3: The load arm is longer than the effort arm.

(a) Only 1

(b) Only 2

(c) Only 1 and 2

(d) All 1, 2, and 3

Question 15

A pair of scissors cutting a sheet of paper.

Statement 1: It is an example of a Class I lever.

Statement 2: The mechanical advantage is less than 1.

Statement 3: The tips of the blades move a longer distance than the ends of the handles when the scissors are closed.

(a) Only 1

(b) Only 2

(c) Only 1 and 2

(d) All 1, 2, and 3

Question 16

A simple machine has an efficiency of 80%.

Statement 1: Its output energy is less than its input energy.

Statement 2: Its mechanical advantage is less than its velocity ratio.

Statement 3: It loses 20% of energy primarily due to friction.

(a) Only 1

(b) Only 2

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 17

A seesaw with a child at each end.

Statement 1: It is a Class I lever.

Statement 2: The fulcrum is at the center.

Statement 3: The seesaw remains in equilibrium if the product of the load and load arm is equal for both children.

(a) Only 1

(b) Only 2

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 18

A person uses a wheelbarrow to lift a load.

Statement 1: The wheelbarrow is a Class II lever.

Statement 2: The load is between the fulcrum and the effort.

Statement 3: The mechanical advantage of the wheelbarrow is greater than 1.

(a) Only 1

(b) Only 2

(c) Only 1 and 2

(d) All 1, 2, and 3

Question 19

Consider a pendulum with a bob of mass 2 kg oscillating at a height of 5 m from the ground.

Statement 1: The potential energy at the highest point of oscillation is 100 J.

Statement 2: The kinetic energy at the lowest point of oscillation is 100 J.

Statement 3: The total mechanical energy of the pendulum is constant throughout the motion.

(a) Only 1

(b) Only 2

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 20

Statement 1: A machine acting as a speed multiplier has a mechanical advantage greater than 1.

Statement 2: A machine with a mechanical advantage less than 1 can increase force.

Statement 3: The velocity ratio of a machine is the ratio of the displacement of effort to the displacement of load.

(a) Only 3

(b) Only 1 and 3

(c) Only 2

(d) All 1, 2, and 3

4 Refraction of light at plane surfaces

TYPE 1

Question 1

Assertion: Total internal reflection can occur when light travels from a denser to a rarer medium.

Reason: The angle of incidence in the denser medium must be greater than the critical angle for that medium for total internal reflection to occur.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 2

Assertion: When light passes from a rarer to a denser medium, its frequency increases.

Reason: The speed of light is lower in a denser medium, which according to the relationship $v=f\lambda$, would increase the frequency if the wavelength decreases.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 3

Assertion: The emergent ray is parallel to the incident ray when light passes through a rectangular glass block.

Reason: The principle of reversibility of light indicates that paths of light are reversible, thus maintaining parallelism upon emergence.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 4

Assertion: The refractive index of the material of the prism does not affect the angle of minimum deviation (δ_{min}).

Reason: The angle of minimum deviation is determined solely by the geometry of the prism and the wavelength of light used.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 5

Assertion: The apparent depth of an object in water is greater than its real depth when viewed from above the water.

Reason: This is due to the refraction of light, as light travels slower in air than in water, making the object appear shallower than it really is.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 6

Assertion: A stick appears bent when partially submerged in water due to the refractive index of water being different from that of air.

Reason: The refractive index of water is less than that of air, causing the light rays to bend away from the normal.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 7

Assertion: The critical angle is the angle of incidence in the denser medium for which the angle of refraction in the rarer medium is 90°.

Reason: At the critical angle, light undergoes total internal reflection, not refraction.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 8

Assertion: The critical angle of incidence increases with an increase in the wavelength of light.

Reason: For a given pair of media, the critical angle is determined by the ratio of the velocities of light in the two media.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 9

Assertion: Total internal reflection cannot occur when light travels from a denser to a rarer medium.

Reason: Total internal reflection requires the light to travel from a medium with a higher refractive index to one with a lower refractive index.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 10

Assertion: In a prism where each angle is 60°, such as an equilateral prism, the light ray does not suffer total internal reflection inside the prism and gets refracted as it exits.

Reason: The critical angle for glass-air interface is less than 60°, and hence the angle of incidence will always be greater than the critical angle, leading to total internal reflection.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

TYPE 2

Question 11

Statement 1: When light passes from a rarer to a denser medium, its speed decreases.

Statement 2: The frequency of light remains unchanged when it passes from air to water.

Statement 3: The wavelength of light increases when it passes from glass to air.

(a) Only 1

(b) Only 2

(c) Only 1 and 2

(d) All 1, 2, and 3

Question 12

Statement 1: The refractive index of water with respect to air is 4/3.

Statement 2: The refractive index of glass with respect to air is 3/2.

Statement 3: The refractive index of diamond is greater than that of glass.

(a) Only 2

(b) Only 1 and 3

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 13

Statement 1: Total internal reflection occurs when light passes from a denser to a rarer medium.

Statement 2: The critical angle is dependent on the wavelength of light.

Statement 3: Total internal reflection can only occur if the angle of incidence is greater than the critical angle.

(a) Only 1 and 3

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

Question 14

Statement 1: The principle of reversibility of light implies that the path of light is reversible.

Statement 2: Snell's Law can be used to calculate the refractive index of a medium.

Statement 3: Lateral displacement of light occurs due to refraction through a glass slab.

(a) Only 1 and 2

(b) Only 3

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 15

Statement 1: Refractive index decreases with an increase in the wavelength of light.

Statement 2: Violet light bends more than red light when passing from air to glass.

Statement 3: The refractive index of glass is the same for all colours of light.

(a) Only 1 and 2

(b) Only 1

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 16

Statement 1: Light speed in diamond is more than in glass.

Statement 2: The refractive index is a ratio of the speed of light in vacuum to that in the medium.

Statement 3: Diamond has a higher refractive index than water.

(a) Only 1

(b) Only 2 and 3

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 17

Statement 1: If the speed of light in air is (3×10^8 m/s) and in glass is (2×10^8 m/s), the refractive index of glass is 1.5.

Statement 2: The speed of light in water with refractive index $4/3$ is (2.25×10^8 m/s).

Statement 3: The refractive index of diamond is 2.41, thus light travels in diamond at (1.245×10^8 m/s).

(a) Only 1 and 2

(b) Only 3

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 18

Statement 1: Lateral displacement of a ray of light through a glass slab increases with the increase in the angle of incidence.

Statement 2: The emergent ray is always parallel to the incident ray in a rectangular glass slab.

Statement 3: The refractive index of water is approximately 1.33.

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 19

Statement 1: When light moves from a denser to a rarer medium, it bends away from the normal.

Statement 2: Snell's law is represented by the equation $\sin i = \sin r$.

Statement 3: The angle of incidence is always equal to the angle of refraction.

(a) Only 1

(b) Only 1 and 2

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 20

Statement 1: The critical angle is the angle of incidence for which the angle of refraction is 90°.

Statement 2: Total internal reflection can only occur when light moves from a denser to a rarer medium.

Statement 3: The refractive index is inversely proportional to the critical angle.

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 1 and 3

(d) All 1, 2, and 3

5 Refraction through a lens

TYPE 1

Question 1

Assertion: A bi-convex lens is thicker at the edges than at the center.

Reason: In a bi-convex lens, both surfaces are convex, and the lens converges light to a focal point.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 2

Assertion: When a ray of light passes through the optical centre of a lens, it continues in the same direction without deviation.

Reason: The optical centre of a lens acts as if it were a flat piece of glass, causing no change in the direction of the light ray.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 3

Assertion: A real image is formed by a convex lens when the object is placed at a distance greater than the focal length of the lens.

Reason: Real images are always inverted and formed on the same side of the lens as the object.

(a) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 4

Assertion: When an object is placed at the focus of a convex lens, no image is formed.

Reason: At the focus, the light rays after passing through the lens are parallel and never meet to form an image.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 5

Assertion: An object placed beyond the 2F point of a convex lens will have its image formed between F and 2F.

Reason: As the object moves away from the lens beyond 2F, the size of the real, inverted image decreases and forms closer to the focal point F on the other side of the lens.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 6

Assertion: The lens formula $\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$ applies to both convex and concave lenses.

Reason: The lens formula is derived based on the principle that light travels in straight lines and the behaviour of light is consistent regardless of the type of lens.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 7

Assertion: The power of a convex lens is positive.

Reason: A convex lens causes light rays to converge and thus can form a real image on the same side of the object.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 8

Assertion: The magnifying power of a simple microscope is dependent on the focal length of the lens.

Reason: Shorter focal lengths in convex lenses result in greater magnification.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 9

Assertion: Bifocal lenses have a concave lens on the lower part for reading.

Reason: The concave lens corrects hypermetropia, allowing the user to see nearby objects clearly.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 10

Assertion: A concave lens is used as the eye lens in a Galilean telescope.

Reason: The concave lens diverges light rays, which helps to form an erect image of distant objects.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

TYPE 2

Question 11

Statement 1: Convex lenses are thicker at the center and thinner at the edges.

Statement 2: Concave lenses diverge light rays.

Statement 3: The optical center of a lens is the point where light rays pass undeviated.

(a) Only 1

(b) Only 2

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 12

Statement 1: The focal length of a convex lens is positive.

Statement 2: The focal length of a lens is the distance from the optical center to the focus.

Statement 3: A real image is always inverted.

(a) Only 1

(b) Only 2

(c) Only 1 and 2

(d) All 1, 2, and 3

Question 13

Statement 1: A convex lens converges parallel rays to its focus.

Statement 2: A concave lens forms only virtual images.

Statement 3: The power of a lens is inversely proportional to its focal length.

(a) Only 1

(b) Only 3

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 14

Statement 1: An object placed at the focus of a convex lens produces an image at infinity.

Statement 2: For an object placed at a distance of 30 cm from a convex lens of focal length 15 cm, the image formed is real.

Statement 3: The magnification is negative for real images.

(a) Only 1

(b) Only 1 and 3

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 15

Statement 1: A virtual image cannot be obtained on a screen.

Statement 2: The image formed by a concave lens is sometimes inverted.

Statement 3: Magnification less than 1 indicates a diminished image.

(a) Only 1

(b) Only 2

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 16

Statement 1: A lens with a power of +2D has a focal length of 50 cm.

Statement 2: The image distance (v) can be calculated using the lens formula $\frac{1}{f} = \frac{1}{v} + \frac{1}{u}$

Statement 3: A lens with a focal length of -10 cm is concave.

(a) Only 2

(b) Only 3

(c) Only 1 and 2

(d) All 1, 2, and 3

Question 17

Statement 1: Convex lenses are used in magnifying glasses.

Statement 2: The focal length of a diverging lens is positive.

Statement 3: In a convex lens, parallel rays after refraction pass through the second focus.

(a) Only 1 and 3

(b) Only 2

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 18

Statement 1: Lens formula is $\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$.

Statement 2: In the lens formula, f represents the focal length.

Statement 3: In the lens formula, v and u are the image and object distances, respectively.

(a) Only 1

(b) Only 1 and 2

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 19

Statement 1: The power of a lens is inversely proportional to its focal length.

Statement 2: A lens with a focal length of 10 cm has a power of 1 dioptre.

Statement 3: The power of a convex lens is positive.

(a) Only 1

(b) Only 3

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 20

Statement 1: Ray diagrams can be used to determine the nature and position of the image formed by a lens.

Statement 2: A real image is formed by the actual intersection of rays and can be captured on a screen.

Statement 3: An erect image is always a virtual image.

(a) Only 1

(b) Only 2

(c) Only 1 and 2

(d) All 1, 2, and 3

6 Spectrum

TYPE 1

Question 1

Assertion: The electromagnetic spectrum includes light waves, X-rays, and radio waves.

Reason: All these forms of electromagnetic radiation differ only in their frequency and wavelength, not in their fundamental nature.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 2

Assertion: The angle of deviation of light through a prism is dependent on the colour of the light.

Reason: The material of the prism has a uniform refractive index for all wavelengths of light.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 3

Assertion: Infrared waves are part of the electromagnetic spectrum that lies just beyond the visible red end of the spectrum.

Reason: Infrared waves have longer wavelengths than the red light, which is why they are not visible to the human eye.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 4

Assertion: Ultraviolet radiations can cause skin cancer due to long-term exposure.

Reason: Ultraviolet radiations have higher energy than visible light and can damage the DNA in skin cells.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 5

Assertion: Infrared radiations are used in remote control devices.

Reason: Infrared radiations have longer wavelengths which scatter less and thus can penetrate through obstacles like fog and smoke.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 6

Assertion: Radio waves can be received by aerials of a TV receiver.

Reason: Radio waves have the longest wavelength in the electromagnetic spectrum, which allows them to be broadcast over long distances without significant loss of strength.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 7

Assertion: Microwaves are used in radar communication because they are absorbed by atmospheric particles.

Reason: Microwaves have the right balance between their penetrating ability and their interaction with atmospheric particles for effective radar systems.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 8

Assertion: The sun appears reddish early in the morning and at sunset.

Reason: During sunrise and sunset, light has to travel through more of the Earth's atmosphere, which scatters blue light out of the direct path between the sun and the observer.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 9

Assertion: The sky over moon appears black because there is no atmosphere to scatter sunlight.

Reason: Without an atmosphere, there is no medium to scatter the sunlight, hence the sky appears black to an observer on the moon.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 10

Assertion: Clouds appear white because they scatter all colours of sunlight equally.

Reason: The particles in clouds are large enough to scatter wavelengths of visible light to an equal extent, making the combined scattered light appear white.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

TYPE 2

Question 11

Deviation of light by a prism depends on:

Statement 1: Angle of incidence

Statement 2: Refractive index of prism material

Statement 3: Wavelength of incident light

(a) Only 1

(b) Only 1 and 2

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 12

White light dispersion through a prism:

Statement 1: Produces a spectrum of seven colours

Statement 2: Is caused by different refraction angles for different colours

Statement 3: Results in equal deviation for all colours

(a) Only 1

(b) Only 1 and 2

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 13

Speed of light in a medium:

Statement 1: Is the same for all colours

Statement 2: Decreases with decreasing wavelength

Statement 3: Is independent of the medium's refractive index

(a) Only 1

(b) Only 2

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 14

If the wavelength of red light is 700 nm, its frequency in a vacuum is:

Statement 1: Approximately $4.29 \, x \, 10^{14} \, Hz$

Statement 2: Higher than that of violet light

Statement 3: Independent of the speed of light

(a) Only 1

(b) Only 1 and 2

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 15

With respect to the Electromagnetic spectrum order, choose the correct statements from the following.

Statement 1: Visible light is between ultraviolet and infrared in the spectrum.

Statement 2: Radio waves have shorter wavelengths than microwaves.

Statement 3: X-rays have higher frequency than ultraviolet rays.

(a) Only 1

(b) Only 1 and 3

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 16

Infrared and Ultraviolet Rays:

Statement 1: Both can be seen by the human eye.

Statement 2: Infrared rays have longer wavelengths than ultraviolet rays.

Statement 3: Both are used in medical applications.

(a) Only 1

(b) Only 2

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 17

Scattering of light in the atmosphere:

Statement 1: Is the reason why the colour of sky is blue.

Statement 2: Is more effective for longer wavelengths.

Statement 3: Occurs due to interaction with atmospheric particles.

(a) Only 1

(b) Only 1 and 3

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 18

When a light ray enters a prism:

Statement 1: It always exits at a 90-degree angle to the incident ray.

Statement 2: It undergoes dispersion into its constituent colours

Statement 3: The angle of deviation depends on the angle of the prism.

(a) Only 1

(b) Only 2

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 19

Regarding the properties of electromagnetic waves:

Statement 1: All electromagnetic waves travel at the same speed in a vacuum.

Statement 2: Electromagnetic waves require a medium to propagate.

Statement 3: The frequency of an electromagnetic wave changes when it passes from one medium to another.

(a) Only 1

(b) Only 1 and 3

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 20

About the properties of visible light:

Statement 1: Visible light consists of seven prominent colours.

Statement 2: Visible light can be dispersed by a prism into its constituent colours.

Statement 3: Infrared light is part of the visible spectrum.

(a) Only 1 and 2

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

7 Sound

TYPE 1

Question 1

Assertion: Ultrasonic waves are those sound waves which have a frequency above 20,000 Hz.

Reason: Ultrasonic waves can be used for medical imaging because their high frequency allows them to reflect off of tissues and create detailed images.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 2

Assertion: The speed of sound in air is constant and is not affected by changes in temperature or humidity.

Reason: The speed of sound in air is only dependent on the air's density and the elasticity of the medium.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 3

Assertion: Bats can navigate in the dark using echolocation.

Reason: Bats emit ultrasonic waves and listen for the echoes to detect obstacles and prey.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 4

Assertion: A sonar system can determine the distance to an object by sending out a sound pulse and measuring the time it takes for the echo to return.

Reason: The speed of sound in air is approximately 340 ms^{-1}.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 5

Assertion: Sympathetic vibrations occur when two objects with different natural frequencies influence each other's motion.

Reason: Sympathetic vibrations are a result of resonance between two bodies vibrating at their natural frequency.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 6

Assertion: Damping forces cause the amplitude of natural vibrations to decrease over time.

Reason: The energy of the vibrating system is conserved, and thus no energy is lost to the surroundings.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 7

Assertion: When two pendulums of the same length are suspended from a rubber string and one pendulum is made to vibrate, the other pendulum also starts vibrating with a large amplitude due to resonance.

Reason: The energy transfer between the two pendulums of the same length is facilitated by the rubber string acting as a medium for the transfer of vibrational energy.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 8

Assertion: A sound of 1 dB represents a 26% increase in the intensity of sound.

Reason: 1 dB is defined as the increase in level of loudness when the intensity of sound increases by 26%.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 9

Assertion: Noise is characterised by a high sound level, usually above 120 dB.

Reason: Noise is produced by an irregular succession of disturbances, leading to a disorganised wave form which is unpleasant to the ears.

(a) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 10

Assertion: A musical sound is pleasant to the ears because it is produced by regular and periodic vibrations.

Reason: The wave form of a musical sound is regular and contains a pattern of frequencies known as the harmonic series.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

TYPE 2

Question 11

Statement 1: Red light is used for danger signals because its long wavelength scatters the least in the atmosphere.

Statement 2: Infrared radiations are used in remote controls due to their ability to penetrate through obstacles.

Statement 3: Blue light is scattered the most in the Earth's atmosphere, contributing to the blue colour of the sky.

(a) Only 1

(b) Only 2

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 12

Statement 1: The speed of sound in air increases with an increase in temperature.

Statement 2: Humidity in air does not affect the speed of sound.

Statement 3: Sound waves are longitudinal waves that require a medium for propagation.

(a) Only 1

(b) Only 2

(c) Only 3

(d) All 1, 2, and 3

Question 13

Statement 1: Echoes are heard when sound reflects off a surface and reaches the listener after 0.1 seconds or more.

Statement 2: The minimum distance for hearing an echo in air is 17 meters.

Statement 3: For an echo to be heard, the intensity of the reflected sound must be sufficient to be audible.

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 14

Statement 1: The speed of sound can be calculated using the echo method.

Statement 2: Ultrasonic waves have the same speed in a medium as audible sound waves.

Statement 3: Bats use ultrasonic waves for echolocation and navigation.

(a) Only 1 and 3

(b) Only 2

(c) Only 1 and 2

(d) All 1, 2, and 3

Question 15

Statement 1: Sound waves are mechanical waves and require a material medium to travel.

Statement 2: The speed of sound is constant and does not depend on the medium.

Statement 3: Sound waves can travel through solids, liquids, and gases.

(a) Only 1 and 3

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

Question 16

Statement 1: Light waves can travel through a vacuum, but sound waves cannot.

Statement 2: The speed of light in air is approximately $3x10^8 m/s$.

Statement 3: Light waves are electromagnetic waves.

(a) Only 1 and 2

(b) Only 3

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 17

Statement 1: The human ear can detect frequencies ranging from 20 Hz to 20,000 Hz.

Statement 2: Ultrasonic waves are above 20,000 Hz and are not audible to humans.

Statement 3: Sound waves below 20 Hz are called infrasonic and are also inaudible to humans.

(a) Only 1

(b) Only 2

(c) Only 3

(d) All 1, 2, and 3

Question 18

Statement 1: Echoes are used in SONAR technology to measure distances underwater.

Statement 2: The minimum distance required to hear an echo in air is 17 meters.

Statement 3: Bats use ultrasonic waves for navigation and hunting.

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 19

Statement 1: A sound wave has a frequency of 500 Hz and a wavelength of 0.68 meters.

Statement 2: The speed of the sound wave is 340 m/s.

Statement 3: The wave's period is 0.002 seconds.

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 20

Statement 1: Ultrasonic waves are used by bats for navigation.

Statement 2: Infrasonic waves have frequencies below 20 Hz.

Statement 3: The human ear can hear sounds up to 30,000 Hz.

(a) Only 1 and 2

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

8 Current Electricity

TYPE 1

Question 1

Assertion: Ohm's law is applicable to all materials regardless of their temperature and physical state.

Reason: Ohm's law states that the current through a conductor between two points is directly proportional to the voltage across the two points.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 2

Assertion: A volt is the unit of electric current.

Reason: The S.I. unit of electric potential is the volt, which is defined as the work done per unit charge in moving a charge from infinity to a given point.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 3

Assertion: Ohmic resistors do not have a V-I graph that is a straight line passing through the origin.

Reason: Ohmic resistors follow Ohm's Law, which states that the current through the resistor is directly proportional to the potential difference across it at constant temperature.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 4

Assertion: Specific resistance of a material is independent of the physical dimensions of the material.

Reason: Specific resistance, or resistivity, is an intrinsic property of the material and is not affected by the shape or size of the material sample.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 5

Assertion: The electromotive force (e.m.f.) of a cell is independent of the amount of charge flowing through it.

Reason: E.m.f. is measured by the energy supplied to each coulomb of charge to move through the cell, not by the total amount of charge.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 6

Assertion: The total resistance of a combination of resistors both in series and in parallel can be less than the smallest individual resistance in the circuit.

Reason: Combining resistors in parallel reduces the total resistance below the smallest individual resistance, and adding a series element can increase the total resistance but not above the smallest individual resistance.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 7

Assertion: The current through each resistor in a series circuit is different.

Reason: In a series circuit, the total current is divided among the resistors in proportion to their resistances.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 8

Assertion: The electrical energy consumed by a resistor can be calculated using the formula $W = V^2t/R$.

Reason: This formula is derived from the power expression $P = V^2/R$, which is based on Ohm's law $V = IR$, and energy is power integrated over time.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 9

Assertion: A kilowatt-hour is a unit of power.

Reason: Power is the rate at which energy is consumed or produced.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 10

Assertion: The safe current through an appliance can be calculated using the power rating and the voltage rating of the appliance.

Reason: The safe current is inversely proportional to the voltage rating of the appliance.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

TYPE 2

Question 11

Statement 1: Ohm's Law states $V = IR$, where V is the potential difference, I is the current, and R is the resistance.

Statement 2: Resistance in a wire is inversely proportional to its cross-sectional area.

Statement 3: The unit of electric current is Coulomb per second.

(a) Only 1

(b) Only 2

(c) 1 and 3

(d) All 1, 2, and 3

Question 12

Statement 1: The resistance of a conductor increases with an increase in temperature.

Statement 2: In a parallel circuit, the total resistance is less than the smallest individual resistance.

Statement 3: A current of 1 A flowing through a wire indicates 1 C of charge passing through it per minute.

(a) Only 1

(b) 1 and 2

(c) 2 and 3

(d) All 1, 2, and 3

Question 13

Statement 1: Superconductors are materials that exhibit zero resistance at very low temperatures.

Statement 2: The potential difference is measured in Joules.

Statement 3: The specific resistance of a material is independent of its physical dimensions.

(a) Only 1

(b) 1 and 3

(c) Only 3

(d) All 1, 2, and 3

Question 14

Statement 1: Conductors that obey Ohm's Law are known as ohmic resistors.

Statement 2: In metallic conductors, the flow of current is due to the movement of electrons.

Statement 3: The electric potential is a vector quantity.

(a) Only 2

(b) 1 and 2

(c) 2 and 3

(d) All 1, 2, and 3

Question 15

Statement 1: A wire of resistance 5 Ω carries a current of 1 A, the potential difference across it is 5 V.

Statement 2: If the length of the wire is doubled, the resistance becomes 10 Ω.

Statement 3: Doubling the cross-sectional area of the wire halves its resistance.

(a) Only 1

(b) 1 and 3

(c) 2 and 3

(d) All 1, 2, and 3

Question 16

Statement 1: A current of 2 A flowing through a 4 Ω resistor will produce 8 V across it.

Statement 2: If the current is halved, the voltage drop becomes 4 V.

Statement 3: Tripling the resistance with the original current produces a voltage drop of 24 V.

(a) Only 1

(b) 1 and 3

(c) Only 2

(d) All 1, 2, and 3

Question 17

Statement 1: The potential difference between two points is defined as the work done per unit charge.

Statement 2: Electric power is measured in Watts and is calculated as P = VI.

Statement 3: The direction of electric current is from lower to higher potential.

(a) Only 2

(b) 1 and 2

(c) 2 and 3

(d) All 1, 2, and 3

Question 18

Statement 1: If a wire of resistance 5 Ohms is connected across a battery of 10V, the current through the wire is 2A.

Statement 2: Using Ohm's law, the resistance of a wire through which 0.5A flows when connected to a 5V battery is 100 Ohms.

Statement 3: For a 12V battery and a wire of resistance 4 Ohms, the current through the circuit is 3A.

(a) Only 1 and 2

(b) Only 1 and 3

(c) Only 1

(d) All 1, 2 and 3

Question 19

Statement 1: Ohmic resistors have a linear V-I (Voltage-Current) relationship.

Statement 2: Non-ohmic resistors exhibit a nonlinear V-I relationship.

Statement 3: The resistance of an ohmic resistor does not change with temperature.

(a) Only 1 and 2

(b) Only 1 and 3

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 20

Statement 1: The electric potential at a point is defined as the work done per unit charge in bringing a positive test charge from infinity to that point.

Statement 2: Potential difference between two points is the work done to move a unit charge from one point to another.

Statement 3: The unit of potential difference is Joule per Coulomb.

(a) Only 1

(b) Only 1 and 2

(c) Only 2 and 3

(d) All 1, 2, and 3

9 Household circuits

TYPE 1

Question 1

Assertion: In household wiring, the live wire is also called the phase wire and carries current from the source to the distribution board.

Reason: The phase wire is at a higher potential relative to the earth, which is why it is capable of carrying current to the distribution board.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 2

Assertion: The fuse in an electrical circuit is always connected in the neutral wire.

Reason: The fuse is designed to melt and break the circuit if the current exceeds a safe limit, preventing damage to the appliances and circuit.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 3

Assertion: The thickness of a fuse wire depends on its current rating.

Reason: A thicker fuse wire has a larger cross-sectional area which dissipates heat more effectively.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 4

Assertion: It is safe to carry out repairs on an appliance when the switch in the live wire is in the 'off' position.

Reason: When the switch in the live wire is off, the appliance is disconnected from the high potential terminal, and the circuit is incomplete, which prevents current from flowing.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 5

Assertion: Double pole switches are used in staircases to allow control of a light from two different places.

Reason: Double pole switches disconnect both the live and neutral wires simultaneously, which is a requirement for staircase lighting circuits.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 6

Assertion: In a household ring system, each appliance is provided with a separate fuse for protection.

Reason: A separate fuse for each appliance ensures that if one appliance fails, it does not affect the circuitry of the other appliances.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 7

Assertion: Fuses are always connected in the neutral wire of the circuit.

Reason: The fuse needs to melt when the current exceeds the safe limit, interrupting the circuit.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 8

Assertion: Local earthing is performed to provide a low-resistance path for electric current to flow into the ground.

Reason: A thick copper plate surrounded by a mixture of charcoal and salt is used in local earthing because it increases the resistivity of the soil.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 9

Assertion: The colour coding of wires in a cable is essential for safety and to prevent electrical hazards.

Reason: In the new international convention for wire colour coding, the live wire is brown, the neutral wire is light blue, and the earth wire is green or yellow.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 10

Assertion: A three-pin plug is designed in such a way that the earth pin is longer and thicker than the other two pins.

Reason: The longer earth pin ensures that the earth connection is made first and breaks last for safety reasons.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

TYPE 2

Question 11

Statement 1: The resistance of a wire is inversely proportional to its length.

Statement 2: The resistance of a wire is directly proportional to its cross-sectional area.

Statement 3: The resistance of a wire increases with an increase in temperature.

(a) Only 1

(b) Only 2

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 12

Statement 1: In a series circuit, the current through each component is the same.

Statement 2: The total resistance in a parallel circuit is equal to the sum of individual resistances.

Statement 3: The voltage across each component in a parallel circuit is the same.

(a) Only 1 and 3

(b) Only 2

(c) Only 1

(d) Only 3

Question 13

Statement 1: Ohm's Law states that the current through a conductor is directly proportional to the voltage across it.

Statement 2: The SI unit of resistivity is ohm-meter.

Statement 3: Power dissipated in a resistor is given by $P = IV$, where I is current, and V is voltage.

(a) Only 1 and 2

(b) Only 3

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 14

Statement 1: Capacitors store electrical energy in an electric field.

Statement 2: The capacitance of a parallel-plate capacitor increases with the distance between the plates.

Statement 3: Energy stored in a capacitor is given by $(\frac{1}{2}CV^2)$, where C is capacitance and V is voltage.

(a) Only 1 and 3

(b) Only 1

(c) Only 2

(d) Only 3

Question 15

Statement 1: The unit of electric charge is the Coulomb.

Statement 2: The electric potential at a point is defined as the work done in moving a unit positive charge from infinity to that point.

Statement 3: Electric field is a vector quantity, and its direction is from positive to negative charge.

(a) Only 2 and 3

(b) Only 1 and 2

(c) Only 1

(d) All 1, 2, and 3

Question 16

A 10-ohm resistor is connected to a 5V battery. Which of the following is true?

Statement 1: The current through the resistor is 0.5A.

Statement 2: The power dissipated by the resistor is 2.5W.

Statement 3: The energy dissipated in 10 seconds is 25 Joules.

(a) Only 1

(b) Only 1 and 2

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 17

Statement 1: A magnetic field can influence the movement of a toy car with a magnet attached, rolling near a strong magnet.

Statement 2: If the toy car moves towards the magnet, the direction of the force acting on it due to the magnetic field is directly towards or away from the strong magnet.

Statement 3: If the toy car moves along the magnetic field lines of the strong magnet, the field can change its speed but not its direction.

(a) Only 1 and 2

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

Question 18

Statement 1: The standard frequency of an alternating current (AC) in India is 60 Hz.

Statement 2: In a direct current (DC) circuit, the current flows in one direction only.

Statement 3: The root mean square (RMS) value of an AC is equal to its peak value divided by $\sqrt{2}$.

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 1

(d) All 1, 2, and 3

Question 19

Statement 1: The main switch in household circuits is a single pole switch.

Statement 2: The main fuse in a house circuit is connected in the live wire.

Statement 3: The earth wire in a household circuit is at a high potential.

(a) Only 2

(b) Only 1 and 3

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 20

Statement 1: A three-pin plug's earth pin is thicker and longer than the other pins.

Statement 2: The colour coding for the earth wire in a cable is red.

Statement 3: In India, the live wire in a three-pin plug is usually connected to the left pin.

(a) Only 1

(b) Only 1 and 3

(c) Only 2 and 3

(d) All 1, 2, and 3

10 Electro - magnetism

TYPE 1

Question 1

Assertion: The strength of the magnetic field created by a current-carrying wire decreases as the distance from the wire increases.

Reason: The magnetic field strength is inversely proportional to the square of the distance from the source due to the magnetic field lines spreading out as they move away from the wire.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 2

Assertion: Increasing the number of turns in a solenoid increases the strength of the magnetic field.

Reason: More turns in the solenoid reduce the resistance of the coil, which increases the magnetic field strength.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 3

Assertion: A current-carrying loop of wire behaves as a magnetic dipole.

Reason: The magnetic field lines through the loop of wire resemble those of a bar magnet, with distinct north and south poles.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 4

Assertion: An electric bell uses an electromagnet to function.

Reason: In an electric bell, the electromagnet is used to create a repetitive motion to strike the gong due to the make and break of the circuit.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 5

Assertion: A permanent magnet can retain its magnetism indefinitely if it is made of a material with high magnetic coercivity.

Reason: Permanent magnets are often made of steel, which has higher magnetic retentivity compared to soft iron.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 6

Assertion: The armature coil in a simple DC motor continues to rotate due to inertia even when there is momentarily no contact between the brushes and the commutator.

Reason: The continuous rotation is due to the torque generated by the current in the coil, which persists even in the absence of a continuous electrical connection.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 7

Assertion: Electromagnetic induction occurs only when there is a change in the number of magnetic field lines passing through a coil.

Reason: A stationary magnet inside a coil induces no current because it does not change the magnetic flux through the coil.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 8

Assertion: The induced e.m.f. in a coil rotating within a magnetic field is maximum when the plane of the coil is parallel to the magnetic field.

Reason: This is because when the plane of the coil is parallel to the magnetic field, the rate of change of magnetic flux linked with the coil is greatest.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 9

Assertion: Fleming's right-hand rule is used to find the direction of the induced current in a conductor moving in a magnetic field.

Reason: The right-hand rule involves orienting the thumb, forefinger, and middle finger perpendicular to each other, where the thumb represents the direction of the conductor's motion.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 10

Assertion: The frequency of the alternating current in a household supply can be increased by increasing the speed of rotation of the coil in the generator.

Reason: According to the formula $e = e_0 \sin(2\pi nt)$, where n is the number of rotations per second, increasing n will result in an increase in the frequency of the generated e.m.f.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

TYPE 2

Question 11

Statement 1: The experiment demonstrated that an electric current produces a magnetic field.

Statement 2: The direction of the magnetic field changes with the direction of the current.

Statement 3: A compass needle is unaffected by the current in a nearby wire.

(a) Only 1 and 2

(b) Only 1

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 12

Statement 1: Magnetic field lines around a straight conductor are parallel to the wire.

Statement 2: Reversing the current direction reverses the direction of the magnetic field.

Statement 3: Increasing the current strength increases the density of the magnetic field lines.

(a) Only 2 and 3

(b) Only 1 and 3

(c) Only 1

(d) All 1, 2, and 3

Question 13

Statement 1: Electromagnets lose their magnetism when the electric current is stopped.

Statement 2: The strength of an electromagnet can be increased by increasing the current.

Statement 3: Electromagnets can have their polarity reversed by reversing the current.

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 14

Statement 1: The magnetic field inside a solenoid is uniform.

Statement 2: The strength of the magnetic field in a solenoid depends on the coil's diameter.

Statement 3: Reversing the current direction in a solenoid reverses its magnetic field.

(a) Only 1 and 3

(b) Only 1

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 15

An electrician from Urban Company is working at your house with a simple electric motor in a ceiling fan. The motor contains a current-carrying wire loop that rotates in a magnetic field.

Statement 1: When the technician increases the current in the wire loop, the rotational force on the loop also increases.

Statement 2: Changing the orientation of the wire loop relative to the magnetic field changes the direction of rotation.

Statement 3: The rotational force on the loop is less if the loop is made longer, keeping the current and magnetic field constant.

(a) Only 1 and 2

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

Question 16

Consider a simple electric train set. The train (which is essentially a current-carrying conductor) moves on a track that has a magnetic field.

Statement 1: The speed of the train is proportional to the amount of current supplied.

Statement 2: The direction in which the train moves depends on the direction of the magnetic field.

Statement 3: The speed of the train is inversely proportional to the length of the train.

Which of the following statements are correct?

(a) Only 1

(b) Only 1 and 2

(c) Only 2

(d) All 1, 2, and 3

Question 17

Statement 1: Electromagnetic induction occurs when a conductor moves through a stationary magnetic field.

Statement 2: Changing the magnetic field around a stationary conductor induces current.

Statement 3: Induced current is always in the same direction as the movement of the conductor.

(a) Only 1 and 2

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

Question 18

Statement 1: An electromagnet can be demagnetised by turning off the electric current.

Statement 2: A permanent magnet can easily change its magnetic field strength.

Statement 3: The polarity of an electromagnet can be reversed by changing the direction of the current.

(a) Only 1 and 3

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

Question 19

Statement 1: In a solenoid, the magnetic field inside is uniform and parallel to its axis.

Statement 2: The strength of the magnetic field in a solenoid increases with the number of turns of the coil.

Statement 3: The direction of the magnetic field in a solenoid does not depend on the direction of the current.

(a) Only 1 and 2

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

Question 20

Statement 1: A current carrying wire in a magnetic field experiences a force perpendicular to both the current and the magnetic field.

Statement 2: The direction of the force on a current-carrying wire in a magnetic field can be determined using Fleming's left-hand rule.

Statement 3: The magnitude of the force on a current-carrying wire in a magnetic field depends only on the strength of the magnetic field.

(a) Only 1

(b) Only 2

(c) Only 1 and 2

(d) All 1, 2, and 3

11 Calorimetry

TYPE 1

Question 1

Assertion: The amount of heat energy required to raise the temperature of 1 g of water by 1°C is the same as the amount required to raise the temperature of 1 kg of copper by 1°C.

Reason: The specific heat capacity of a substance indicates the amount of heat energy needed to raise the temperature of a unit mass of the substance by 1°C.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 2

Assertion: The S.I. unit of heat is joule, which is equivalent to the amount of heat required to raise the temperature of 1 g of water by 1°C.

Reason: One calorie is defined as the amount of heat energy required to raise the temperature of 1 g of water from 14.5°C to 15.5°C.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 3

Assertion: The heat capacity of an object is directly proportional to its mass and the specific heat capacity of the material it is made of.

Reason: Objects with equal mass made from different substances absorb different amounts of heat energy to raise their temperature by the same amount.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 4

Assertion: When equal masses of copper and water are heated by the same amount, copper will reach a higher temperature than water.

Reason: Copper has a lower specific heat capacity than water, meaning it requires less heat energy to raise its temperature by 1°C.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 5

Assertion: Water has a higher specific heat capacity than sand, which contributes to the moderate climate near the seaside.

Reason: The high specific heat capacity of water allows it to absorb more heat without a significant rise in temperature, which influences the local climate by mitigating temperature extremes.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 6

Assertion: The melting point of ice decreases with an increase in pressure.

Reason: Increased pressure disrupts the crystal lattice of ice, making it easier for the molecules to move past one another and transition into a liquid state.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 7

Assertion: The base of cooking utensils, like pans and electric presses, is often made thick to utilise the property of low heat capacity.

Reason: A thicker base in cooking utensils slows down the transfer of heat to the food, allowing for more even cooking and temperature maintenance.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 8

Assertion: At high altitudes, water boils at temperatures lower than 100°C.

Reason: The atmospheric pressure is lower at high altitudes, which decreases the boiling point of water.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 9

Assertion: The specific latent heat of fusion of ice is the amount of heat required to convert unit mass of ice at 0°C to water at 0°C without any change in temperature.

Reason: During the phase change, the energy supplied is used to overcome the intermolecular forces between water molecules instead of increasing the temperature.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 10

Assertion: The melting point of a substance increases with the addition of impurities.

Reason: Impurities disrupt the regular lattice structure of a solid, thereby

requiring more energy to break intermolecular bonds.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

TYPE 2

Question 11

Statement 1: Heat is a form of energy that flows from a hotter body to a colder body.

Statement 2: The SI unit of heat is joule (J).

Statement 3: One calorie is defined as the heat energy required to raise the temperature of 1g of water from 14.5°C to 15.5°C.

(a) Only 1

(b) Only 2

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 12

Statement 1: The specific heat capacity is a characteristic property of a substance.

Statement 2: Copper has a higher specific heat capacity than water.

Statement 3: Specific heat capacity is measured in units of J/kg K.

(a) Only 1

(b) Only 1 and 3

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 13

Statement 1: Temperature is a measure of the average kinetic energy of particles in a substance.

Statement 2: The zero on the Kelvin scale represents the point at which molecular motion ceases.

Statement 3: Temperature is measured in Celsius and Kelvin, where 0°C equals 272 K.

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 14

Statement 1: Heat capacity is the amount of heat energy required to raise the temperature of an entire body by 1°C.

Statement 2: Heat capacity depends on the mass of the body and the nature of the substance.

Statement 3: The unit of heat capacity is JK^{-1}

(a) Only 1 and 2

(b) Only 3

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 15

Statement 1: The principle of calorimetry is based on the law of conservation of energy.

Statement 2: In calorimetry, the heat lost by a hot object equals the heat gained by a cold object.

Statement 3: Calorimeters are typically made of materials with high specific heat capacities.

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 1

(d) All 1, 2, and 3

Question 16

Statement 1: Latent heat is the heat involved in changing the state of a substance without a change in temperature.

Statement 2: The latent heat of fusion refers to the heat required to change a substance from solid to liquid.

Statement 3: The SI unit of latent heat is Joule per kilogram.

(a) Only 2

(b) Only 1 and 3

(c) Only 1 and 2

(d) All 1, 2, and 3

Question 17

A 50g piece of copper at 80°C is placed in 100g of water at 20°C. The final temperature of the mixture is 30°C. Assume no heat loss to the surroundings.

Statement 1: The specific heat capacity of copper is 0.385 J/g°C.

Statement 2: The final temperature of the mixture does not depend on the masses or the specific heat capacities of the copper and water.

Statement 3: The specific heat capacity of water is 4.18 J/g°C.

(a) Only 1 and 3

(b) Only 2

(c) Only 1 and 2

(d) All 1, 2, and 3

Question 18

Statement 1: The thermal capacity of a body is defined as the amount of heat required to raise its temperature by 1 K.

Statement 2: Specific heat capacity and thermal capacity are directly proportional.

Statement 3: The higher the specific heat capacity, the more heat is required to raise the temperature.

(a) Only 1 and 3

(b) Only 1 and 2

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 19

Statement 1: The heat required to raise the temperature of 2 kg of water from 10°C to 50°C is 336,000 J.

Statement 2: The specific heat capacity of water is 4200 J/kg K.

Statement 3: The formula used for this calculation is $Q = mc\,\Delta T$.

(a) Only 2 and 3

(b) Only 1 and 3

(c) Only 1

(d) All 1, 2, and 3

Question 20

Statement 1: If 5000 Joules of heat is required to raise the temperature of an iron ball by 10°C, its heat capacity is 500 J/K.

Statement 2: The specific heat capacity of the iron ball is 450 J/kg K if its mass is 11 kg and total heat capacity is 495 J.

Statement 3: The heat capacity of an object is calculated using the formula $C = Q/\Delta T$.

(a) Only 1 and 3

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

12 Radioactivity

TYPE 1

Question 1

Assertion: Electrons in an atom move in specific orbits around the nucleus known as stationary orbits.

Reason: Stationary orbits are named so because the electrons remain stationary in these orbits.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 2

Assertion: Isotopes of an element have different numbers of neutrons but the same chemical properties.

Reason: The chemical properties of an element are determined by the number of protons, which is the same for all isotopes of an element.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 3

Assertion: Radioactivity is a nuclear phenomenon that changes the number of protons or neutrons inside the nucleus of an atom.

Reason: Alpha particles, which are a type of radioactive emission, consist of two protons and two neutrons and can transform the nucleus of an atom upon emission.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 4

Assertion: Alpha particles have a greater mass than beta particles and therefore have a higher penetrating power.

Reason: The penetrating power of a particle is directly related to its mass, with heavier particles penetrating further.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 5

Assertion: Beta particles are emitted simultaneously with gamma radiation in beta decay.

Reason: Beta decay involves the transformation of a neutron into a proton, electron, and antineutrino, and can be accompanied by gamma radiation if the product nucleus is in an excited state.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

Question 6

Assertion: Gamma emission from a radioactive nucleus does not change the number of protons and neutrons in the nucleus.

Reason: Gamma radiation is electromagnetic radiation that occurs without the emission of particles from the nucleus.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 7

Assertion: Safety measures in nuclear reactors include the use of lead aprons and lead gloves for personnel handling radioactive materials.

Reason: Lead is used in safety equipment because it is a good conductor of electricity and can therefore prevent electric shocks.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 8

Assertion: The energy released during the fission of one Uranium-235 nucleus is nearly 190 MeV.

Reason: The energy released per fission event is directly proportional to the number of neutrons released during the reaction.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 9

Assertion: A nuclear bomb is based on the principle of uncontrolled nuclear fission.

Reason: In an uncontrolled nuclear fission reaction, a heavy nucleus splits into two nearly equal fragments after being bombarded with neutrons.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) The assertion is true, but the reason is false.

(c) The assertion is false, but the reason is true.

(d) Both the assertion and the reason are false.

Question 10

Assertion: Nuclear fission reactions are generally exothermic, releasing a large amount of energy.

Reason: The fission process is less likely to occur spontaneously than fusion because it requires a neutron to initiate the reaction.

(a) Both the assertion and the reason are true, and the reason is a correct explanation of the assertion.

(b) Both the assertion and the reason are true, but the reason is not a correct explanation of the assertion.

(c) The assertion is true, but the reason is false.

(d) The assertion is false, but the reason is true.

TYPE 2

Question 11

Statement 1: The nucleus of an atom consists of protons and neutrons, and is surrounded by electrons.

Statement 2: Alpha particles are essentially helium nuclei.

Statement 3: Radioactivity involves the spontaneous emission of alpha, beta, and gamma radiations from unstable nuclei.

(a) Only 1

(b) Only 2

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 12

Statement 1: Alpha decay increases the atomic number of an element.

Statement 2: Beta decay involves the emission of an electron or positron from the nucleus.

Statement 3: Gamma decay changes the atomic and mass numbers of an element.

(a) Only 2

(b) Only 1 and 3

(c) Only 1 and 2

(d) All 1, 2, and 3

Question 13

Statement 1: Alpha particles have a positive charge.

Statement 2: Alpha particles have low penetrating power but high ionizing power.

Statement 3: The mass of an alpha particle is approximately equal to that of an electron.

(a) Only 1 and 2

(b) Only 2

(c) Only 1 and 3

(d) All 1, 2, and 3

Question 14

Statement 1: Beta particles are high-speed electrons emitted from the nucleus.

Statement 2: Beta particles have a mass equal to that of a proton.

Statement 3: Beta particles have greater penetrating power compared to alpha particles.

(a) Only 1 and 3

(b) Only 2 and 3

(c) Only 1

(d) All 1, 2, and 3

Question 15

Statement 1: Gamma rays are electromagnetic waves with a high energy and short wavelength.

Statement 2: Gamma rays can be deflected by magnetic and electric fields.

Statement 3: Gamma rays have the highest penetrating power among alpha, beta, and gamma radiations.

(a) Only 1 and 3

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

Question 16

Statement 1: Isotopes of an element have the same number of protons but different numbers of neutrons.

Statement 2: Isotopes always have different chemical properties.

Statement 3: Radioactive isotopes have unstable nuclei and can undergo radioactive decay.

(a) Only 1 and 3

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

Question 17

Statement 1: Nuclear fission involves the splitting of a large nucleus into smaller nuclei.

Statement 2: Nuclear fusion releases more energy than nuclear fission.

Statement 3: Nuclear fission is the process that powers the sun.

(a) Only 1 and 2

(b) Only 1

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 18

Statement 1: Isotopes are atoms of the same element with different numbers of neutrons.

Statement 2: Isobars are atoms with the same number of protons but different mass numbers.

Statement 3: Isotones are atoms with the same number of neutrons but different atomic numbers.

(a) Only 1

(b) Only 1 and 3

(c) Only 2 and 3

(d) All 1, 2, and 3

Question 19

Statement 1: Radioactive decay is a random and spontaneous process.

Statement 2: The rate of radioactive decay is influenced by external physical conditions.

Statement 3: Half-life is the time taken for half the number of radioactive nuclei in a sample to decay.

(a) Only 1 and 3

(b) Only 2

(c) Only 1

(d) All 1, 2, and 3

Question 20

Statement 1: The half-life of a radioactive isotope is 5 days.

Statement 2: After 15 days, 1/8 of the original quantity of the isotope remains.

Statement 3: After 20 days, 1/16 of the original quantity remains.

(a) Only 1 and 2

(b) Only 1

(c) Only 1 and 3

(d) All 1, 2, and 3

ANSWERS

Chapter 1: Force

1. (d)	5. (b)	9. (b)	13. (a)	17. (a)
2. (a)	6. (a)	10. (a)	14. (b)	18. (d)
3. (a)	7. (d)	11. (c)	15. (a)	19. (b)
4. (a)	8. (a)	12. (d)	16. (a)	20. (d)

Chapter 2: Work, Energy and Power

1. (a)	5. (b)	9. (a)	13. (a)	17. (c)
2. (a)	6. (b)	10. (a)	14. (a)	18. (a)
3. (c)	7. (b)	11. (a)	15. (c)	19. (a)
4. (a)	8. (a)	12. (d)	16. (a)	20. (a)

Chapter 3: Machines

1. (a)	5. (a)	9. (a)	13. (d)	17. (d)
2. (b)	6. (b)	10. (b)	14. (c)	18. (d)
3. (a)	7. (a)	11. (d)	15. (b)	19. (c)
4. (a)	8. (b)	12. (d)	16. (d)	20. (a)

Chapter 4: Refraction of Light at Plane Surfaces

1. (a)	5. (c)	9. (a)	13. (a)	17. (d)
2. (d)	6. (b)	10. (d)	14. (d)	18. (d)
3. (a)	7. (a)	11. (c)	15. (a)	19. (a)
4. (b)	8. (b)	12. (d)	16. (b)	20. (d)

Chapter 5: Refraction through a Lens

1. (c)	5. (b)	9. (b)	13. (c)	17. (a)
2. (a)	6. (a)	10. (a)	14. (b)	18. (d)
3. (b)	7. (b)	11. (d)	15. (d)	19. (c)
4. (a)	8. (a)	12. (c)	16. (a)	20. (d)

Chapter 6: Spectrum

1. (a)	5. (a)	9. (a)	13. (b)	17. (b)
2. (b)	6. (a)	10. (a)	14. (a)	18. (c)
3. (a)	7. (c)	11. (d)	15. (b)	19. (a)
4. (a)	8. (a)	12. (b)	16. (c)	20. (a)

Chapter 7: Sound

1. (b)	5. (c)	9. (b)	13. (d)	17. (d)
2. (c)	6. (b)	10. (a)	14. (d)	18. (d)
3. (a)	7. (a)	11. (c)	15. (a)	19. (a)
4. (b)	8. (a)	12. (c)	16. (d)	20. (a)

Chapter 8: Current Electricity

1. (c)	5. (a)	9. (c)	13. (b)	17. (b)
2. (c)	6. (b)	10. (b)	14. (b)	18. (b)
3. (d)	7. (d)	11. (c)	15. (a)	19. (a)
4. (a)	8. (a)	12. (b)	16. (b)	20. (b)

Chapter 9: Household Circuits

1. (a)	5. (b)	9. (b)	13. (d)	17. (a)
2. (c)	6. (a)	10. (a)	14. (a)	18. (b)
3. (b)	7. (c)	11. (c)	15. (d)	19. (a)
4. (a)	8. (d)	12. (a)	16. (d)	20. (b)

Chapter 10: Electro-magnetism

1. (b)	5. (b)	9. (b)	13. (d)	17. (a)
2. (b)	6. (b)	10. (a)	14. (a)	18. (a)
3. (a)	7. (a)	11. (a)	15. (a)	19. (d)
4. (a)	8. (d)	12. (a)	16. (b)	20. (d)

Chapter 11: Calorimetry

1. (c)	5. (a)	9. (a)	13. (d)	17. (d)
2. (b)	6. (a)	10. (d)	14. (d)	18. (a)
3. (a)	7. (d)	11. (d)	15. (a)	19. (d)
4. (a)	8. (a)	12. (b)	16. (d)	20. (d)

Chapter 12: Radioactivity

1. (b)	4. (b)	7. (b)	10. (b)	13. (a)
2. (a)	5. (b)	8. (b)	11. (d)	14. (a)
3. (a)	6. (a)	9. (a)	12. (a)	15. (a)

16. (a)	17. (a)	18. (b)	19. (a)	20. (c)

CHEMISTRY

1 Periodic Table, Periodic Properties and Variations of Properties

TYPE 1

Question 1

An unknown element X from Group 15 is burned in an excess of oxygen. Based on the periodicity and variations of properties in the periodic table, what is the most likely chemical formula of the oxide formed?

(a) X_2O

(b) XO_2

(c) X_2O_3

(d) XO_3

Question 2

A halogen from Period 4 is reacted with sodium to form a salt. Referring to the periodic properties and trends, which compound is most likely formed from this reaction?

(a) Sodium iodide (NaI)

(b) Sodium bromide (NaBr)

(c) Sodium chloride (NaCl)

(d) Sodium fluoride (NaF)

Question 3

During a classroom demonstration, a piece of lithium is dropped into a container of water. A reaction occurs, producing a gas and an aqueous solution. Based on the periodic properties discussed, what is the most likely observation and the gas produced in this scenario?

(a) The lithium floats, producing chlorine gas.

(b) The lithium sinks, producing hydrogen gas.

(c) The lithium dissolves without any visible reaction, producing oxygen gas.

(d) The lithium floats, producing carbon dioxide gas.

Question 4

If an element from Period 3 of the periodic table is subjected to increasing nuclear charge while maintaining the same number of electron shells, which of the following properties is likely to increase?

(a) The atomic radius will increase due to the addition of electron shells.

(b) The non-metallic character will increase due to higher electronegativity.

(c) The ionisation potential will decrease, making it easier to remove electrons.

(d) The electronegativity will decrease, reducing its tendency to attract electrons.

Question 5

A student observes that when lithium metal is added to water, a vigorous reaction occurs, producing a gas and an aqueous solution. Which of the following best explains the reactivity of lithium in this scenario?

(a) Lithium has a low ionisation energy, which facilitates the loss of its valence electron.

(b) Lithium has a high electronegativity, which attracts electrons from water molecules.

(c) Lithium forms covalent bonds with water, releasing energy in the process.

(d) Lithium's atomic radius is large, which increases its reactivity with water.

Question 6

If a piece of phosphorus is added to a chlorine gas environment, a reaction occurs forming a solid compound. Considering the trends in non-metallic character and reactivity, what is the most likely product of this reaction?

(a) PCl_3

(b) P_2Cl_4

(c) PCl_5

(d) P_2Cl_6

Question 7

When conducting an experiment to determine electron affinity, a student finds that the energy released when an electron is added to a gaseous atom of element X is greater than when an electron is added to a chlorine atom. If element X is from the same period as chlorine, which of the following could element X be?

(a) Sulphur (S)

(b) Oxygen (O)

(c) Nitrogen (N)

(d) Fluorine (F)

Question 8

A chemist observes that an element reacts vigorously with water, producing hydrogen gas and forming a strong base. Based on the trends in reactivity for Group 1 elements, which element could exhibit this behavior?

(a) Neon

(b) Sodium

(c) Fluorine

(d) Magnesium

Question 9

A student predicts that a certain element has a high ionisation energy and low electron affinity. If the element is also known to be a poor conductor of electricity, which category from the periodic table does it most likely belong to?

(a) Alkali metals

(b) Transition metals

(c) Halogens

(d) Noble gases

Question 10

During a classroom demonstration, a piece of lithium is dropped into a container of chlorine gas. Which of the following outcomes is most likely based on the properties of alkali metals and halogens?

(a) The lithium will remain unchanged because alkali metals are non-reactive.

(b) Chlorine will become a solid due to the increase in electron affinity.

(c) A vigorous reaction will occur, producing lithium chloride.

(d) The lithium will float on chlorine gas without reacting.

TYPE 2

Question 11

If an element is located in Period 3 and Group 15 of the periodic table, which of the following properties would it most likely have?

A. It would have a high electronegativity and be a non-metal.

B. It would be highly reactive with water and be an alkali metal.

C. It would have a low ionisation energy and be a noble gas.

D. It would have a variable oxidation state and be a transition metal.

(a) only A

(b) only B

(c) B and C

(d) A and D

Question 12

Considering the periodic trends, which element would likely have the highest first ionisation energy?

A. An element in Group 1 and Period 2.

B. An element in Group 17 and Period 3.

C. An element in Group 1 and Period 4.

D. An element in Group 18 and Period 1.

(a) only A

(b) only B

(c) only C

(d) only D

Question 13

An element is considered to be more non-metallic in character if it:

A. Loses electrons easily to form cations.

B. Has a high ionisation potential.

C. Is placed at the bottom of a group in the periodic table.

D. Exhibits a small atomic radius.

(a) A and C

(b) B and D

(c) only D

(d) only B

Question 14

If an element in Group 1 of the periodic table has an atomic number greater than 11, which of the following properties is it likely to exhibit compared to an element in the same group but with an atomic number of 3?

A. Smaller atomic radius

B. Higher electronegativity

C. More pronounced metallic character

D. Lower valency

(a) only C

(b) only A and B

(c) only B and D

(d) only A, B, and C

Question 15

When moving across the period from left to right, how does the ionisation energy of the elements generally change?

A. It increases due to an increase in nuclear charge, decreasing atomic radius.

B. It decreases because the atomic size increases.

C. It remains constant because the number of electrons remains the same.

D. It first decreases, then increases due to irregularities in subshell filling.

(a) only A

(b) only B

(c) only C

(d) only D

Question 16

What is likely to be true about the electron affinity of nonmetals as one moves down a group in the periodic table?

A. Electron affinity increases due to larger atomic size.

B. Electron affinity decreases because the added energy levels increase distance from the nucleus.

C. Electron affinity remains constant due to the periodic nature of the elements.

D. Electron affinity first decreases, then increases, due to half-filled subshells.

(a) only A

(b) only B

(c) only C

(d) only D

Question 17

During the ionisation of an element, which factor would contribute to a higher ionisation energy?

A. A smaller atomic radius with a high nuclear charge.

B. A larger atomic radius with a lower nuclear charge.

C. A smaller atomic radius with a lower nuclear charge.

D. A larger atomic radius with a high nuclear charge.

(a) only A

(b) only B

(c) only C

(d) only D

Question 18

When a halogen from Group 17 reacts with a metal from Group 1, which of the following outcomes is most likely?

A. A covalent bond is formed due to similar electronegativities.

B. A precipitate forms as a result of the reaction between two non-metals.

C. An ionic compound is formed with the halogen becoming an anion.

D. No reaction occurs as Group 17 elements are inert.

(a) only A

(b) only B

(c) only C

(d) all A, B, and C

Question 19

If an element has a high electron affinity and is located in Group 17, which of the following is most likely to occur during a chemical reaction?

A. The element will readily form ionic bonds with metals.

B. The element will share electrons equally with another non-metal.

C. The element will not react due to its inert gas configuration.

D. The element will act as a reducing agent by gaining electrons.

(a) only A

(b) only B

(c) only C

(d) all A, B, and C

Question 20

If an element in period 3 has a valency of 3, which of the following properties is it likely to have?

A. It is a non-metal.

B. It has a high ionisation potential.

C. It is a good reducing agent.

D. It has a low electronegativity.

(a) only A

(b) only B

(c) only C

(d) A and B

2 Chemical Bonding

TYPE 1

Question 1

During a laboratory experiment, a student mixed a solution of sodium hydroxide with a solution of hydrochloric acid. The reaction produced a salt and water. What is the name of the salt formed in this reaction?

(a) Sodium chloride

(b) Sodium carbonate

(c) Sodium bicarbonate

(d) Sodium sulphate

Question 2

If a piece of lithium is dropped into a container of chlorine gas, a violent reaction occurs resulting in the formation of a white solid. What is the chemical formula for the white solid produced in this reaction?

(a) LiCl

(b) Li_2Cl

(c) $LiCl_2$

(d) Li_2Cl_2

Question 3

A student is examining the formation of an electrovalent bond and observes that an element Z, with an electronic configuration of (2, 8, 2), reacts with oxygen. What is the formula of the resulting compound and what is the nature of the bond?

(a) ZO, covalent bond

(b) Z_2O, ionic bond

(c) ZO_2, covalent bond

(d) ZO, ionic bond

Question 4

During a lab experiment, a student added a solution of compound X to a silver nitrate solution and observed no change in the solution. Which of the following is a possible identity for compound X based on the provided context?

(a) Sodium chloride

(b) Magnesium chloride

(c) Potassium chloride

(d) Sodium nitrate

Question 5

A compound forms when two elements share one pair of electrons, and both elements have the same electronegativity. Based on the information provided, which of the following best describes the type of compound formed and an example of such a compound?

(a) Non-polar covalent compound; example H_2 (Hydrogen molecule)

(b) Polar covalent compound; example HCl (Hydrogen chloride)

(c) Ionic compound; example NaCl (Sodium chloride)

(d) Metallic bond; example Cu (Copper)

Question 6

A gas is formed by the combination of two non-metal atoms, sharing three pairs of electrons to achieve stable electronic configurations. The gas does not ionise in water, suggesting it is a non-polar molecule. What is the chemical formula of the gas?

(a) CO_2

(b) O_3

(c) N_2

(d) SO_2

Question 7

If a molecule exhibits a low boiling point and does not conduct electricity when in solution, it is most likely a:

(a) Electrovalent compound

(b) Covalent compound

(c) Metallic compound

(d) Noble gas

Question 8

During an experiment, a molecule is formed by sharing three pairs of electrons between one nitrogen atom and three hydrogen atoms. This molecule is:

(a) Water (H_2O)

(b) Ammonia (NH_3)

(c) Methane (CH_4)

(d) Nitrogen (N_2)

Question 9

If a piece of calcium is dropped into water, it reacts to form calcium hydroxide and hydrogen gas. Based on the information about covalent and ionic bonding, which of the following statements is true regarding the reaction product calcium hydroxide?

(a) It contains only covalent bonds since it is formed from a reaction with water.

(b) It has ionic bonds due to the transfer of electrons from calcium to the hydroxide ions.

(c) It exhibits coordinate bonding because calcium donates its electrons to water.

(d) It forms purely hydrogen bonds as it is a product of a reaction with hydrogen gas.

Question 10

During a classroom experiment, a student adds a small amount of sodium hydroxide to a solution containing magnesium chloride ($MgCl_2$). After a few moments, a white solid begins to form in the solution. What is most likely occurring in this reaction?

(a) The sodium hydroxide is reacting with chloride ions to form sodium chloride.

(b) The magnesium ions are reacting with hydroxide ions to form magnesium hydroxide.

(c) The chloride ions are precipitating out of the solution as chlorine gas is released.

(d) The hydroxide ions are evaporating, leaving the magnesium chloride unchanged.

TYPE 2

Question 11

Which of the following best describes the energy change when an ionic bond is formed between a metal and a non-metal?

A. Energy is absorbed when a metal atom loses an electron and a non-metal atom gains an electron.

B. Energy is released when a metal atom loses an electron and a non-metal atom gains an electron.

C. Energy is neither released nor absorbed because the reaction is isothermal.

D. Energy is first absorbed and then released in equal amounts, making the overall energy change zero.

(a) only A

(b) only B

(c) only C

(d) None of the above

Question 12

Given the electron configurations in inert gases, which of the following elements would most likely form a +1 cation in an ionic compound?

A. Fluorine (Atomic number: 9, Electron configuration: 2,7)

B. Sodium (Atomic number: 11, Electron configuration: 2,8,1)

C. Oxygen (Atomic number: 8, Electron configuration: 2,6)

D. Chlorine (Atomic number: 17, Electron configuration: 2,8,7)

(a) only A

(b) only B

(c) C and D

(d) only D

Question 13

In the formation of calcium oxide (CaO), which of the following is true regarding the electron transfer between calcium (Ca) and oxygen (O) atoms?

A. Oxygen atom transfers two electrons to calcium atom.

B. Each oxygen atom transfers one electron to a calcium atom.

C. Calcium atom transfers two electrons to an oxygen atom.

D. Calcium and oxygen atoms do not exchange electrons but share them equally.

(a) only A

(b) only B

(c) only C

(d) B and D

Question 14

When a sodium atom (Na) reacts with a chlorine atom (Cl) to form sodium chloride (NaCl), which of the following is true regarding the electron transfer?

A. The sodium atom donates one electron to the chlorine atom.

B. The chlorine atom donates one electron to the sodium atom.

C. Both sodium and chlorine atoms share one electron each.

D. No electrons are transferred between the sodium and chlorine atoms.

(a) only A

(b) A and B

(c) only C

(d) only D

Question 15

What type of covalent bond is formed between two nitrogen atoms (N_2)?

A. A single covalent bond with one shared pair of electrons.

B. A double covalent bond with two shared pairs of electrons.

C. A triple covalent bond with three shared pairs of electrons.

D. A polar covalent bond due to a difference in electronegativity.

(a) only A

(b) only B

(c) only C

(d) C and D

Question 16

Considering the electronegativity difference between atoms, which of the following molecules is likely to be polar?

A. A molecule of H_2 with identical hydrogen atoms.

B. A molecule of CO_2 where the electronegativity difference between carbon and oxygen is significant.

C. A molecule of Cl_2 consisting of two identical chlorine atoms.

D. A molecule of HCl where hydrogen and chlorine have different electronegativities.

(a) only A

(b) only B

(c) C and D

(d) only D

Question 17

If a molecule of nitrogen (N_2) is formed, which of the following statements correctly describes the bonding and electron arrangement in the molecule?

A. The nitrogen atoms share two pairs of electrons, forming a double covalent bond.

B. Each nitrogen atom donates one electron to the other, forming an ionic bond.

C. The nitrogen atoms share three pairs of electrons, forming a triple covalent bond.

D. The nitrogen atoms share one pair of electrons, forming a single covalent bond.

(a) only A

(b) only C

(c) A and D

(d) all A, B, and C

Question 18

When a carbon tetrachloride (CCl_4) molecule is formed, what is the shape of the molecule, and how does it affect its polarity?

A. The molecule is linear and polar.

B. The molecule is tetrahedral and non-polar.

C. The molecule is planar and polar.

D. The molecule is tetrahedral and polar.

(a) only A

(b) only B

(c) B and D

(d) all A, B, and C

Question 19

When a hydroxide ion (OH^-) is formed from a water molecule, which of the following statements correctly describes the resulting electron configuration?

A. The oxygen atom gains an electron, resulting in a negative charge.

B. The oxygen atom donates two electrons to the hydrogen ion, resulting in a positive charge.

C. The oxygen atom shares an electron pair with the hydrogen atom, forming a covalent bond.

D. The oxygen atom retains a pair of electrons as a lone pair, causing the molecule to become negatively charged.

(a) only A

(b) only D

(c) B and C

(d) A and D

Question 20

Which of the following is a true statement regarding the electron distribution in a water molecule?

A. The shared electron pair is equitably distributed between hydrogen and oxygen atoms.

B. The oxygen atom, being more electronegative, pulls the shared electrons towards itself, resulting in a polar molecule.

C. The hydrogen atoms gain a partial negative charge, while the oxygen atom gains a partial positive charge.

D. The lone pairs on the oxygen atom participate in the bond formation with hydrogen atoms.

(a) only A

(b) only B

(c) B and D

(d) all A, B, and C

3 Acids, Bases and Salts

TYPE 1

Question 1

If a solution of compound M reacts with dilute hydrochloric acid to produce a gas that turns limewater milky, what could compound M be?

(a) Sodium chloride

(b) Potassium carbonate

(c) Magnesium sulphate

(d) Copper (II) nitrate

Question 2

A student adds a few drops of phenolphthalein to a solution of compound X and observes that the solution remains colourless. Which of the following could compound X be?

(a) Sodium hydroxide

(b) Hydrochloric acid

(c) Sodium carbonate

(d) Ammonium chloride

Question 3

During a laboratory experiment, a student adds a solution of sulphuric acid to a solution containing a metal sulphide. The student observes the evolution of a gas with a rotten egg smell. Which gas is being evolved, and what is the likely metal sulphide?

(a) Oxygen gas; zinc sulphide

(b) Carbon dioxide gas; iron sulphide

(c) Hydrogen sulphide gas; iron sulphide

(d) Hydrogen sulphide gas; zinc sulphide

Question 4

A chemist treats a solution of a metal nitrate with sodium hydroxide. A white, gelatinous precipitate forms which is insoluble in excess sodium hydroxide. What is the most likely identity of the original metal nitrate?

(a) Aluminium nitrate

(b) Sodium nitrate

(c) Magnesium nitrate

(d) Potassium nitrate

Question 5

In an agricultural setting, a soil sample is found to have a pH that is too high for optimal plant growth. Which of the following compounds, when added to the soil, would most likely adjust the pH to a more suitable level?

(a) Sodium chloride

(b) Potassium nitrate

(c) Sodium sulphate

(d) Ammonium sulphate

Question 6

A chemist combines a solution containing magnesium ions with a solution that contains carbonate ions. A white precipitate forms upon mixing. Which of the following reactions best represents this process?

(a) $Mg^{2+} + CO_3^{2-} \rightarrow \mathrm{Mg}CO_3$

(b) $Mg^{2+} + 20\ H^- \rightarrow \mathrm{Mg}(OH)_2$

(c) $Mg^{2+} + SO_4^{2-} \rightarrow Mg_2SO_4$

(d) $Mg^{2+} + 2NO_3^- \rightarrow \mathrm{Mg}(SO_3)$

Question 7

In a laboratory experiment, an iron wire is heated in a combustion tube with dry chlorine gas, leading to the formation of a brown scale compound. Which of the following is the chemical formula for the brown scale compound?

(a) $FeCl_2$

(b) Fe_2O_3

(c) $FeCl_3$

(d) FeS

Question 8

Aqueous solutions of copper (II) sulphate and barium chloride are mixed together. Which of the following best describes the result of this reaction?

(a) A blue precipitate is formed

(b) The solution becomes colourless

(c) A white precipitate is formed immediately

(d) Gas bubbles are observed.

Question 9

If a solution of a certain compound is added to a silver nitrate solution and a white curdy precipitate is formed, which of the following could be the compound?

(a) Sodium carbonate (Na_2CO_3)

(b) Potassium chloride (KCl)

(c) Sodium sulphate (Na_2SO_4)

(d) Magnesium sulphate ($MgSO_4$)

Question 10

When a chemistry student adds a piece of litmus paper to a solution and it turns red, which of the following substances was most likely present in the solution?

(a) Sodium hydroxide (NaOH)

(b) Sodium carbonate (Na2CO3)

(c) Aluminium chloride (AlCl3)

(d) Potassium sulphate (K2SO4)

TYPE 2

Question 11

If a solution of hydrochloric acid (HCl) is titrated with sodium hydroxide (NaOH) until neutralisation, what is the resulting pH of the solution and what compound is primarily formed?

A. pH 7; Sodium Chloride (NaCl)

B. pH above 7; Sodium Hypochlorite (NaOCl)

C. pH below 7; Hydrogen Gas (H_2)

D. pH 7; Chlorine Gas (Cl_2)

(a) only A

(b) only B

(c) A and D

(d) only D

Question 12

Considering the properties of acids given, which of the following outcomes is most likely when a piece of zinc reacts with hydrochloric acid?

A. The zinc dissolves, forming zinc chloride and hydrogen gas.

B. The zinc remains unchanged, and no reaction occurs.

C. The zinc turns into zinc oxide and releases carbon dioxide gas.

D. The zinc becomes coated with a layer of sodium chloride.

(a) only A

(b) only B

(c) B and C

(d) only C

Question 13

When a salt is formed from the reaction of an acid and a base, which of the following will most likely be a product if the reactants are a strong acid and a strong base?

A. The salt formed will be neutral, with no effect on litmus paper.

B. The salt will have a pH value less than 7, turning litmus paper red.

C. The salt will have a pH value greater than 7, turning litmus paper blue.

D. The reaction will release a gas and no salt will be formed.

(a) only A

(b) only B

(c) only C

(d) all A, B, and C

Question 14

What is the result of reacting an acid with a basic oxide?

A. Production of a salt and hydrogen gas.

B. Production of a salt and water.

C. No reaction, as basic oxides do not react with acids.

D. Production of a salt and release of carbon dioxide.

(a) only A

(b) only B

(c) only C

(d) all A, B, and C

Question 15

A mixed salt is formed when which of the following occurs?

A. A simple salt reacts with an acid

B. A metal displaces another metal from its salt solution

C. A salt that contains more than one basic or acid radical is formed

D. A salt is formed by the action of alkalis on certain metals

(a) only A

(b) only C

(c) B and D

(d) all A, B, and C

Question 16

During the neutralisation of sulphuric acid with sodium hydroxide, what are the expected products?

A. Sodium sulphate and water

B. Sodium sulphite and hydrogen gas

C. Sodium hydroxide and sulphur dioxide

D. Sodium chloride and water

(a) only A

(b) only B

(c) A and D

(d) all A, B, and C

Question 17

During the preparation of lead chloride by double decomposition, what is the purpose of filtering and then evaporating the solution?

A. To separate the lead chloride from the lead nitrate solution

B. To crystallise the lead chloride from the solution

C. To remove sodium nitrate formed during the reaction

D. To concentrate the sodium chloride solution before the reaction

(a) only A

(b) only B

(c) A and B

(d) B and C

Question 18

A student is studying the solubility of salts at different temperatures. Which salt would show the greatest increase in solubility with a rise in temperature?

A. Sodium Chloride

B. Potassium Nitrate

C. Calcium Sulphate

D. Potassium Chlorate

(a) only A

(b) only B

(c) A and C

(d) B and D

Question 19

What is the end result of passing carbon dioxide gas into a cold solution of sodium carbonate during the preparation of sodium bicarbonate?

A. Formation of sodium chloride as a by-product

B. Crystallisation of sodium bicarbonate from the solution

C. Liberation of hydrogen gas as a by-product

D. Immediate formation of a sodium carbonate precipitate

(a) only A

(b) only B

(c) A and C

(d) B and D

Question 20

Which of the following salts will exhibit efflorescence when exposed to dry air?

A. Sodium Chloride

B. Glauber's Salt (Sodium Sulphate Decahydrate)

C. Potassium Chloride

D. Copper (II) Sulphate Pentahydrate

(a) only A

(b) only B

(c) B and D

(d) all A, B, and C

4 Analytical Chemistry

TYPE 1

Question 1

A student adds sodium hydroxide to a solution of an unknown salt and observes a light green precipitate which is insoluble in excess sodium hydroxide. Which of the following could the unknown salt be?

(a) Zinc nitrate

(b) Copper(II) sulphate

(c) Ferrous sulphate

(d) Calcium nitrate

Question 2

During a qualitative analysis lab, a pale blue precipitate is formed when sodium hydroxide is added to a colourless solution, which does not dissolve in excess sodium hydroxide. Which metal ion is most likely present in the original solution?

(a) Iron(III)

(b) Copper(II)

(c) Zinc

(d) Lead(II)

Question 3

A solution reacts with sodium hydroxide to form a white gelatinous precipitate that dissolves upon adding more sodium hydroxide, yielding a colourless solution. Based on the reactions provided, what is the cation in the original solution?

(a) Zn^{2+}

(b) Ca^{2+}

(c) Pb^{2+}

(d) Fe^{3+}

Question 4

If a white precipitate is observed after mixing a clear solution with sodium hydroxide, which then becomes soluble upon adding more alkali, the original solution most likely contains which of the following ions?

(a) ($_{Ca}^{2+}$)

(b) ($_{Fe}^{3+}$)

(c) ($_{Pb}^{2+}$)

(d) ($_{NH_4}^{+}$)

Question 5

When a solution of a salt is mixed with sodium hydroxide and a dirty green precipitate is observed which remains insoluble even upon adding excess sodium hydroxide, what is the most likely identity of the salt?

(a) Potassium chromate

(b) Ferrous sulphate

(c) Ferric chloride

(d) Calcium nitrate

Question 6

A chemist adds ammonium hydroxide to a solution containing a salt of metal M. The result is a dirty green precipitate which is insoluble in excess NH_4OH. Which metal ion is most likely present in the original salt solution?

(a) Zn^{2+}

(b) Pb^{2+}

(c) Fe^{2+}

(d) Cu^{2+}

Question 7

During an experiment, when excess ammonium hydroxide is added to a colourless solution of a zinc salt, the precipitate initially formed redissolves, creating a colourless solution. Which complex ion is likely formed in this reaction?

(a) $[Zn(NH_3)_4]^{2+}$

(b) $[Cu(NH_3)_4]^{2+}$

(c) $[Fe(NH_3)_6]^{3+}$

(d) $[Al(NH_3)_6]^{3+}$

Question 8

If a chemist treats a pale blue precipitate with excess NH_4OH and observes that the precipitate dissolves, forming a deep blue solution, which of the following is the most likely identity of the metal hydroxide precipitate?

(a) $Zn(OH)_2$

(b) $Fe(OH)_2$

(c) $Cu(OH)_2$

(d) $Al(OH)_3$

Question 9

When sodium hydroxide is added dropwise to a solution of a certain metal ion, a gelatinous white precipitate forms that is soluble in excess NaOH. What is the most probable metal ion in the solution?

(a) Pb^{2+}

(b) Zn^{2+}

(c) Cu^{2+}

(d) Fe^{3+}

Question 10

A solution is known to contain a lead salt. Upon the addition of ammonium hydroxide, a white precipitate is formed that remains insoluble even when more ammonium hydroxide is added. Which of the following lead salts was likely in the original solution?

(a) $Pb(NO_3)_2$

(b) $PbCl_2$

(c) $PbSO_4$

(d) $Pb(C_2H_3O_2)_2$

TYPE 2

Question 11

When a colourless solution containing a salt of calcium is treated with sodium hydroxide, what is the expected observation?

A. Formation of a red precipitate and a colourless solution

B. Formation of a blue precipitate and a colourless solution

C. Formation of a white precipitate and a colourless solution

D. No visible reaction or change in the solution

(a) only A

(b) only B

(c) only C

(d) only D

Question 12

In an experiment, sodium hydroxide solution is added to a solution of ferrous sulphate. What would be the colour of the precipitate formed?

A. White

B. Dirty green

C. Reddish brown

D. Pale blue

(a) only A

(b) only B

(c) only C

(d) only D

Question 13

What is the result of adding excess sodium hydroxide to a solution of zinc sulphate?

A. A gelatinous white precipitate forms that remains insoluble.

B. A white precipitate forms initially, which then dissolves in excess NaOH.

C. A pale blue precipitate forms that is insoluble in excess NaOH.

D. A chalky white precipitate forms that is soluble in excess NaOH.

(a) only A

(b) only B

(c) only C

(d) only D

Question 14

Which of the following describes the correct outcome when sodium hydroxide solution is added to copper (II) sulphate solution?

A. A white precipitate is formed, and the solution turns colourless.

B. A dirty green precipitate is formed, and the solution remains colourless.

C. A pale blue precipitate is formed, and the solution turns colourless.

D. A reddish-brown precipitate is formed, and the solution remains colourless.

(a) A and D

(b) only B

(c) only C

(d) only D

Question 15

Upon treating ammonium chloride with sodium hydroxide, which gas is evolved?

A. Hydrogen gas

B. Oxygen gas

C. Ammonia gas

D. Chlorine gas

(a) only A

(b) only B

(c) only C

(d) None of the above

Question 16

What is the expected result when excess ammonium hydroxide is added to a solution of copper (II) sulphate?

A. A reddish-brown precipitate is formed.

B. A pale blue precipitate is formed which then dissolves.

C. A dirty green precipitate is formed.

D. A chalky white precipitate is formed.

(a) only A

(b) only B

(c) B and C

(d) A and C

Question 17

Which of the following is a characteristic reaction of the zinc ion Zn^{2+} when treated with ammonium hydroxide?

A. Formation of a chalky white precipitate that is insoluble in excess ammonium hydroxide.

B. Formation of a gelatinous white precipitate that dissolves in excess ammonium hydroxide.

C. Formation of a pale blue precipitate that dissolves in excess ammonium hydroxide.

D. No precipitate is formed.

(a) only A

(b) only B

(c) C and D

(d) B and D

Question 18

When ammonium hydroxide is added to a solution of iron(II) sulphate, what is the colour of the precipitate initially formed?

A. Pale blue

B. Gelatinous white

C. Dirty green

D. Reddish brown

(a) only A

(b) only B

(c) B and C

(d) A and C

Question 19

Lead nitrate reacts with ammonium hydroxide to form a precipitate. What is the nature of this precipitate?

A. Soluble in excess of NH_4OH and forms a deep blue solution.

B. Insoluble and has a reddish-brown colour.

C. Chalky white and insoluble.

D. Gelatinous white and soluble in excess NH_4OH.

(a) only A

(b) only B

(c) B and C

(d) A and C

Question 20

Which one of the following statements is true regarding the reaction of ammonium hydroxide with iron(III) salts?

A. A dirty green precipitate is formed that is soluble in excess NH_4OH.

B. A reddish brown precipitate is formed that is insoluble in excess NH_4OH.

C. A pale blue precipitate is formed that is soluble in excess NH_4OH.

D. No precipitate is formed.

(a) only A

(b) only B

(c) C and D

(d) A and C

5 Mole concept and Stoichiometry

TYPE 1

Question 1

A sealed container with a fixed volume of (2.0 L) contains hydrogen gas at (273 K)*and*(1 atm) pressure. According to Gay-Lussac's Law, if the temperature is increased to (546 K) while keeping the volume constant, what will be the new pressure of the hydrogen gas in the container?

(a) (0.5 atm)

(b) (1 atm)

(c) (2 atm)

(d) (4 atm)

Question 2

If a 50 mL gas sample of methane (CH_4) is mixed with sufficient oxygen and ignited, how many mL of water vapor (H_2O) would be expected at the end of the reaction, assuming complete combustion and based on the balanced equations provided?

(a) 50 mL

(b) 100 mL

(c) 200 mL

(d) No water vapor is produced

Question 3

In a laboratory experiment, a student is given a sample of gas Z. The student measures that 2 moles of gas Z have a mass of 44 grams. Given that the molecular formula of gas Z is composed of

only one type of atom, what could be the relative atomic mass of the element that constitutes gas Z?

(a) 11

(b) 22

(c) 44

(d) 88

Question 4

A chemist has a sample of sulphur dioxide and wishes to determine the number of moles of sulphur atoms in it. If the mass of the sulphur dioxide sample is 64 g, how many moles of sulphur atoms are present according to the data given?

(a) 1 mole

(b) 0.5 moles

(c) 2 moles

(d) 4 moles

Question 5

A student determined the empirical formula of a hydrate of magnesium sulphate to be ($MgSO_4 \cdot xH_2O$). If the mass of the anhydrous ($MgSO_4$) is found to be 120 g and the mass of water is 36 g, what is the value of (x) in the empirical formula?

(a) 2

(b) 4

(c) 6

(d) 7

Question 6

In an experiment, the percentage composition of a compound was found to be 40% carbon, 6.7% hydrogen, and 53.3% oxygen by mass. If the vapor density of the compound is 32, what is the molecular formula of the compound?

(a) (CH_2O)

(b) ($C_2H_4O_2$)

(c) ($C_4H_8O_4$)

(d) ($C_3H_6O_3$)

Question 7

A sample of copper sulphate pentahydrate ($CuSO_4 \cdot 5H_2O$) is heated until all the water of crystallisation is lost, leaving only the anhydrous copper sulphate. If the original sample had a mass of 250 g and the mass of anhydrous ($CuSO_4$) is 160 g, what is the mass of water lost during heating?

(a) 90 g

(b) 100 g

(c) 110 g

(d) 120 g

Question 8

When heating a mixture of potassium chlorate and manganese dioxide, a gas is evolved. Which of the following correctly identifies the gas and its expected volume when 122.5 g of potassium chlorate is decomposed at STP?

(a) Oxygen, 33.6 L

(b) Oxygen, 67.2 L

(c) Chlorine, 33.6 L

(d) Chlorine, 67.2 L

Question 9

A reaction involving silver nitrate and sodium chloride produces a precipitate and another salt in solution. If 0.28 g of the precipitate is formed, what is the mass of the sodium chloride in the solution?

(a) 0.28 g

(b) 0.114 g

(c) 0.165 g

(d) 0.58 g

Question 10

In the reaction of zinc with hydrochloric acid, hydrogen gas is released. If 65 g of zinc are reacted, what volume of hydrogen gas at NTP is produced?

(a) 22400 cm^3

(b) 251.5 cm^3

(c) 89.6 dm^3

(d) 0.729 g

TYPE 2

Question 11

According to Gay-Lussac's Law of Combining Volumes, which of the following statements is true when 1 volume of nitrogen gas reacts with 3 volumes of hydrogen gas to form ammonia at constant temperature and pressure?

A. The reaction will produce 2 volumes of ammonia.

B. The reaction will produce 3 volumes of ammonia.

C. The reaction will produce 6 volumes of ammonia.

D. The volume of ammonia produced cannot be determined with the given information.

(a) only A

(b) only B

(c) only C

(d) only D

Question 12

A 10 ml volume of ethylene is combusted with 30 ml of oxygen. According to the information given, what volume of carbon dioxide will be formed if the reaction goes to completion?

A. 10 ml of carbon dioxide

B. 20 ml of carbon dioxide

C. 30 ml of carbon dioxide

D. 40 ml of carbon dioxide

(a) only A

(b) only B

(c) only C

(d) None of the above

Question 13

If one mole of a gaseous substance at Standard Temperature and Pressure (STP) occupies 22.4 liters, what volume would 0.5 moles of the same gaseous substance occupy at STP?

A. 44.8 liters, since the volume is directly proportional to the number of moles.

B. 11.2 liters, because half the number of moles would occupy half the volume.

C. 22.4 liters, as the volume remains constant regardless of the number of moles.

D. 4.48 liters, assuming that the volume changes by a factor of ten for half a mole.

(a) only A

(b) only B

(c) B and C

(d) A and D

Question 14

When 44.8 cm^3 of methane gas at S.T.P. is burned completely, which of the following statements is most likely true regarding the products?

A. 44.8 cm^3 of carbon dioxide and 89.6 cm^3 of steam are produced.

B. 22.4 cm^3 of carbon dioxide and 22.4 cm^3 of steam are produced.

C. 44.8 cm^3 of carbon dioxide and 44.8 cm^3 of steam are produced.

D. 22.4 cm^3 of carbon dioxide and 44.8 cm^3 of steam are produced.

(a) only A

(b) only B

(c) B and C

(d) A and C

Question 15

If a compound is composed of 40% carbon, 6.7% hydrogen, and 53.3% oxygen by mass, which of the following sets of empirical and molecular formulas are most likely?

A. Empirical formula: CH; Molecular formula: C_2H_2

B. Empirical formula: CH_2O; Molecular formula: $C_2H_4O_2$

C. Empirical formula: C_2H_6O; Molecular formula: $C_4H_{12}O_2$

D. Empirical formula: $C_3H_4O_3$; Molecular formula: $C_6H_8O_6$

(a) only A

(b) only B

(c) B and C

(d) A and C

Question 16

When calculating the empirical formula for a compound from its percentage composition, which of the following steps is *unnecessary*?

A. Subtracting the sum of other elemental percentages from 100 to find the percentage of the assumed element

B. Dividing the percentage of each element by its atomic mass to find the number of moles

C. Adjusting the mole ratio to the nearest whole number to find the simplest ratio

D. Multiplying the empirical formula by the molecular weight to find the molecular formula

(a) only A

(b) A and B

(c) C and D

(d) only D

Question 17

A compound has an empirical formula of (CH_2O) and a molecular weight of 180 g/mol. Which of the following molecular formulas is correct for this compound?

A. $(C_6H_{12}O_6)$

B. $(C_3H_6O_3)$

C. $(C_2H_4O_2)$

D. (CH_2O)

(a) only A

(b) only B

(c) A and C

(d) B and D

Question 18

When heating potassium chlorate in the presence of manganese dioxide as a catalyst, what is the expected volume of oxygen gas produced at STP from 24.5 grams of potassium chlorate?

A. 44.8 dm^3 of oxygen

B. 67.2 L of oxygen

C. 22.4 L of oxygen

D. 112 L of oxygen

(a) only A

(b) only B

(c) C and D

(d) A and C

Question 19

What is the mass of sodium chloride formed when 58.5 grams of sodium chloride reacts with silver nitrate to produce a precipitate of silver chloride?

A. 0.114 g of NaCl

B. 143.5 g of NaCl

C. 58.5 g of NaCl

D. 85 g of NaCl

(a) only A

(b) only B

(c) C and D

(d) A and C

Question 20

When 12.4 g of copper (II) carbonate is heated to decompose, what is the percentage purity of the copper carbonate if only 7.0 g of copper (II) oxide is produced?

A. 56.8%

B. 87.5%

C. 100%

D. 70%

(a) only A

(b) only B

(c) C and D

(d) A and C

6 Electrolysis

TYPE 1

Question 1

During the electrolysis of molten lead(II) bromide, a metal is deposited at the cathode. Which property of the metal is immediately observed following its deposition?

(a) The metal is in a liquid state at room temperature.

(b) The metal is a good conductor of electricity.

(c) The metal starts to float on the surface of the molten salt.

(d) The metal has a distinct purple colour.

Question 2

A solution of sodium sulphate is electrolysed using inert electrodes. The solution is observed to conduct electricity and undergo chemical changes at the

electrodes. Which of the following best describes sodium sulphate in this scenario?

(a) Non-electrolyte

(b) Weak electrolyte

(c) Strong electrolyte

(d) Insulator

Question 3

An aqueous solution of compound M is electrolysed using inert electrodes. The pH of the solution decreases over time. Which of the following is likely to be compound M?

(a) Sodium sulphate

(b) Potassium nitrate

(c) Hydrochloric acid

(d) Ammonium hydroxide

Question 4

During the electrolysis of molten lead bromide, a metal is deposited at the cathode. What observation is expected at the anode?

(a) Deposition of lead

(b) Release of oxygen gas

(c) Release of bromine gas

(d) No observable change

Question 5

When molten lead bromide is electrolysed, which of the following gases is released at the anode?

(a) Hydrogen

(b) Oxygen

(c) Bromine

(d) Chlorine

Question 6

A piece of copper is placed into a solution of silver nitrate. After some time, a solid deposit is observed on the copper. What is the composition of the deposit?

(a) Copper nitrate

(b) Silver

(c) Copper oxide

(d) Silver oxide

Question 7

In the electrolysis of acidified water using platinum electrodes, what is the ratio of the volume of hydrogen gas to oxygen gas collected?

(a) 4:1

(b) 2:1

(c) 1:1

(d) 1:2

Question 8

When a saturated solution of copper (II) sulphate is electrolysed using copper electrodes, what change in colour of the solution is observed?

(a) The solution turns from blue to colourless.

(b) The solution turns from colourless to blue.

(c) The solution remains blue throughout the process.

(d) The solution turns green.

Question 9

When magnesium is obtained through electrolysis using fused magnesium chloride, what occurs at the anode?

(a) Magnesium ions gain electrons to form magnesium metal.

(b) Chloride ions lose electrons to form chlorine gas.

(c) Oxygen is produced as a by-product of the electrolysis.

(d) The anode material reacts with magnesium to form a compound.

Question 10

If a piece of iron is electroplated with nickel using a nickel sulphate solution, what would be the expected change at the cathode over time?

(a) The cathode will gain a coating of nickel.

(b) The cathode will gradually dissolve into the solution.

(c) The cathode will increase in size due to deposition of SO_4^{2-}.

(d) The cathode will remain unchanged as the nickel is deposited on the anode.

TYPE 2

Question 11

During the light-dependent reactions of photosynthesis, what is the immediate fate of the photons absorbed by chlorophyll?

A. They are used to split water molecules into hydrogen and oxygen.

B. They are transformed directly into chemical energy in the form of ATP.

C. They are used in the Calvin cycle to produce glucose.

D. They generate heat to increase the temperature of the chloroplast.

(a) only A

(b) only B

(c) A and B

(d) B and C

Question 12

Which of the following is not a product of the light-dependent reactions of photosynthesis?

A. Oxygen

B. ATP

C. NADPH

D. Glucose

(a) only A

(b) only D

(c) B and C

(d) A and C

Question 13

What is the primary role of stomata in the leaves of plants during photosynthesis?

A. Absorption of light energy

B. Release of oxygen and uptake of carbon dioxide

C. Synthesis of glucose from carbon dioxide

D. Conversion of light energy into chemical energy

(a) only A

(b) only B

(c) B and D

(d) C and D

Question 14

What happens to the chlorophyll in plants when they are exposed to too much light?

A. It becomes more efficient in capturing light energy.

B. It undergoes a structural change to protect the plant cells.

C. It is destroyed, affecting the plant's ability to photosynthesise.

D. It starts to produce oxygen at a higher rate.

(a) only A

(b) only C

(c) B and D

(d) A and D

Question 15

In the light-dependent reactions of photosynthesis, what is the immediate fate of the electrons energised by sunlight?

A. They are transferred to carbon dioxide (CO_2) directly.

B. They move to the electron transport chain and then to $NADP^+$ to form NADPH.

C. They are used to split water molecules to release oxygen.

D. They convert ADP and inorganic phosphate into ATP.

(a) only A

(b) only B

(c) B and C

(d) B and D

Question 16

During photosynthesis, the oxygen released into the atmosphere is a result of which process?

A. Carbon fixation in the Calvin cycle.

B. The breakdown of glucose during respiration.

C. The photolysis of water in the light-dependent reactions.

D. The reduction of $NADP^+$ to NADPH.

(a) only A

(b) only C

(c) A and B

(d) C and D

Question 17

What is the likely consequence of continuously increasing CO_2 concentration in the air on the rate of photosynthesis in plants?

A. The rate of photosynthesis will increase indefinitely with CO_2 concentration.

B. The rate of photosynthesis will initially increase but then stabilize at a certain point.

C. The rate of photosynthesis will decrease due to CO_2 toxicity.

D. The rate of photosynthesis will not be affected by changes in CO_2 concentration.

(a) only A

(b) only B

(c) A and C

(d) B and C

Question 18

In the experiment that demonstrates the necessity of carbon dioxide for photosynthesis, what does the potassium hydroxide (KOH) do?

A. It releases carbon dioxide into the flask for the leaf to use.

B. It absorbs carbon dioxide, creating a CO_2-deficient environment.

C. It changes colour to indicate the presence of oxygen.

D. It acts as a source of light for photosynthesis.

(a) only A

(b) only B

(c) B and C

(d) only D

Question 19

If a leaf is partially covered with black paper and exposed to light, what outcome is expected after testing with iodine solution?

A. The entire leaf turns blue-black indicating starch presence.

B. Only the parts exposed to light turn blue-black indicating starch presence.

C. Only the parts covered by black paper turn blue-black.

D. The leaf remains unchanged because the paper inhibits photosynthesis.

(a) only A

(b) only B

(c) only C

(d) A and C

Question 20

According to the information on the carbon cycle, which of the following processes do not release carbon dioxide into the atmosphere?

A. The combustion of fossil fuels.

B. The decomposition of dead plants and animals by bacteria and fungi.

C. The respiration by plants and animals.

D. The process of photosynthesis in green plants.

(a) only A

(b) only B

(c) only D

(d) A and B

7 Metallurgy

TYPE 1

Question 1

A chemist treats a sample with carbon at high temperature and obtains a metal. The metal is then found to react slowly with cold water to form a hydroxide and release hydrogen gas. Based on the information provided, which metal was likely extracted?

(a) Magnesium

(b) Aluminium

(c) Iron

(d) Zinc

Question 2

In a lab, a student heats a piece of metal in the presence of oxygen. The metal burns with a bright white flame and forms a white powder as the only product.

Considering the reactivity series and common reactions, which metal was likely used?

(a) Magnesium

(b) Copper

(c) Iron

(d) Gold

Question 3

In an experiment, a student heats a concentrated ore to a high temperature in the presence of air. A gas with a pungent odour is evolved, and the mass of the ore decreases. Which of the following reactions is most likely occurring?

(a) $ZnS + 3O_2 \rightarrow ZnO + 2SO_2$

(b) $2PbS + 3O_2 \rightarrow 2PbO + 2SO_2$

(c) $2FeS + 3O_2 \rightarrow 2FeO + 2SO_2$

(d) $CaCO_3 \rightarrow CaO + CO_2$

Question 4

In an experiment, a scientist heats a metal oxide in the presence of carbon at high temperatures and observes the formation of the metal and carbon dioxide. Which of the following reactions best represents this process known as reduction?

(a) $2MgO + C \rightarrow 2Mg + CO_2$

(b) $MnO_2 + H_2 \rightarrow Mn + 2H_2O$

(c) $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$

(d) $PbO_2 + CO \rightarrow Pb + CO_2$

Question 5

During the electrolytic refining of a metal M, it is observed that the anode gradually diminishes in size while the cathode shows an increase in mass. Assuming that the electrolyte contains a salt of metal M, which of the following statements correctly explains this observation?

(a) Metal M is being oxidised at the anode and reduced at the cathode.

(b) Metal M from the anode is being deposited at the cathode without any change in the oxidation state.

(c) Impurities from the anode are being deposited at the cathode.

(d) The electrolyte is decomposing and depositing non-metallic substances at the cathode.

Question 6

If a laboratory experiment is conducted to replicate the purification of bauxite to alumina using the Bayer's process, which of the following observations would indicate the process is proceeding correctly?

(a) The temperature of the reaction mixture decreases steadily.

(b) A white precipitate forms when sodium hydroxide is added to bauxite.

(c) The reaction mixture turns pink upon addition of sodium hydroxide.

(d) Bubbles of oxygen gas are released during the reaction.

Question 7

During the extraction of aluminium, bauxite is initially purified to aluminium oxide through a series of reactions. If the resulting aluminium oxide is treated with carbon at high temperatures, what compound is likely to form?

(a) Aluminium carbide

(b) Carbon dioxide

(c) Aluminium metal

(d) No reaction occurs

Question 8

A jeweller is crafting a piece that requires a light, strong metal that can be polished. They have decided to use an aluminium-based alloy. Which alloy listed would be the best choice for this application?

(a) Duranickel

(b) Magnalium

(c) Duralumin

(d) Nichrome

Question 9

An electrical technician needs to choose an alloy for electrical resistors that can produce much heat due to its resistance to electricity. Which of the following alloys from the provided table would be the most suitable?

(a) Solder

(b) Type metal

(c) Nichrome

(d) German silver

Question 10

A metalworker decides to create a new type of decorative hardware that is both corrosion-resistant and easy to cast. Considering the properties of popular alloys, which alloy should they choose?

(a) Stainless steel

(b) Brass

(c) Bronze

(d) Duralumin

TYPE 2

Question 11

If an element is found in the native state in nature, which of the following factors is most likely responsible for its occurrence in that form?

A. The element has high reactivity and forms stable compounds.

B. The element is least reactive and does not form compounds easily.

C. The element has moderate reactivity and is usually found in the form of carbonates.

D. The element is found in free state due to its abundance in the earth's crust.

(a) only A

(b) only B

(c) B and D

(d) A and D

Question 12

Which of the following sets of elements are likely to be found together in the same ore, based on their chemical properties and common occurrence in nature?

A. Sodium and Potassium, because both are highly reactive and found in chloride salts.

B. Iron and Copper, as both can exist in sulphide ores.

C. Lead and Silver, since both are often extracted from their sulphide minerals.

D. Aluminium and Silicon, as they are both found in silicate minerals.

(a) only A

(b) A and B

(c) A, B, and C

(d) All of the above (A, B, C, and D)

Question 13

Which method of ore concentration is likely to be used for an ore containing magnetic impurities like Fe_3O_4?

A. Hydraulic washing

B. Froth flotation

C. Leaching

D. Magnetic separation

(a) only A

(b) only D

(c) A and B

(d) C and D

Question 14

During the electrolytic reduction of a metal, if the metal is situated higher in the activity series than hydrogen, which of the following outcomes is most likely?

A. The metal is deposited at the cathode.

B. The metal cannot be extracted by electrolysis from its aqueous salt solution.

C. Hydrogen gas is released at the cathode.

D. A combination of metal deposition and hydrogen gas release.

(a) only A

(b) only B

(c) B and C

(d) A and C

Question 15

Which of the following statements is true regarding the reduction of metal oxides by carbon?

A. Zinc oxide can be reduced by carbon to zinc metal.

B. Iron(III) oxide is reduced to iron when heated with aluminium powder.

C. Copper(I) oxide can be reduced to copper metal by heating in air.

D. Lead(II) oxide is reduced to lead when heated with hydrogen gas.

(a) only A

(b) only B

(c) A and D

(d) B and C

Question 16

What is the role of powdered coke sprinkled over the surface of the electrolyte in the Hall-Heroult's process?

A. It increases the electrical conductivity of the electrolyte.

B. It reduces heat loss by radiation from the cell.

C. It acts as a solvent for the alumina in the electrolyte.

D. It catalyses the reduction of alumina to aluminium.

(a) only A

(b) only B

(c) B and C

(d) C and D

Question 17

In the Hall-Heroult's process for aluminium extraction, why is cryolite added to the electrolyte mixture?

A. To increase the solubility of alumina in the electrolyte.

B. To act as a catalyst for the reduction reaction at the cathode.

C. To decrease the operating temperature of the electrolysis.

D. To serve as a source of aluminium during the electrolysis.

(a) only A

(b) A and C

(c) B and D

(d) only C

Question 18

During the extraction of aluminium, what is the main reason for using a solution of sodium hydroxide (NaOH) in the Bayer's process?

A. NaOH acts as a reducing agent for aluminium oxide (Al2O3).

B. NaOH reacts with impurities in bauxite to form soluble compounds.

C. NaOH increases the melting point of alumina for electrolysis.

D. NaOH is used to decrease the solution's pH to a strong acidic level.

(a) only A

(b) only B

(c) A and C

(d) B and D

Question 19

An alloy is needed for constructing a component that will be a part of an aircraft's engine, which must operate at high temperatures without deforming. Which alloy's properties make it most suitable for this application?

A. Magnalium

B. Stainless steel

C. Duralumin

D. Tungsten steel

(a) only A

(b) only C

(c) A and B

(d) B and D

Question 20

If a manufacturer wants to produce a series of utensils that are both corrosion-resistant and can be easily cast, which of the following alloys might they choose based on the given properties?

A. Stainless steel

B. Bronze

C. Brass

D. Duralumin

(a) only A

(b) only B

(c) B and C

(d) A and C

8 Study of Compounds

Hydrogen Chloride

TYPE 1

Question 1

During the laboratory preparation of hydrogen chloride gas, a student adds concentrated sulphuric acid to sodium chloride. What is the main observation that indicates the reaction has begun?

(a) The solution turns blue.

(b) A salt precipitate forms.

(c) Effervescence is observed.

(d) The solution becomes cold.

Question 2

If a flask containing dry hydrogen chloride gas is opened in a humid room, what will be the immediate observation?

(a) The gas will ignite spontaneously.

(b) White fumes will form in the flask.

(c) A pungent smell will fill the room.

(d) The gas will change to a liquid form.

Question 3

In the synthesis of hydrogen chloride gas through direct combination, which one of the following conditions is NOT required for the reaction to proceed?

(a) Presence of moist hydrogen gas.

(b) Combination of hydrogen and chlorine gases.

(c) Diffused sunlight.

(d) High temperature.

Question 4

A student conducts an experiment to demonstrate the solubility of hydrogen chloride gas. Which of the following would be an expected outcome when the gas is bubbled through water?

(a) The water level in the container will rise.

(b) A layer of solid sodium chloride will form at the bottom.

(c) The water will turn into a blue colour.

(d) The pH of the water will decrease.

Question 5

When hydrogen chloride gas is passed over heated sodium chloride, which of the following statements is true according to the thermal stability of sodium chloride?

(a) Sodium chloride decomposes to release chlorine gas.

(b) Sodium chloride reacts to form sodium sulphate.

(c) Sodium chloride remains unchanged at temperatures below 200°C.

(d) Sodium chloride reacts to form hydrochloric acid.

Question 6

During an experiment, a student passes dry hydrogen chloride gas over heated copper oxide. What is the expected result of this reaction?

(a) Copper chloride and water

(b) Copper and chlorine gas

(c) Copper chloride and oxygen gas

(d) No reaction occurs

Question 7

If a scientist wants to produce hydrogen gas using a metal and hydrochloric acid, which metal would be the least reactive according to the activity series provided?

(a) Sodium

(b) Magnesium

(c) Zinc

(d) Iron

Question 8

A chemist treats marble chips (calcium carbonate) with hydrochloric acid. What are the main products of this chemical reaction?

(a) Calcium chloride, carbon dioxide, and water

(b) Calcium hydroxide, carbon dioxide, and water

(c) Calcium chloride, carbon monoxide, and water

(d) Calcium sulphate, carbon dioxide, and water

Question 9

What would be the observation when concentrated hydrochloric acid is added to solid manganese dioxide?

(a) Formation of manganese chloride and release of oxygen gas

(b) Formation of manganese chloride and release of chlorine gas

(c) Formation of manganese sulphate and release of sulphur dioxide gas

(d) Formation of manganese oxide and release of hydrogen gas

Question 10

In a laboratory experiment, hydrochloric acid reacts with sodium hydroxide to form a salt. What other product is formed in this neutralisation reaction?

(a) Chlorine gas

(b) Water

(c) Hydrogen gas

(d) Sodium chloride

TYPE 2

Question 11

During the laboratory preparation of hydrogen chloride gas, if the temperature is maintained above 200°C, what is the most likely outcome of the reaction?

A. The reaction will stop as it is endothermic.

B. Sodium sulphate will form and hydrogen chloride gas will be released.

C. The flask used in the reaction may crack due to thermal stress.

D. The yield of hydrogen chloride gas will increase significantly.

(a) only A

(b) only B

(c) B and C

(d) C and D

Question 12

Which statement is correct regarding the solubility of hydrogen chloride gas in water?

A. HCl gas is insoluble in water due to its non-polar nature.

B. It is highly soluble in water, forming hydrochloric acid upon dissolution.

C. HCl gas forms a red fountain when a dry HCl gas stream is directed into blue litmus solution.

D. HCl gas is collected over water due to its low solubility.

(a) only A

(b) only B

(c) B and C

(d) A and D

Question 13

What is the primary reason concentrated sulphuric acid is used in the drying process of hydrogen chloride gas?

A. It reacts with HCl gas to increase its purity.

B. It is used because it does not react with HCl gas.

C. Concentrated sulphuric acid is a dehydrating agent that removes water vapour.

D. It helps in the catalytic conversion of hydrogen chloride to chlorine gas.

(a) only A

(b) only B

(c) B and C

(d) C and D

Question 14

If a glass apparatus used for the production of hydrogen chloride gas is heated above 200°C, what are the possible consequences?

A. The glass may crack due to the high temperature.

B. Sodium sulphate will form a hard crust that is difficult to remove.

C. The production of HCl gas will become more efficient.

D. The reaction will become reversible, producing sodium chloride.

(a) only A

(b) A and B

(c) B and C

(d) A and D

Question 15

When demonstrating the density of hydrogen chloride gas using the fountain experiment, what observation confirms that the jar is full of HCl gas?

A. The formation of a blue fountain.

B. The extinguishing of a burning candle placed inside the jar.

C. The formation of dense white fumes of ammonium chloride near the jar's mouth.

D. The blue litmus solution in the dropper turning red.

(a) only A

(b) only B

(c) B and D

(d) C and D

Question 16

When hydrochloric acid is reacted with a metal higher in the activity series than hydrogen, what is the most likely result?

A. The metal replaces the hydrogen in HCl, producing a metallic chloride and hydrogen gas.

B. The metal forms a layer of oxide, preventing further reaction with HCl.

C. The metal dissolves to form hydrogen gas and a metal sulphate.

D. No reaction occurs as metals higher in the activity series do not react with acids.

(a) only A

(b) only B

(c) B and C

(d) A and C

Question 17

Which observation is correct when dry hydrogen chloride gas reacts with ammonia?

A. A white smoke of ammonium chloride is formed.

B. The gases react to form a blue-coloured complex.

C. No visible reaction occurs between the gases.

D. A red precipitate is formed upon the reaction.

(a) only A

(b) only B

(c) B and C

(d) A and C

Question 18

What is the outcome when hydrochloric acid reacts with sodium carbonate?

A. Sodium chloride and hydrogen gas are formed.

B. Sodium chloride, water, and carbon dioxide are produced.

C. Sodium sulphate and chlorine gas are released.

D. The reaction does not occur as sodium carbonate is not reactive with HCl.

(a) only A

(b) only B

(c) B and C

(d) A and C

Question 19

During the thermal dissociation of HCl above 500°C, what are the expected products?

A. Oxygen and chlorine gas.

B. Water vapor and chlorine gas.

C. Hydrogen and chlorine gases.

D. Hydrogen gas and hydrochloric acid vapor.

(a) only A

(b) only C

(c) B and C

(d) A and C

Question 20

When hydrochloric acid is used to purify bone black, what is the chemical basis for its effectiveness?

A. HCl reacts with calcium phosphate in the bones to release hydrogen gas.

B. HCl dissolves the impurities leaving behind pure bone black.

C. HCl reacts to form calcium chloride and phosphate gas.

D. The reaction with HCl oxidises the bone black to purify it.

(a) only A

(b) only B

(c) B and C

(d) A and C

9 Study of Compounds

Ammonia

TYPE 1

Question 1

In the production of ammonia by the Haber process, nitrogen and hydrogen gases react under high pressure and temperature in the presence of a catalyst. If the reaction is carried out at lower pressures than required, what is the expected effect on the production of ammonia?

(a) The production of ammonia will increase due to higher gas concentration.

(b) The production of ammonia will decrease due to the shift in equilibrium.

(c) The production will remain unchanged as temperature is the only factor affecting yield.

(d) The reaction will proceed faster but produce less ammonia overall.

Question 2

If a sample of calcium hydroxide is accidentally contaminated with calcium chloride, which property of the prepared ammonia in the laboratory preparation will be most directly affected?

(a) The pungency of the ammonia gas will increase.

(b) The ammonia gas will have a higher water content.

(c) The collected ammonia gas will contain impurities of chlorine.

(d) The relative density of the collected ammonia gas will decrease.

Question 3

If a gas mixture composed of 1 volume of nitrogen and 3 volumes of hydrogen is subjected to 450-500°C and over 200 atm pressure in the presence of a finely divided iron catalyst, which of the following is the main product formed?

(a) Nitrous oxide

(b) Ammonia

(c) Hydrogen cyanide

(d) Nitrogen dioxide

Question 4

When examining the properties of ammonia, a chemist notes that it has a pungent smell and is lighter than air. Which of the following properties is also a characteristic of ammonia based on these observations?

(a) It is a strong acid.

(b) It has a low boiling point.

(c) It is insoluble in water.

(d) It forms a coloured solution in water.

Question 5

The reaction of ammonia with chlorinated fluorocarbons under ultraviolet light leads to the production of chlorine radicals. What is the environmental impact of this reaction?

(a) It contributes to global warming.

(b) It causes depletion of the ozone layer.

(c) It produces nitrogen oxides.

(d) It generates water vapor.

Question 6

When dry ammonia gas reacts with chlorine gas, a white smoke of ammonium chloride is formed. If the reaction takes place with an excess of ammonia, which additional compound is formed?

(a) Nitrogen gas

(b) Hydrogen chloride

(c) Nitrogen trichloride

(d) Nitric oxide

Question 7

Ammonia reacts with oxygen in the presence of a platinum catalyst at 800°C to produce nitric oxide and water vapor. What property of the reaction is indicated by the formation of water droplets in the experiment?

(a) The reaction is endothermic.

(b) The reaction is exothermic.

(c) The reaction is reversible.

(d) The reaction is synthesis.

Question 8

The reaction of ammonia with chlorinated fluorocarbons under ultraviolet light leads to the production of chlorine radicals. What is the environmental impact of this reaction?

(a) It contributes to global warming.

(b) It causes depletion of the ozone layer.

(c) It produces nitrogen oxides.

(d) It generates water vapor.

Question 9

If the production of ammonia via the Haber process is increased, which of the following conditions must be adjusted?

(a) Lower the temperature and decrease the pressure

(b) Increase the temperature and increase the pressure

(c) Increase the pressure and use a larger amount of catalyst

(d) Use a more efficient promoter and decrease the volume of reacting gases

Question 10

In a laboratory setting, ammonia gas is passed through water leading to the formation of a solution. A few drops of methyl orange are added to this solution. What colour change should be expected?

(a) From orange to yellow

(b) From orange to red

(c) From red to blue

(d) From yellow to pink

TYPE 2

Question 11

During the manufacture of ammonia by Haber's process, what condition is essential for the reaction to proceed efficiently?

A. High temperature and low pressure

B. Low temperature and high pressure

C. High temperature and high pressure

D. Room temperature and atmospheric pressure

(a) only A

(b) only B

(c) C and D

(d) only C

Question 12

Which of the following statements accurately describes the preparation of aqueous ammonia?

A. It involves the direct combination of hydrogen and nitrogen gases.

B. Ammonia gas is dissolved in water by downward displacement.

C. A funnel is attached to avoid back suction of water into the hot flask.

D. Ammonia is bubbled through water to ensure complete dissolution.

(a) only A

(b) only C

(c) B and D

(d) A and B

Question 13

In the preparation of ammonia from metal nitrides, such as magnesium nitride, which of the following procedures is correct?

A. The nitride is heated directly to release ammonia gas.

B. Warm water is added very slowly to the nitride in the flask.

C. The reaction is conducted at room temperature without water.

D. Quicklime is added to the nitride to initiate ammonia production.

(a) only A

(b) only B

(c) C and D

(d) B and D

Question 14

If the reaction mixture in the Haber process is at equilibrium, which condition will lead to an increase in the production of ammonia?

A. Increasing the temperature

B. Decreasing the volume of the reaction vessel

C. Adding an inert gas at constant volume

D. Removing some of the produced ammonia

(a) only A

(b) only B

(c) B and D

(d) C and D

Question 15

During the Haber process, if the pressure is decreased while maintaining optimal temperature, what is the likely effect on the ammonia yield?

A. The yield of ammonia increases.

B. The yield of ammonia decreases.

C. There is no effect on the ammonia yield.

D. The yield first increases then decreases.

(a) only A

(b) only B

(c) A and C

(d) B and D

Question 16

Ammonia exhibits which of the following physical properties?

A. It has a higher density than air.

B. It is colourless.

C. It has a boiling point higher than water.

D. It is insoluble in water.

(a) only A

(b) only B

(c) B and C

(d) A and D

Question 17

Ammonia reacts with chlorine gas and a white smoke is observed. Which of the

following is the most likely explanation for this observation?

A. Chlorine gas is reacting with water vapor in the air to form hydrochloric acid and oxygen.

B. Ammonia is reacting with chlorine gas to form ammonium chloride.

C. Ammonia is undergoing combustion in the presence of chlorine gas to form nitrogen gas and water vapor.

D. Chlorine gas is reacting with excess ammonia to form nitrogen gas and ammonium chloride.

(a) only A

(b) only B

(c) B and D

(d) A and C

Question 18

When ammonia is used as a reducing agent in a reaction with a metallic oxide, what is the typical observation?

A. The metallic oxide is reduced to a lower oxidation state metal.

B. The reaction mixture remains unchanged.

C. Ammonia oxidises to form nitrogen gas and water.

D. The metal oxide reacts to form a soluble salt and water.

(a) only A

(b) A and C

(c) B and D

(d) only C

Question 19

What is the main environmental benefit of using ammonia as a refrigerant compared to chlorofluorocarbons (CFCs)?

A. Ammonia contributes to the greenhouse effect.

B. Ammonia is incompatible with copper.

C. Ammonia does not deplete the ozone layer.

D. Ammonia is non-toxic and non-corrosive.

(a) only A

(b) B and D

(c) only C

(d) A and C

Question 20

In the catalytic oxidation of ammonia, what are the expected products at high temperatures in the presence of a platinum catalyst?

A. Nitrogen and water vapor only.

B. Nitric oxide and water vapor.

C. Nitrogen dioxide and oxygen gas.

D. Nitric acid and ammonium nitrate.

(a) only A

(b) only B

(c) B and C

(d) A and D

10 Study of Compounds

Nitric Acid

TYPE 1

Question 1

In an experiment, a student adds a gas evolved from the reaction of copper with concentrated nitric acid to a solution of iron(II) sulphate. The iron(II) sulphate solution colour changes from pale green to brown. Which gas is responsible for this change?

(a) Nitrogen dioxide (NO_2)

(b) Nitric oxide (NO)

(c) Nitrous oxide (N_2O)

(d) Nitrogen (N_2)

Question 2

A chemist observes that upon mixing an aqueous solution of nitric acid with a piece of zinc metal, there is the release of a colourless gas and the solution remains clear. What is the most likely observation in this reaction?

(a) Formation of zinc nitrate and hydrogen gas.

(b) Formation of zinc oxide and chlorine gas.

(c) Formation of zinc chloride and oxygen gas.

(d) Formation of zinc nitrate and nitric oxide gas.

Question 3

During the preparation of nitric acid in the laboratory, a brown gas is released upon the reaction of sodium nitrate with concentrated sulphuric acid. Which compound is likely being formed that results in the brown gas?

(a) Sodium sulphate

(b) Nitric oxide

(c) Nitrogen dioxide

(d) Nitrous acid

Question 4

While studying the properties of nitric acid, a student adds concentrated nitric acid to a solution containing a carbonate compound. The student notices effervescence and the evolution of a gas that turns limewater milky. What is the gas produced in this reaction?

(a) Carbon dioxide

(b) Nitric oxide

(c) Nitrogen dioxide

(d) Oxygen

Question 5

A certain organic compound reacts with concentrated nitric acid to form a yellow-coloured product, which leaves yellow stains on the skin. The reaction involves the substitution of hydrogen atoms by nitro groups. What type of reaction is this?

(a) Esterification

(b) Saponification

(c) Nitration

(d) Fermentation

Question 6

During the reaction of copper with concentrated nitric acid, a gas is evolved, contributing to the brown fumes characteristic of the reaction. If the laboratory is not well-ventilated, which gas could accumulate and present a toxic hazard?

(a) Oxygen

(b) Hydrogen

(c) Nitrogen dioxide

(d) Nitrous oxide

Question 7

A chemist treats a piece of iron with dilute nitric acid and observes no significant reaction. Which phenomenon is responsible for this lack of reactivity?

(a) The iron is passivated by the formation of a protective oxide layer.

(b) The dilute nitric acid is not a strong enough oxidizing agent.

(c) The iron has formed an insoluble compound.

(d) The iron is undergoing a disproportionation reaction.

Question 8

A student adds a piece of magnesium to very dilute nitric acid and notices the production of a gas. What is the primary gas produced in this reaction at room temperature?

(a) Nitrogen dioxide

(b) Hydrogen

(c) Oxygen

(d) Nitrous oxide

Question 9

In an experiment, a solution of ammonia is mixed with hydrochloric acid in the presence of a catalyst as described in the Ostwald process. Which of the following is the primary product of this reaction?

(a) Ammonium chloride

(b) Nitric acid

(c) Chlorine gas

(d) Sodium nitrate

Question 10

A chemist performs the brown ring test for nitrates and observes a brown ring at the junction of the two liquids. Which of the following explains the formation of the brown ring?

(a) Formation of ferrous nitrate

(b) Reaction between nitric acid and iron (II) sulphate

(c) Reduction of nitrate ions to nitric oxide which then complexes with iron (II) ions

(d) Oxidation of nitric oxide to nitrogen dioxide

TYPE 2

Question 11

During the Oswald process, if the ratio of air to ammonia is increased beyond the optimal, what is the most likely outcome in the production of nitric acid?

A. The yield of nitric acid increases due to more oxygen being available.

B. The yield of nitric acid decreases because of the excess nitrogen diluting the reactants.

C. The reaction speed increases, leading to higher production rates.

D. No change in the yield of nitric acid as the reaction is limited by other factors.

(a) only A

(b) only B

(c) A and C

(d) B and D

Question 12

What is the result of bubbling dry air or carbon dioxide through the yellow nitric acid obtained from the laboratory preparation?

A. The yellow colour intensifies due to increased oxidation.

B. The acid becomes more concentrated.

C. The yellow colour is removed because it drives out NO_2 from warm acid.

D. The acid becomes diluted, decreasing its concentration.

(a) only A

(b) only B

(c) only C

(d) B and D

Question 13

What happens when nitric acid reacts with carbonates or bicarbonates?

A. Formation of the respective soluble metallic nitrates and carbon dioxide.

B. Release of sulphur dioxide gas.

C. No reaction occurs as nitric acid is non-reactive with carbonates.

D. Formation of a hard crust on the reaction vessel due to sodium sulphate.

(a) only A

(b) only B

(c) A and D

(d) B and C

Question 14

When nitric acid is exposed to sunlight, which of the following is the expected chemical change?

A. The acid decomposes to form nitrogen dioxide and oxygen.

B. Nitric acid concentration increases due to photolytic reaction.

C. The acid remains stable as it is not sensitive to sunlight.

D. Nitric acid reacts with the container, releasing hazardous fumes.

(a) only A

(b) only B

(c) A and C

(d) B and D

Question 15

In the laboratory preparation of nitric acid, which of the following materials should not be used for the apparatus due to nitric acid's corrosive nature?

A. Glass

B. Rubber

C. Platinum

D. Quartz

(a) only A

(b) only B

(c) A and D

(d) B and C

Question 16

When dilute nitric acid reacts with copper, which of the following products are formed?

A. Copper nitrate, Water, and Nitrogen dioxide

B. Copper nitrate, Hydrogen gas, and Oxygen

C. Copper nitrate, Nitrous oxide, and Water

D. Copper nitrate, Water, and Oxygen

(a) only A

(b) only B

(c) B and C

(d) A and C

Question 17

What is the expected observation when concentrated nitric acid is heated?

A. Evaporation of the acid with no other noticeable changes

B. Formation of brown fumes of nitrogen dioxide

C. Release of hydrogen gas and formation of a colourless solution

D. Precipitation of a white solid from the solution

(a) only A

(b) only B

(c) B and D

(d) A and C

Question 18

Which of the following metals will not form a passive layer when treated with concentrated nitric acid?

A. Copper

B. Iron

C. Zinc

D. Silver

(a) only A

(b) only D

(c) A and B

(d) B and C

Question 19

Aqua regia is used to dissolve noble metals. What are the products formed when aqua regia reacts with gold?

A. Gold nitrate and Chlorine gas

B. Gold(III) chloride and Nitric oxide

C. Gold(III) chloride and Nitrous oxide

D. Gold(III) chloride and Chlorine gas

(a) only A

(b) only B

(c) B and C

(d) A and D

Question 20

What is the result of the reaction between zinc and very dilute nitric acid at room temperature?

A. Zinc nitrate and Hydrogen gas

B. Zinc oxide and Nitrogen gas

C. Zinc nitrate and Nitrous oxide

D. Zinc and Water only

(a) only A

(b) only B

(c) B and C

(d) A and C

11 Study of Compounds

Sulphuric Acid

TYPE 1

Question 1

During the Contact process, a vanadium pentoxide catalyst is used to facilitate the conversion of sulphur dioxide to sulphur trioxide. If the temperature is maintained below the optimal range of 400-450°C, what is the most likely outcome?

(a) The reaction will proceed at a faster rate.

(b) The reaction rate will decrease.

(c) The production of sulphuric acid will be unaffected.

(d) The sulphur dioxide will directly convert to sulphuric acid without forming sulphur trioxide.

Question 2

If a sample of gas from the Contact process, which is supposed to contain pure sulphur trioxide, turns limewater milky, what does this indicate?

(a) The gas is pure sulphur trioxide as expected.

(b) There is a presence of sulphur dioxide in the gas.

(c) The gas contains excess oxygen.

(d) There is a presence of carbon dioxide in the gas.

Question 3

When diluting oleum ($H_2S_2O_7$) with water to produce sulphuric acid, it is important to add the oleum to water and not the other way around. What is the primary safety reason for this procedure?

(a) To prevent the solution from freezing.

(b) To control the highly exothermic reaction.

(c) To ensure that the sulphuric acid remains colourless.

(d) To avoid the production of hydrogen gas.

Question 4

In a hypothetical scenario where the scrubbing towers fail during the Contact process, what would be the most likely consequence?

(a) An increase in the purity of the sulphuric acid produced.

(b) The emission of unreacted sulphur dioxide into the atmosphere.

(c) The formation of a higher concentration of oleum.

(d) The sulphuric acid produced would have a higher viscosity.

Question 5

If a chemist finds that the sulphuric acid produced from the Contact process is less corrosive than expected, which of the following could be a possible explanation?

(a) The acid is more diluted than expected.

(b) The temperature in the contact towers was too high.

(c) There was an insufficient amount of vanadium pentoxide catalyst.

(d) The drying towers were overly efficient, removing too much moisture.

Question 6

During a laboratory experiment, a student adds dilute sulphuric acid to a piece of zinc metal. After a while, the student observes a gas being evolved. What is the identity of this gas?

(a) Oxygen

(b) Hydrogen sulphide

(c) Hydrogen

(d) Sulphur dioxide

Question 7

If a solution of a compound L is treated with concentrated sulphuric acid, a brown gas is evolved that intensifies when the solution is heated. What is the most likely identity of compound L?

(a) Sodium chloride

(b) Potassium iodide

(c) Barium chloride

(d) Magnesium sulphate

Question 8

A chemist adds concentrated sulphuric acid to a sugar (sucrose) sample. After heating, a black, porous mass is formed along with the production of a large amount of steam. This reaction demonstrates sulphuric acid's property as:

(a) an oxidising agent

(b) a dehydrating agent

(c) a non-volatile acid

(d) an electrolyte

Question 9

A textile manufacturer wants to ensure that the dye used in their clothing is free from impurities that might degrade its quality. They know that some impurities can be oxidised by sulphuric acid. Which property of sulphuric acid makes it suitable for this purpose?

(a) Its ability to act as a diluting agent

(b) Its non-volatile nature

(c) Its oxidising properties

(d) Its capability to form sulphates

Question 10

When conducting a test for sulphates in the laboratory, a student adds barium chloride to a test solution and observes no change. To confirm the test, the student should:

(a) Heat the solution to observe any gas evolution.

(b) Add dilute hydrochloric acid to see if the precipitate dissolves.

(c) Check for the presence of a brown gas.

(d) Ensure that the test solution does not contain any sulphides.

TYPE 2

Question 11

During the manufacture of sulphuric acid, why is vanadium pentoxide (V_2O_5) used as a catalyst in the conversion of sulphur dioxide (SO_2) to sulphur trioxide (SO_3)?

A. It allows the reaction to occur at a lower temperature, increasing the yield.

B. It increases the pressure within the reactor, making the process faster.

C. It absorbs moisture from the reactants, driving the reaction forward.

D. It combines with sulphur dioxide to form sulphur trioxide directly.

(a) only A

(b) only B

(c) A and C

(d) A and D

Question 12

What is the main reason for drying the gases by downward spray of concentrated (H_2SO_4) before they pass into the contact tower?

A. To remove any remaining sulphur dioxide.

B. To cool down the gases to an optimal temperature for the catalyst.

C. To remove moisture that might dilute the sulphuric acid produced.

D. To initiate the conversion of (SO_2) *to* (SO_3) prematurely.

(a) only A

(b) only B

(c) B and C

(d) only C

Question 13

In the contact process, the absorption of sulphur trioxide (SO_3) into (H_2SO_4) forms oleum $(H_2S_2O_7)$. What is the primary purpose of this step?

A. To produce a more concentrated form of sulphuric acid.

B. To purify the (SO_3) from any impurities.

C. To reduce the temperature of the reaction mixture.

D. To convert the oleum back into sulphuric acid of desired strength.

(a) only A

(b) only B

(c) A and D

(d) B and C

Question 14

Why is the gas mixture passed through an arsenic purifier after the drying tower in the contact process for sulphuric acid production?

A. To catalyse the reaction between (SO_2) and (O_2).

B. To remove any arsenic oxide impurities that might poison the catalyst.

C. To absorb excess (O_2) that did not react to form (SO_3).

D. To convert any remaining (SO_2) *to* (SO_3) using arsenic oxide.

(a) only A

(b) only B

(c) A and C

(d) B and D

Question 15

Which of the following conditions is NOT favourable for the conversion of $(SO_2)to(SO_3)$ in the contact process?

A. Low temperature to favour exothermic reactions.

B. High pressure to increase the reaction rate.

C. Excess of oxygen to increase the production of (SO_3).

D. Use of a high humidity environment to enhance catalyst function.

(a) only A

(b) only D

(c) B and C

(d) A and C

Question 16

What is the likely outcome when dilute sulphuric acid reacts with zinc metal?

A. Formation of zinc sulphate and hydrogen gas.

B. Formation of zinc chloride and oxygen gas.

C. Release of sulphur dioxide gas.

D. No reaction occurs because zinc is a noble metal.

(a) only A

(b) only B

(c) A and C

(d) D only

Question 17

Which property of concentrated sulphuric acid makes it useful for preparing less volatile acids from salts?

A. Its ability to ionise completely in aqueous solution.

B. Its non-volatile nature and high boiling point.

C. Its oxidizing properties upon thermal decomposition.

D. Its dilute form can act as a dehydrating agent.

(a) only B

(b) only C

(c) B and C

(d) A and D

Question 18

When concentrated sulphuric acid is added to a sugar cube, which of the following observations is correct?

A. The sugar cube remains unchanged.

B. The sugar cube dissolves to form a colourless solution.

C. The sugar cube turns into a black mass of carbon and releases water vapor.

D. The sugar cube releases hydrogen gas.

(a) only A

(b) only B

(c) only C

(d) A and D

Question 19

Which test can be used to confirm the presence of sulphate ions in a solution?

A. Adding barium chloride to form a white precipitate.

B. Heating with copper to evolve sulphur dioxide gas.

C. Adding dilute sulphuric acid to see if gas evolves.

D. Observing the solution for any colour change.

(a) only A

(b) only B

(c) A and C

(d) B and D

Question 20

How does concentrated sulphuric acid behave when it comes into contact with organic compounds?

A. It acts as a reducing agent.

B. It dehydrates the organic compounds, often producing carbon or carbon oxides.

C. It has no effect since organic compounds are non-reactive.

D. It ionises the organic compounds completely in aqueous solution.

(a) only A

(b) only B

(c) B and C

(d) A and D

12 Organic Chemistry

TYPE 1

Question 1

During an experiment, a student adds sodium metal to a compound known to contain only carbon, hydrogen, and oxygen. The reaction produces a colourless gas that ignites with a pop sound. What functional group does the original compound most likely contain?

(a) Aldehyde

(b) Carboxylic acid

(c) Ether

(d) Ketone

Question 2

A hydrocarbon 'Y' is found to decolourise bromine water, indicating the presence of a carbon-carbon double bond. What is the general formula for the simplest type of 'Y'?

(a) $C_nH_{(2n+2)}$

(b) $C_nH_{(2n)}$

(c) $C_nH_{(2n-2)}$

(d) $C_nH_{(2n-6)}$

Question 3

During a lab experiment, ethane reacts with chlorine gas in diffused sunlight to produce a series of chlorinated hydrocarbons. Which of the following products is NOT expected to be formed during this reaction?

(a) C_2H_5Cl (chloroethane)

(b) $C_2H_4Cl_2$ (dichloroethane)

(c) $C_2H_3Cl_3$ (trichloroethane)

(d) $C_2H_2Cl_4$ (tetrachloroethane)

Question 4

An organic compound is treated with aqueous potassium hydroxide and ethanol under hot conditions. The reaction produces potassium chloride and water as by-products. What kind of reaction is this, and what is the organic reactant?

(a) Substitution reaction, Chloroethane

(b) Elimination reaction, Chloroethane

(c) Addition reaction, Ethylene

(d) Oxidation reaction, Ethanol

Question 5

A chemist treats an alkyne with an acidic potassium permanganate solution and observes the purple colour fading. What is the most likely outcome of this reaction?

(a) Formation of a diol.

(b) Formation of an oxalic acid.

(c) Formation of an alkene.

(d) No reaction takes place.

Question 6

During an experiment, a student adds a small piece of sodium metal to a sample of an alcohol, R-OH, and observes the evolution of a gas. Which of the following gases is most likely being evolved?

(a) Oxygen

(b) Hydrogen

(c) Carbon dioxide

(d) Nitrogen

Question 7

A chemist performs an oxidation reaction on an alcohol using potassium dichromate and observes the formation of a new compound with a fruity smell. Considering the starting material is a primary alcohol, what is the likely identity of the new compound?

(a) An aldehyde

(b) A ketone

(c) A carboxylic acid

(d) An ester

Question 8

During a laboratory experiment, a student adds sodium carbonate to a solution of an unknown carboxylic acid. The student observes brisk effervescence. Which of the following compounds could the unknown acid be?

(a) Methanoic acid

(b) Ethanoic acid

(c) Propanoic acid

(d) Butanoic acid

Question 9

If a solution of a carboxylic acid 'X' is mixed with magnesium, the resulting solution contains the salt of acid 'X' and releases a gas. What is the gas released in this reaction?

(a) Oxygen

(b) Carbon dioxide

(c) Hydrogen

(d) Nitrogen

Question 10

A researcher is working with an organic compound 'Y' and observes that it has a boiling point of 118°C and is miscible with water. Considering these properties, which of the following could compound 'Y' be?

(a) Methanoic acid

(b) Ethanoic acid

(c) Propanoic acid

(d) Butanoic acid

TYPE 2

Question 11

During the esterification reaction of a carboxylic acid, what is the expected outcome when ethanoic acid reacts with ethanol in the presence of concentrated sulphuric acid?

A. Formation of ethyl ethanoate and water

B. Release of carbon dioxide gas

C. Formation of sodium ethanoate

D. Production of ethyl hydrogen sulphate

(a) only A

(b) only B

(c) A and C

(d) B and C

Question 12

Which of the following properties is not associated with pure ethanoic acid?

A. It has a boiling point of 118°C.

B. It is a hygroscopic liquid with a specific gravity of 1.08 at 0°C.

C. It forms acetic anhydride on heating with phosphorus pentoxide.

D. It is insoluble in water, alcohol, and ether.

(a) only A

(b) only D

(c) B and C

(d) A and D

Question 13

When ethyl alcohol is left open in the air, it tends to taste like vinegar after a few days due to a chemical reaction. Which of the following scenarios best explains this change?

A. The alcohol undergoes dehydration to form ether.

B. The alcohol reacts with oxygen to form acetic acid.

C. The alcohol participates in a substitution reaction to form haloalkanes.

D. The alcohol is reduced to form an aldehyde.

(a) only A

(b) only B

(c) A and D

(d) B and C

Question 14

If a reaction takes place between an alcohol and acetic acid in the presence of concentrated sulphuric acid, which of the following compounds is most likely to be formed?

A. An aldehyde

B. A carboxylic acid

C. An ester

D. An ether

(a) only A

(b) only C

(c) B and D

(d) A and D

Question 15

What is the expected outcome when ethyne reacts with bromine in carbon tetrachloride?

A. The bromine's brown colour persists indicating no reaction.

B. The brown colour of bromine solution gets decolourised forming an addition product.

C. Ethyne gas is collected via downward displacement of bromine.

D. The reaction produces hydrobromic acid and ethene gas.

(a) only A

(b) only B

(c) B and C

(d) A and C

Question 16

What is the result of the halogenation of ethene with bromine in CCl_4 solution?

A. 1,2-dibromoethane

B. 1-bromoethane

C. Ethyl bromide

D. Bromoethanol

(a) only A

(b) only B

(c) only C

(d) only D

Question 17

Considering the isomerism of alkanes, which of the following is true about butane (C_4H_{10})?

A. It can form only one isomer.

B. It can form two different isomers.

C. It has isomers with the same molecular but different structural formulas.

D. It has isomers that are cyclic compounds.

(a) only A

(b) only B

(c) B and C

(d) A and D

Question 18

When a molecule of an organic compound is combusted completely in the presence of oxygen, which of the following is most likely the outcome?

A. The compound forms carbon dioxide and water as products.

B. The compound sublimates without producing any gaseous products.

C. The compound forms only solid carbon as a residue.

D. The compound reacts to form a new organic compound.

(a) only A

(b) only B

(c) B and C

(d) A and C

Question 19

When naming an organic compound according to IUPAC nomenclature, which part of the name indicates the number of carbon atoms in the longest chain?

A. The prefix

B. The suffix

C. The root word

D. The side-chain identifier

(a) only A

(b) only B

(c) only C

(d) A and D

13 Practical Work

TYPE 1

Question 1

During a lab session, a student heats a sample and observes the evolution of a colourless and odourless gas that rekindles a glowing splinter. The student suspects the gas to be oxygen. To confirm, which of the following substances could the student have heated?

(a) Sodium carbonate

(b) Lead(II) nitrate

(c) Copper(II) sulphate pentahydrate

(d) Magnesium

Question 2

A researcher adds dilute hydrochloric acid to a metal sulphide and observes the release of a gas with the characteristic smell of rotten eggs. The gas also turns lead acetate paper black. Which metal sulphide was most likely used in this reaction?

(a) FeS

(b) ZnS

(c) PbS

(d) CuS

Question 3

If a piece of cobalt chloride paper is introduced into a test tube where a certain gas is being collected and the paper turns from blue to pink, what is the most likely identity of the gas?

(a) Hydrogen

(b) Water vapor

(c) Ammonia

(d) Carbon dioxide

Question 4

A solid compound L is heated in a test tube and it decomposes to produce a gas that turns limewater milky and a residue that is greenish-grey. Based on the information provided, what is compound L likely to be?

(a) Ammonium dichromate

(b) Copper (II) nitrate hexahydrate

(c) Zinc carbonate

(d) Lead (II) nitrate

Question 5

When a salt M is treated with dilute hydrochloric acid, a gas with a rotten egg smell is evolved, which turns moist blue litmus paper red. What can be inferred about salt M?

(a) It contains carbonate ions.

(b) It contains sulphite ions.

(c) It contains sulphide ions.

(d) It contains chloride ions.

Question 6

During a laboratory experiment, a student adds a solution of sodium hydroxide to a solution of a metal ion N and obtains a deep blue soluble substance. Which of the following metals is likely to be metal N?

(a) Iron (II)

(b) Iron (III)

(c) Copper

(d) Zinc

Question 7

During a flame test, a student observes a persistent golden yellow colour in the flame. When viewed through a blue glass,

the yellow colour vanishes. What is the most likely metal ion present in the salt being tested?

(a) Potassium ion (K^+)

(b) Sodium ion (Na^+)

(c) Calcium ion (Ca^{2+})

(d) Copper ion (Cu^{2+})

Question 8

A student adds concentrated hydrochloric acid to a salt and heats the mixture. A dense white fume is produced, and a colourless gas with a pungent odour evolves. Which anion is likely present in the original salt?

(a) Sulphate ion (SO_4^{2-})

(b) Nitrate ion (NO_3^-)

(c) Chloride ion (Cl^-)

(d) Carbonate ion (CO_3^{2-})

Question 9

If a colourless solution changes the colour of phenolphthalein from colourless to pink, what property does the solution most likely have?

(a) It is a strong acid with a low pH.

(b) It is a neutral solution with a pH of 7.

(c) It is a strong base with a high pH.

(d) It contains a high concentration of chloride ions.

Question 10

In the experiment to distinguish between manganese dioxide and copper oxide, after adding hydrochloric acid and heating, what observation confirms the presence of manganese dioxide?

(a) A brownish solution is formed.

(b) A greenish yellow gas evolves.

(c) No precipitate is formed upon adding ammonium hydroxide.

(d) The filtrate is bluish in colour.

TYPE 2

Question 11

A metal carbonate is heated and the gas evolved turns lime water milky. What else can be expected as a result of this reaction?

A. The evolved gas is colourless and odourless.

B. The residue is the corresponding metal oxide.

C. The evolved gas extinguishes a glowing splinter.

D. The evolved gas turns anhydrous copper sulphate from white to blue.

(a) only A

(b) only B

(c) B and D

(d) A and B

Question 12

When dilute hydrochloric acid is added to a sulphide mineral, a gas is produced that smells like rotten eggs. Which of the following tests can confirm the identity of this gas?

A. The gas turns moist blue litmus red.

B. The gas decolourises pink potassium permanganate solution.

C. The gas turns lead acetate paper black.

D. The gas rekindles a glowing splinter.

(a) only A

(b) only C

(c) B and C

(d) A and C

Question 13

An experiment involves heating a metal nitrate, and a brown gas is produced. What are the other expected observations in this reaction?

A. The gas turns moist starch iodide paper blue.

B. The gas turns potassium iodide paper brown.

C. The residue is a metal oxide.

D. The gas has no effect on acidified potassium dichromate solution.

(a) only B

(b) only C

(c) B and C

(d) A and D

Question 14

During the heating of a blue-green crystalline solid, a gas is evolved that rekindles a glowing splinter. What is the most likely identity of the solid and the gas produced?

A. Solid: Copper (II) nitrate; Gas: Oxygen

B. Solid: Zinc carbonate; Gas: Carbon dioxide

C. Solid: Lead (II) nitrate; Gas: Nitrogen dioxide

D. Solid: Copper (II) sulphate; Gas: Sulphur dioxide

(a) only A

(b) only B

(c) B and C

(d) A and C

Question 15

If a salt is suspected to contain the carbonate ion (CO_3^{2-}), what would be the expected observations when dilute hydrochloric acid is added to it?

A. Brisk effervescence and a colourless, odourless gas is evolved.

B. Gas turns lime water milky and the white precipitate dissolves to form a colourless solution.

C. Moist lead acetate paper near the gas turns black.

D. Golden yellow or orange colour paper turns green.

(a) only A

(b) A and B

(c) A and D

(d) B and C

Question 16

Which of the following pairs correctly matches the chemical test and the observation for identifying the presence of a sulphide ion (S^{2-})?

A. Test with dilute hydrochloric acid; observation of rotten egg smell.

B. Test with sodium hydroxide solution; observation of white chalky precipitate.

C. Test with barium chloride solution; observation of white precipitate.

D. Test with potassium dichromate paper; observation of paper turning green.

(a) only A

(b) only B

(c) A and C

(d) A and D

Question 17

When a certain metal salt is heated and a reddish-brown gas is evolved, the most likely product of this reaction is which of the following?

A. The salt contains the nitrate ion, and the gas is nitrogen dioxide.

B. The salt contains the carbonate ion, and the gas is carbon dioxide.

C. The salt contains the sulphate ion, and the gas is sulphur dioxide.

D. The salt contains the sulphide ion, and the gas is hydrogen sulphide.

(a) only A

(b) only B

(c) C and D

(d) B and C

Question 18

If a solution changes colour from orange to colourless when phenolphthalein is added, which of the following changes in pH is most likely?

A. The solution changes from neutral pH to acidic pH.

B. The solution changes from acidic pH to basic pH.

C. The solution remains at neutral pH throughout.

D. The solution changes from basic pH to neutral pH.

(a) only A

(b) only B

(c) B and C

(d) A and C

Question 19

During a flame test, a certain salt imparts a lilac flame and a violet colour when viewed through the blue glass. What ion is most likely present in the salt?

A. Sodium ion (Na^+)

B. Potassium ion (K^+)

C. Calcium ion (Ca^{2+})

D. Copper ion (Cu^{2+})

(a) only A

(b) only B

(c) B and C

(d) A and C

Question 20

When concentrated sulphuric acid is added to a salt solution and a brown ring forms, followed by the disappearance of the ring upon shaking, which ion is confirmed to be present?

A. Chloride ion (Cl^-)

B. Nitrate ion (NO_3^-)

C. Sulphate ion (SO_4^{2-})

D. Carbonate ion (CO_3^{2-})

(a) only A

(b) only B

(c) B and C

(d) A and C

ANSWERS

Chapter 1: Periodic Table, Periodic Properties and Variations of Properties

1. (c)	5. (a)	9. (d)	13. (b)	17. (a)
2. (b)	6. (c)	10. (c)	14. (a)	18. (c)
3. (b)	7. (d)	11. (a)	15. (a)	19. (a)
4. (b)	8. (b)	12. (d)	16. (b)	20. (d)

Chapter 2: Chemical Bonding

1. (a)	5. (a)	9. (b)	13. (c)	17. (b)
2. (a)	6. (c)	10. (b)	14. (a)	18. (b)
3. (b)	7. (b)	11. (b)	15. (c)	19. (b)
4. (d)	8. (b)	12. (b)	16. (d)	20. (b)

Chapter 3: Acids, Base and Salts

1. (b)	5. (d)	9. (b)	13. (a)	17. (c)
2. (b)	6. (a)	10. (c)	14. (b)	18. (d)
3. (d)	7. (c)	11. (a)	15. (b)	19. (b)
4. (a)	8. (c)	12. (a)	16. (a)	20. (c)

Chapter 4: Analytical Chemistry

1. (c)	5. (b)	9. (b)	13. (b)	17. (b)
2. (b)	6. (c)	10. (a)	14. (c)	18. (c)
3. (a)	7. (a)	11. (c)	15. (c)	19. (c)
4. (c)	8. (c)	12. (b)	16. (b)	20. (b)

Chapter 5: Mole concept and Stoichiometry

1. (c)	5. (c)	9. (b)	13. (b)	17. (a)
2. (b)	6. (b)	10. (c)	14. (d)	18. (b)
3. (b)	7. (a)	11. (a)	15. (b)	19. (a)
4. (a)	8. (b)	12. (b)	16. (d)	20. (b)

Chapter 6: Electrolysis

1. (b)	2. (c)	3. (c)	4. (c)	5. (c)

6. (b)	9. (b)	12. (b)	15. (d)	18. (b)
7. (b)	10. (a)	13. (b)	16. (b)	19. (b)
8. (a)	11. (c)	14. (b)	17. (b)	20. (c)

Chapter 7: Metallurgy

1. (d)	5. (a)	9. (c)	13. (b)	17. (b)
2. (a)	6. (b)	10. (b)	14. (c)	18. (b)
3. (a)	7. (b)	11. (b)	15. (c)	19. (d)
4. (c)	8. (c)	12. (d)	16. (b)	20. (c)

Chapter 8: Study of Compounds - Hydrogen Chloride

1. (c)	5. (c)	9. (b)	13. (c)	17. (a)
2. (b)	6. (a)	10. (b)	14. (b)	18. (b)
3. (d)	7. (d)	11. (c)	15. (d)	19. (b)
4. (d)	8. (a)	12. (b)	16. (a)	20. (b)

Chapter 9: Study of Compounds - Ammonia

1. (b)	5. (b)	9. (c)	13. (b)	17. (c)
2. (b)	6. (c)	10. (a)	14. (c)	18. (b)
3. (b)	7. (b)	11. (d)	15. (b)	19. (c)
4. (b)	8. (b)	12. (b)	16. (b)	20. (b)

Chapter 10: Study of Compounds - Nitric Acid

1. (b)	5. (c)	9. (a)	13. (a)	17. (b)
2. (d)	6. (c)	10. (c)	14. (a)	18. (b)
3. (c)	7. (a)	11. (b)	15. (b)	19. (b)
4. (a)	8. (b)	12. (c)	16. (a)	20. (a)

Chapter 11: Study of Compounds - Sulphuric Acid

1. (b)	4. (b)	7. (b)	10. (b)	13. (c)
2. (d)	5. (a)	8. (b)	11. (a)	14. (b)
3. (b)	6. (c)	9. (c)	12. (d)	15. (b)

16. (a)	17. (a)	18. (c)	19. (a)	20. (b)

Chapter 12: Organic Chemistry

1. (b)	5. (b)	9. (c)	13. (b)	17. (c)
2. (b)	6. (b)	10. (b)	14. (b)	18. (a)
3. (c)	7. (d)	11. (a)	15. (b)	19. (c)
4. (b)	8. (b)	12. (b)	16. (a)	

Chapter 13: Practical Work

1. (b)	5. (c)	9. (c)	13. (c)	17. (a)
2. (a)	6. (c)	10. (b)	14. (a)	18. (a)
3. (b)	7. (b)	11. (d)	15. (b)	19. (b)
4. (c)	8. (c)	12. (b)	16. (a)	20. (b)

Biology

1 Cell – The Structural and Functional Unit of Life

TYPE 1

Question 1

Assertion (A): Plant cells have a rigid structure.

Reason (R): Plant cells have a cell wall made up of cellulose which provides rigidity.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false.

(d) A is false, but R is true.

Question 2

Assertion (A): Mitochondria are known as the powerhouse of the cell.

Reason (R): They synthesise proteins to be used by the cell for energy.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false.

(d) A is false, but R is true.

Question 3

Assertion (A): All living organisms are made up of cells.

Reason (R): Cells are the basic unit of life that can carry out life processes independently.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 4

Assertion (A): Chromoplasts give flowers and fruits their distinctive colours.

Reason (R): Chromoplasts contain pigments like carotene and xanthophyll which are responsible for the red, yellow, and orange colours in plants.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 5

Assertion (A): Plant cells generally have larger vacuoles than animal cells.

Reason (R): Large vacuoles in plant cells store nutrients and waste products and provide structural support by maintaining turgor pressure against the cell wall.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

TYPE 2

Question 6

In a science quiz, Avneet is asked to identify which cell component provides structural support and rigidity to plant cells, preventing them from bursting when taking in a lot of water. Avneet recalls this biology concept she studied about cell structures.

(a) Cell membrane

(b) Mitochondria

(c) Cell wall

(d) Cytoplasm

Question 7

While volunteering at a botanical garden, Aayush learns about different types of organisms. He is particularly fascinated by the difference between unicellular and multicellular organisms. How is the complexity of an organism is related to its cellularity?

(a) Multicellular organisms are composed of a single cell that performs all functions.

(b) Unicellular organisms are larger and more complex because they contain multiple organelles.

(c) Multicellular organisms consist of many cells that specialise in different functions, allowing for more complexity.

(d) All organisms start as multicellular but can become unicellular if environmental conditions demand.

Question 8

A geneticist is analysing the DNA content of different cells. She observes that one particular cell has densely packed DNA that is not currently dividing. This DNA is organised into a form that allows the cell to carry out its normal functions. What is this form of DNA known as?

(a) Nucleolus

(b) Chromatin Fibres

(c) Granules

(d) Chromosomes

Question 9

In a veterinary clinic, a vet treats a dog with a cellular disorder affecting its ability to break down cellular waste. This leads to the accumulation of waste products within the cell, causing various health issues. Which organelle is most likely malfunctioning in the dog's cells?

(a) Lysosomes

(b) Mitochondria

(c) Ribosomes

(d) Endoplasmic Reticulum

Question 10

A farmer notices that the leaves of his tomato plants have started to turn yellow. Remembering his biology lessons, he suspects that the cells of the leaves might be lacking a certain organelle that is crucial for their green colour and energy production. Which organelle is most likely deficient in the yellowing tomato leaves?

(a) Centrosome

(b) Lysosome

(c) Chloroplast

(d) Nucleus

TYPE 3

Question 11

Which statements accurately describe the properties of a cell membrane?

Statements:

A. The cell membrane is selectively permeable, allowing only certain substances to pass through.

B. Cell membranes are found in both animal and plant cells.

C. The cell membrane is mainly composed of cellulose.

D. Cell membranes provide rigidity and shape to the cell.

(1) A and B

(2) B and C

(3) C and D

(4) A and D

Question 12

How do plant and animal cells differ in terms of their external structures?

Statements:

A. Plant cells have a cell wall, while animal cells do not.

B. Animal cells have chloroplasts which are absent in plant cells.

C. Both plant and animal cells have a cell membrane.

D. Plant cells lack a cell membrane which is present in animal cells.

(1) A and C

(2) B and D

(3) Only B

(4) A and B

Question 13

What is the function of the nucleolus within the nucleus as described?

Statements:

A. It is the site of lipid synthesis.

B. It manufactures ribosomes.

C. It stores the cell's genetic material.

D. It dictates ribosomes to synthesise proteins.

(1) Only A

(2) Only B

(3) B and D

(4) A and C

Question 14

How do chromoplasts contribute to the life of a plant?

Statements:

A. They store starch for the plant.

B. They contain pigments that attract pollinators.

C. They are involved in the storage of proteins.

D. They are most commonly found in animal cells.

(1) Only A

(2) Only B

(3) B and C

(4) C and D

Question 15

What role do lysosomes play in cellular function?

Statements:

A. They are involved in protein synthesis.

B. They contain hydrolytic enzymes that break down cellular waste.

C. They are primarily responsible for energy production.

D. They assist in cell division.

(1) Only A

(2) Only B

(3) A and C

(4) B and D

TYPE 4

Question 16

A student observing a leaf under the microscope notices that the cells are rigid and have a defined shape. Which structures and components are most likely contributing to these observations?

1. Cell membrane
2. Cytoplasm
3. Cell wall
4. Chloroplasts

(a) Only 1 and 2

(b) Only 1, 2, and 4

(c) Only 3 and 4

(d) Only 2 and 3

Question 17

During an experiment to understand cell division, a biologist observes that a cell's centrosome is active and facilitating the process. Which of the following statements correctly identifies the roles played by the centrosome in this scenario?

1. Synthesis and secretion of enzymes
2. Formation of spindle fibres
3. Produces ribosomes
4. Dictates ribosomes to synthesise proteins

(a) Only 2

(b) Only 1 and 3

(c) Only 2 and 4

(d) Only 3 and 4

Question 18

A laboratory technician is preparing a slide of onion epidermal cells to observe under a microscope. They stain the slide with iodine to enhance the visibility of certain structures. Which of the following components will be most clearly visible due to the iodine staining?

1. Cell wall
2. Cytoplasm
3. Nucleus
4. Vacuoles

(a) Only 1 and 4

(b) Only 2 and 3

(c) Only 1, 3, and 4

(d) Only 3

Question 19

A group of students is learning about how cells obtain energy. They discuss that the cells in our muscles rapidly produce energy without using oxygen when we exercise vigorously. Which process are they most likely referring to?

1. Aerobic respiration
2. Glycolysis
3. Fermentation
4. Photosynthesis

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 4

(d) Only 2

Question 20

A student is comparing plant and animal cells and observes that the plant cells contain large, clear spaces that are absent in the animal cells. Based on the information provided, what are these spaces in plant cells called, and what is their primary function?

1. Mitochondria - energy production
2. Vacuoles - storage of substances
3. Lysosomes - intracellular digestion
4. Ribosomes - protein synthesis

(a) Only 1

(b) Only 2

(c) Only 3

(d) Only 4

2 Structure of Chromosomes, Cell Cycle, and Cell Division

TYPE 1

Question 1

Assertion (A): The cell cycle consists of interphase and the M-phase.

Reason (R): Interphase is a period of DNA replication and growth, while the M-phase includes mitosis and cytokinesis.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 2

Assertion (A): Chromosomes are visible under a microscope only during cell division.

Reason (R): Chromosomes condense and become thicker during cell division, which makes them visible under a microscope.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 3

Assertion (A): DNA replication occurs during the S-phase of the cell cycle.

Reason (R): The S-phase is when the cell synthesises proteins and prepares for mitosis.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 4

Assertion (A): Mitosis results in two genetically identical daughter cells.

Reason (R): During mitosis, the chromatids are pulled to opposite poles, ensuring each new cell receives an identical set of chromosomes.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 5

Assertion (A): In plant cells, cytokinesis begins with the formation of a cell plate.

Reason (R): Plant cells have a rigid cell wall that requires a cell plate to divide the cytoplasm.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

TYPE 2

Question 6

A team of scientists is studying a population of cells that seem to grow without control. They identify that these cells bypass the regulatory mechanisms that normally control the cell cycle. This uncontrolled cell division is most likely to result in...

(a) Tissue regeneration

(b) Normal growth

(c) Cancer

(d) Enhanced functionality

Question 7

During a discussion on genetic material, Farhan argues that the way DNA is packaged into chromatin is crucial for its function. To support his argument, he could explain that before cell division, DNA wraps around histones to form nucleosomes, which further coil into a dense structure. This structure is known as a

(a) Nucleotide

(b) Chromosome

(c) Gene

(d) Chromatid

Question 8

Mishika is researching genetic diversity in sexually reproducing organisms. She understands that a special type of cell division is necessary for creating genetic variation in gametes. What is the name of the process that reduces the chromosome number by half and leads to genetic diversity?

(a) Mitosis

(b) Meiosis

(c) Cytokinesis

(d) Karyokinesis

Question 9

A geneticist is examining a cell during meiosis and notices the point where two

non-sister chromatids have exchanged genetic material. This genetic recombination contributes to biodiversity. What is the term for this point of contact?

(a) Centromere

(b) Chiasma

(c) Spindle fibre

(d) Telomere

Question 10

After accidentally cutting his finger, Viraj observed the wound healing over several days. He learned in biology class that a specific type of cell division is responsible for replacing the damaged skin cells. Which phase of mitosis is first in the process of creating new cells to heal Viraj's wound?

(a) Telophase

(b) Metaphase

(c) Prophase

(d) Anaphase

TYPE 3

Question 11

What are the main components of chromatin?

Statements:

A. Chromatin is composed primarily of DNA.

B. Proteins are not a significant component of chromatin.

C. Histones make up about 60% of chromatin.

D. DNA contributes about 40% to the chromatin structure.

(1) A and C

(2) B and D

(3) Only A

(4) C and D

Question 12

What is the role of the cell cycle in cell division?

Statements:

A. The cell cycle ensures that the number of chromosomes is halved in each new cell.

B. Interphase is a period of DNA replication and preparation for mitosis.

C. Mitosis is a resting phase in the cell cycle.

D. The cell cycle consists of a series of events that lead to the duplication of DNA.

(1) Only D

(2) B and D

(3) A and C

(4) Only A

Question 13

What is the significance of the S-phase in the cell cycle?

Statements:

A. The S-phase is when the cell's DNA is duplicated.

B. No significant cellular events occur during the S-phase.

C. Mitochondria and chloroplasts divide during the S-phase.

D. Chromosomes are duplicated during the G2 phase, not S-phase.

(1) Only A

(2) B and C

(3) A and C

(4) D and B

Question 14

How do the processes of mitosis and meiosis differ in terms of chromosome number in the daughter cells?

Statements:

A. Mitosis results in daughter cells with the same number of chromosomes as the parent cell, maintaining the diploid state.

B. Meiosis results in a halving of chromosome number, producing haploid daughter cells.

C. Mitosis is used for asexual reproduction, while meiosis is not involved in reproduction.

D. Both mitosis and meiosis produce daughter cells that are genetically identical to the parent cell.

(1) A and C

(2) B and D

(3) A and B

(4) C and D

Question 15

What is the significance of the chromosome number being maintained during mitosis?

Statements:

A. It ensures that the genetic material is evenly divided between the two daughter cells.

B. It helps in the repair of damaged tissues by replacing lost cells.

C. It is essential for the production of haploid cells during sexual reproduction.

D. It allows for the increase in body size due to the formation of new cells in the tissues.

(1) A and D

(2) B and C

(3) A, B, and D

(4) All of the above

TYPE 4

Question 16

While studying an animal cell's mitotic process, a scientist notes the disappearance of the nuclear membrane. Which of the following stages is the cell undergoing at this time?

1. Early prophase
2. Late prophase
3. Metaphase
4. Anaphase

(a) Only 1

(b) Only 2

(c) Only 1 and 2

(d) Only 3 and 4

Question 17

During an experiment, a student observes a cell where the chromatin has condensed into visible chromosomes, but the nuclear envelope is still intact. Which stage of mitosis does this represent?

1. Interphase
2. Prophase
3. Anaphase
4. Telophase

(a) Only 1

(b) Only 2

(c) Only 1 and 2

(d) Only 3 and 4

Question 18

In a human cell, DNA replication is taking place. Which components are directly involved in the formation of new DNA strands?

1. Nucleosomes
2. Phosphate groups
3. Hydrogen bonds
4. Complementary base pairing

(a) Only 2 and 3

(b) Only 1, 2, and 3

(c) Only 2, 3, and 4

(d) Only 1, 3, and 4

Question 19

While studying cell division, a researcher finds that the sister chromatids are not separating at the centromere as expected. This malfunction could cause problems in which phase of mitosis?

1. Prophase
2. Metaphase
3. Anaphase
4. Telophase

(a) Only 1

(b) Only 2

(c) Only 3

(d) Only 4

Question 20

A biologist stains a cell and observes it under a microscope to study the process of mitosis. She notes the chromatin condensing into visible structures. What are these structures, and during which phase of cell division do they first become visible?

1. Nucleosomes during interphase
2. Chromatids during metaphase
3. Chromosomes during prophase
4. Histones during telophase

(a) Only 1

(b) Only 2

(c) Only 3

(d) Only 4

3 Genetics– Some Basic Fundamentals

TYPE 1

Question 1

Assertion (A): Chromosomes are visible only when cells are in the process of division.

Reason (R): Chromosomes condense and become more distinguishable during the metaphase stage of cell division, which allows them to be seen under a microscope.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true

Question 2

Assertion (A): A child can inherit the ability to roll their tongue from their parents.

Reason (R): Tongue rolling is a genetic trait that is controlled by a dominant allele.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 3

Assertion (A): A person with polydactyly must have inherited the trait from at least one parent.

Reason (R): Polydactyly is caused by a dominant allele, so having the trait means at least one parent must also have it.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 4

Assertion (A): Sex-linked traits such as colour blindness are more common in males than in females.

Reason (R): Males have only one X chromosome, so a single recessive allele on this chromosome will express the trait.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true

Question 5

Assertion (A): Mendel's experiments with pea plants led to the discovery of the basic principles of heredity.

Reason (R): Pea plants have a long lifespan which allows many generations to be observed.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true

TYPE 2

Question 6

Mr. & Mrs. Garg are expecting a child and are concerned about the risk of genetic disorders. They are aware that Mr. Garg's family has a history of sickle cell anaemia. They decide to consult a genetic counsellor to understand the risks to their unborn child. What is the purpose of genetic counselling in this scenario?

(a) To guarantee that their child will not inherit sickle cell anaemia.

(b) To diagnose their unborn child with sickle cell anaemia using genetic testing.

(c) To provide information and support about the risk and implications of genetic disorders.

(d) To alter the genetic makeup of their unborn child to prevent sickle cell anaemia.

Question 7

Mr. Sharma, knows he is colourblind, which he inherited from his mother who is a carrier. Mrs. Sharma, his wife has normal vision and does not carry the colourblind allele. They are expecting a child and are curious about the likelihood of their child being colourblind. What is the probability of their daughter being colourblind?

(a) 0%

(b) 25%

(c) 50%

(d) 100%

Question 8

During a family reunion, Rhea noticed that while both of her parents can roll their tongues, her brother cannot. She recalls from her biology class that tongue rolling is a trait controlled by one gene with two alleles: a dominant allele (R) for rolling and a recessive allele (r) for non-rolling. What could be the possible genotypes of her parents?

(a) Both parents are RR.

(b) Both parents are rr.

(c) One parent is RR and the other is rr.

(d) Both parents are Rr.

Question 9

Mr. & Mrs. Shah are expecting a child and are curious about the genetic factors that will determine their child's sex. They learned that it all comes down to which type of sperm fuses with the ovum. If an X-bearing sperm fuses with the ovum, they will have a daughter, while a Y-bearing sperm will result in a son. Mr. Shah wonders about the role of sex chromosomes in this process. What are the chromosomal combinations that lead to the birth of a daughter?

(a) XX in the sperm and XY in the ovum.

(b) XY in the sperm and XX in the ovum.

(c) X in the sperm and X in the ovum.

(d) Y in the sperm and X in the ovum.

Question 10

Saanvi has always been fascinated by the colour of her eyes, which are blue, unlike her parents' brown and green eyes. Knowing that eye colour is a heritable trait, she wonders how it is possible for her to have blue eyes. She recalls learning about dominant and recessive alleles in her biology class. What is the most likely explanation for Saanvi's eye colour based on Mendelian genetics?

(a) Both of her parents carry a recessive allele for blue eye colour, which Saanvi inherited from each.

(b) Eye colour is not actually heritable, and Saanvi's blue eyes are just a random mutation.

(c) Saanvi's eye colour is the result of incomplete dominance, resulting in a blend of her parents' eye colours.

(d) The blue eye colour is dominant over both brown and green, so it is expressed in Saanvi.

TYPE 3

Question 11

What can be inferred about genetic diseases?

Statements:

A. Genetic diseases like haemophilia and thalassemia can be predicted and prevented with proper genetic matching.

B. Genetic diseases are always visible and can be easily diagnosed without genetic testing.

C. All genetic diseases are due to mutations on the sex chromosomes.

D. Genetic counselling can help prospective parents understand the risks of genetic diseases.

(1) A and D

(2) Only B

(3) B and C

(4) C and D

Question 12

Which of the following statements correctly describe the relationship between alleles and their expression in a genotype?

Statements:

A. Homozygous recessive genotypes will only express the recessive trait.

B. A heterozygous genotype expresses both dominant and recessive traits equally.

C. Dominant alleles will mask the expression of recessive alleles in a heterozygous genotype.

D. Chromosomes can be classified as either dominant or recessive.

(1) A and C

(2) B and D

(3) Only B

(4) C and D

Question 13

What determines the phenotype of an individual for a given characteristic, such as tongue rolling?

Statements:

A. The genotype consisting of two dominant alleles (RR) ensures the phenotype of a tongue roller.

B. An individual with a heterozygous genotype (Rr) will not be able to roll their tongue.

C. The presence of one dominant allele (R) is sufficient for the phenotype of tongue rolling to be expressed.

D. The phenotype is an observable characteristic which is not influenced by the individual's genotype.

(1) A and C

(2) Only D

(3) B and D

(4) Only A

Question 14

What is the expected phenotypic ratio in the F2 generation of a monohybrid cross for a sex-linked trait like colour blindness?

Statements:

A. The phenotypic ratio would be the same as for any autosomal monohybrid cross, 3:1.

B. The phenotypic ratio cannot be determined without knowing the sex of the offspring.

C. The phenotypic ratio in the F2 generation will be different for males and females due to sex linkage.

D. Sex linkage does not affect the phenotypic ratio in the F2 generation of a monohybrid cross.

(1) A and D

(2) Only B

(3) Only C

(4) B and C

Question 15

What can be inferred about the inheritance of seed colour and seed shape in Mendel's dihybrid cross?

Statements:

A. Seed colour and shape are inherited independently of each other.

B. The phenotypic ratio for a dihybrid cross is 9:3:3:1.

C. The traits for seed colour and shape are linked and do not assort independently.

D. The F2 generation will show four different phenotypes in equal proportions.

(1) A and B

(2) B and C

(3) C and D

(4) A and D

TYPE 4

Question 16

A biologist is comparing the chromosome number of different species and notes that unlike humans, who have 46 chromosomes, dogs have 78. What does this variation in chromosome number primarily reflect?

1. The complexity of the organism
2. The size of the organism
3. The evolutionary history of the organism
4. The genetic diversity within the species

(a) Only 1 and 3

(b) Only 2 and 4

(c) Only 1, 2, and 4

(d) Only 3 and 4

Question 17

If a person has the genotype $x^A x^a$ for a sex-linked trait, what can be inferred about their phenotype, given that x^A is dominant over x^a ?

1. They will express the recessive trait.
2. They will express the dominant trait.
3. They will not express any trait.
4. They will be carriers of the trait.

(a) Only 1

(b) Only 2

(c) Only 3

(d) Only 4

Question 18

A man with free ear lobes (Ff) and a woman with attached ear lobes (ff) have children. What is the probability that their first child will have free ear lobes?

1. 0%
2. 25%
3. 50%

4. 75%

(a) Only 2

(b) Only 3

(c) Only 4

(d) Only 1

Question 19

When studying mutations, a student learns about sickle cell anaemia. Which of the following changes is directly responsible for the altered shape of red blood cells in sickle cell disease?

1. Change in a chromosome structure
2. Change in the number of chromosomes
3. Mutation in a single gene
4. Exposure to radioactive radiation

(a) Only 1

(b) Only 2

(c) Only 3

(d) Only 4

Question 20

A biologist is examining the pattern of inheritance for haemophilia, a sex-linked disorder, using a Punnett square. If a haemophiliac father (X^hY) and a carrier mother (X^HX^h) are expecting a child, what are the chances of their daughter being a carrier for hemophilia?

1. X^h from father and X^H from mother
2. X^H from father and X^h from mother
3. X^h from both parents
4. X^H from both parents

(a) Only 1

(b) Only 2

(c) Only 1 and 3

(d) Only 4

4 Absorption by Roots – The Processes Involved

TYPE 1

Question 1

Assertion (A): Osmosis is a process that requires energy input from the cell.

Reason (R): Osmosis is the movement of water from a region of lower solute concentration to a region of higher solute concentration through a semipermeable membrane.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 2

Assertion (A): The cell sap in root hairs has a higher concentration than the surrounding water.

Reason (R): A higher sap concentration is necessary for the process of active transport in root hairs.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 3

Assertion (A): Red blood cells placed in a hypertonic solution will undergo crenation.

Reason (R): Crenation happens as water leaves the cell due to the higher concentration of solutes in the external solution compared to the cell's interior.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 4

Assertion (A): Capillarity helps in the upward movement of water in narrow-diameter xylem vessels.

Reason (R): The capillary force is due to the surface tension of water and the adhesive forces between water and the vessel walls.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 5

Assertion (A): The opening and closing of stomata are controlled by the turgidity of guard cells.

Reason (R): When guard cells are turgid due to the accumulation of potassium ions, the stomata open to facilitate gas exchange.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

TYPE 2

Question 6

A science teacher demonstrates osmosis using a thistle funnel and a sugar solution. She then places a similar setup in a salt marsh and notices that the level of the solution in the thistle funnel drops over time. What does this suggest about the concentration of salt in the marsh compared to the sugar solution in the thistle funnel?

(a) The concentration of salt in the marsh is lower than the sugar solution, promoting endosmosis.

(b) The concentration of salt in the marsh is higher, resulting in exosmosis.

(c) The concentration of sugar and salt are equal, resulting in no net movement of water.

(d) The salt in the marsh is impermeable to water, preventing any movement.

Question 7

A farmer notices that his newly planted bean seeds have swelled and broken through the soil overnight after a heavy rain. Which phenomenon related to water uptake in plants does this observation best illustrate?

(a) The seeds have a high metabolic rate, using water quickly.

(b) The seeds underwent active transport of water molecules.

(c) The seeds absorbed water through osmosis from the soil.

(d) The seeds absorbed water by surface attraction, known as imbibition.

Question 8

In a laboratory experiment, a student observes that when a thistle funnel with sugar solution is placed in water, the level of the solution rises in the funnel. The student hypothesises that this is due to a certain type of pressure that counters gravity. What is this pressure called?

(a) Turgor pressure

(b) Atmospheric pressure

(c) Osmotic pressure

(d) Hydrostatic pressure

Question 9

Manan is experimenting with dyeing the water in which his celery stalks are placed. After a day, he notices the dye has moved up the stalk. Which part of the plant's anatomy is primarily responsible for this upward movement of water and nutrients?

(a) Phloem

(b) Root hair

(c) Xylem

(d) Epidermis

Question 10

Charvi is studying the water cycle in her garden and observes that the leaves of her plants are always drier in the afternoon. She hypothesises that a certain process involving the loss of water from plants is at work. Which process is likely causing the leaves to be drier in the afternoon?

(a) Guttation

(b) Cellular respiration

(c) Transpiration

(d) Capillary action

TYPE 3

Question 11

What factors contribute to the efficient absorption of water by plant roots?

Statements:

A. A large surface area provided by rootlets and root hairs enhances water absorption.

B. Root hairs are thick-walled structures that resist the uptake of water.

C. Imbibition involves the movement of water molecules into dead or living plant cells by surface attraction.

D. Active transport in roots refers to the energy-dependent uptake of water alone.

(1) A and C

(2) B and D

(3) C and D

(4) Only A

Question 12

Considering the information on root absorption, which statements accurately reflect the characteristics of root hairs for absorbing water?

Statements:

A. Root hairs contain a cell sap of lower concentration than the surrounding water.

B. The cell sap in root hairs typically has a higher concentration than the surrounding water.

C. Root hairs lack a cell membrane, which hinders the process of osmosis.

D. A higher concentration in root hair cell sap is important for the absorption of water from the soil.

(1) B and D

(2) A and C

(3) Only B

(4) A and D

Question 13

Which statements accurately describe the differences between osmosis and diffusion?

Statements:

A. Osmosis requires a semi-permeable membrane, while diffusion does not.

B. Diffusion can occur with gases, while osmosis is limited to liquids.

C. Osmosis involves the movement of solute molecules, and diffusion involves solvent molecules.

D. Diffusion is a rapid process compared to osmosis.

(1) A and B

(2) A, B, and D

(3) Only C

(4) B, C, and D

Question 14

How does turgor movement in Mimosa pudica differ from root pressure-driven movement?

Statements:

A. Turgor movement in Mimosa pudica is dependent on the touch stimulus.

B. Root pressure is a passive movement of water and does not require external stimuli.

C. Mimosa pudica's movement is a result of turgor pressure in the pulvinus.

D. Root pressure is responsible for the rapid movement observed in Mimosa pudica.

(1) A and B

(2) B and C

(3) C and D

(4) Only D

Question 15

What is the role of root hairs in water absorption and what experiment demonstrates this process?

Statements:

A. Root hairs increase the surface area for absorption of water and minerals from the soil.

B. The experiment with dyed water shows that root hairs are non-essential for water absorption.

C. Osmosis in root hairs is driven by the concentration gradient of salts in the soil and root hair cell sap.

D. Eosin staining experiment demonstrates the role of root hairs in transporting water to the xylem.

(1) A and C

(2) B and D

(3) Only A

(4) C and D

TYPE 4

Question 16

During a laboratory activity, a student observes that a plant's root hair cells have a higher concentration of cell sap compared to the surrounding soil water. Which process is most likely occurring at the root hair cell membrane?

1. Active transport
2. Diffusion
3. Osmosis
4. Imbibition

(a) Only 1 and 2

(b) Only 3

(c) Only 2 and 3

(d) Only 4

Question 17

When examining the role of osmotic pressure in plant cells, a researcher notes that turgor pressure is essential for maintaining the rigidity of plant tissues. Which of the following components are directly related to generating turgor pressure in a plant cell?

1. Cell wall
2. Vacuole
3. Mitochondria
4. Chloroplast

(a) Only 1 and 2

(b) Only 2 and 4

(c) Only 1, 2, and 3

(d) Only 1, 3, and 4

Question 18

During a demonstration of osmosis using animal cells, a teacher explains that red blood cells placed in different solutions will experience changes in volume. If the cells are placed in an isotonic solution, which of the following statements would be true?

1. The cells will swell due to endosmosis.
2. The cells will shrink due to exosmosis.
3. There will be no net movement of water across the cell membrane.
4. The cells will burst due to turgor pressure.

(a) Only 1

(b) Only 2

(c) Only 3

(d) Only 4

Question 19

After an experiment where a stem is girdled, a researcher observes that the leaves above the girdle remain healthy, while the part of the stem below the girdle swells due to accumulated food. Which pathways are likely still functional above the girdle?

1. Xylem transport
2. Phloem transport
3. Transpiration stream
4. Guttation

(a) Only 1 and 3

(b) Only 2

(c) Only 1, 2, and 4

(d) Only 1 and 4

Question 20

A gardener observes that the leaves of a potted Mimosa pudica plant quickly fold upon being touched and then reopen after a few minutes. Which of the following components are primarily involved in this rapid plant movement?

1. Turgor pressure in pulvini
2. Guard cells in stomata
3. Xylem tissue
4. Phloem tissue

(a) Only 1

(b) Only 1 and 2

(c) Only 3 and 4

(d) Only 2, 3, and 4

5 Transpiration

TYPE I

Question 1

Assertion (A): Ganong's potometer measures the rate of water intake by a plant.

Reason (R): The potometer is designed to measure the suction force created by transpiration from the leaves.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 2

Assertion (A): The weighing method of measuring transpiration is based on the principle that plants lose mass due to water loss.

Reason (R): As transpiration occurs, plants release water vapor into the atmosphere, which can be measured as a decrease in the weight of the plant.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 3

Assertion (A): Lenticular transpiration occurs through specialised structures in the barks of older plants.

Reason (R): Lenticels never close, which allows for the continuous exchange of gases and water vapor even at night.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 4

Assertion (A): Transpiration is reduced at night.

Reason (R): The stomata are closed at night, preventing the exchange of gases and the escape of water vapor.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 5

Assertion (A): Stomata are sunken in grooves in some plants to minimise water loss.

Reason (R): Sunken stomata help to maintain a humid microenvironment, reducing the rate of transpiration.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

TYPE 2

Question 6

Disha is using Ganong's potometer to study transpiration rates in a lab. She notices that despite proper setup, the water level in the capillary tube does not change. Which of the following could be a reason for this observation?

(a) The air bubble in the potometer has not been introduced correctly.

(b) The plant has stopped transpiring completely.

(c) The twig used in the potometer is not cut obliquely.

(d) The water in the beaker is not coloured.

Question 7

Ishita is conducting an experiment to determine the factors that affect the rate of transpiration in plants. On a windy day, she observes that the plants lose water more quickly than on a still day. What factor is primarily responsible for this increased rate of water loss?

(a) Intensity of sunlight

(b) Ambient temperature

(c) Velocity of wind

(d) Soil moisture content

Question 8

During a field trip, a group of students come across an old oak tree. Their teacher explains that the tree has specialised structures that allow it to breathe. These structures are more prominent in older trees and are not the same as stomata. What are these structures called?

(a) Cuticles

(b) Guard cells

(c) Lenticels

(d) Xylem vessels

Question 9

After a cool night, Khushi notices droplets of water at the edges of grass blades in her lawn and is curious about the phenomenon. Knowing that dew is a

common sight, she wonders if this is something different since the droplets are only at the tips of the leaves. Khushi recalls learning about plant processes that could explain this observation. What process is likely causing the water droplets to form at the edges of the grass blades?

(a) Dew formation due to atmospheric moisture

(b) Guttation from hydathodes

(c) Bleeding from cut plant surfaces

(d) Morning dew condensation

Question 10

Navya, a botanist, is studying plant life in the harsh desert climate. She observes a particular cactus with narrow leaves and wonders how this adaptation benefits the plant in its environment. Navya recalls that certain adaptations are critical for survival in areas where water is scarce. Which adaptation is the narrow leaves of the cactus an example of?

(a) Increased transpiration efficiency

(b) Reduced exposed surface area to minimize water loss

(c) Enhanced water absorption from the soil

(d) Improved photosynthetic activity

TYPE 3

Question 11

Which statements are true regarding the experiments to demonstrate transpiration?

Statements:

A. The cobalt chloride paper in the experiment turns pink when it is exposed to moisture.

B. In Experiment 2, all bell jars will show water vapor condensation on their inner walls.

C. The potometer measures the water lost during transpiration by directly measuring the water uptake by the cut shoot.

D. Ganong's potometer is designed to measure the suction force created due to transpiration.

(1) Only A

(2) A and D

(3) B and C

(4) C and D

Question 12

Why is cobalt chloride paper used in experiments demonstrating transpiration, and what does it indicate?

Statements:

A. Cobalt chloride paper is used because it changes colour when dry.

B. The paper turns pink when exposed to moisture, indicating water loss from the plant.

C. Cobalt chloride paper turns yellow when it comes into contact with water vapor.

D. The colour change in cobalt chloride paper is used to measure the exact amount of water lost.

(1) B and C

(2) Only B

(3) A and D

(4) B and D

Question 13

Which statement correctly describes the experiment with cobalt chloride paper to demonstrate transpiration rates?

Statements:

A. The cobalt chloride paper remains unchanged on the upper surface of the leaf.

B. The cobalt chloride paper turns pink faster on the upper surface due to more stomata.

C. Transpiration is greater from the lower surface where more stomata are present.

D. The cobalt chloride paper turns pink on the lower surface of the leaf.

(1) A and C

(2) B and D

(3) Only B

(4) Only D

Question 14

What factors influence the rate of transpiration in plants?

Statements:

A. Transpiration is unaffected by the intensity of sunlight.

B. Higher temperatures reduce transpiration rates.

C. Wind velocity has no impact on transpiration.

D. An increase in temperature allows more water to evaporate and increases transpiration.

(1) Only D

(2) A and B

(3) B and C

(4) C and D

Question 15

What is the difference between guttation and bleeding in plants?

Statements:

A. Guttation occurs due to root pressure, while bleeding is a result of injury.

B. Guttation involves mainly plant sap and sugars, whereas bleeding involves mineral salts.

C. Bleeding can occur in all plants, but guttation only occurs in certain plants.

D. Guttation typically occurs during the night or early morning hours.

(1) Only A

(2) A and D

(3) B and C

(4) All of the above

TYPE 4

Question 16

A student sets up an experiment with three bell jars, A, B, and C, to observe transpiration in plants. Jar A contains a potted plant enclosed in a polythene bag, Jar B the same but with cobalt chloride paper, and Jar C just the cobalt chloride paper without a plant. What would be the expected observations after some time in sunlight?

1. Water vapor on the inner walls of all jars
2. Cobalt chloride paper turns pink in Jar A and B
3. Water droplets only in Jar C
4. No change in the cobalt chloride paper colour in Jar C

(a) Only 1 and 2

(b) Only 2 and 4

(c) Only 3 and 4

(d) Only 1, 2, and 4

Question 17

During an investigation of plant processes, a biologist finds that a leaf's stomata are wide open during intense sunlight. This is most likely to increase the rate of which of the following?

1. Photosynthesis
2. Transpiration
3. Respiration
4. Water absorption

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 1, 2, and 3

(d) Only 3 and 4

Question 18

In an experiment, a student notices that cobalt chloride paper turns pink faster on the lower surface of a dicot leaf than on the upper surface. This observation is an indication of which type of transpiration being more prevalent?

1. Stomatal transpiration
2. Cuticular transpiration
3. Lenticular transpiration
4. Mesophyll transpiration

(a) Only 1

(b) Only 2

(c) Only 1 and 3

(d) Only 2 and 4

Question 19

In a desert environment, a cactus is observed to have leaves modified into spines. This adaptation most likely serves to:

1. Increase water absorption
2. Reduce transpiration
3. Enhance photosynthesis
4. Store nutrients

(a) Only 1

(b) Only 2

(c) Only 1 and 3

(d) Only 2 and 4

Question 20

During an experiment, a student finds that the rate of transpiration is low when the air is still. Which internal and external factors could be responsible for this observation?

1. High water content of the leaves
2. Closed stomata
3. Low atmospheric pressure
4. High humidity

(a) Only 1 and 2

(b) Only 3 and 4

(c) Only 2, 3, and 4

(d) Only 1, 3, and 4

6 Photosynthesis

TYPE 1

Question 1

Assertion (A): Glucose produced during photosynthesis is soon polymerised into starch.

Reason (R): Polymerisation of glucose into starch occurs because starch is less osmotically active than glucose.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 2

Assertion (A): The oxygen released during photosynthesis comes from carbon dioxide.

Reason (R): Oxygen is a by-product of the reaction where carbon dioxide is converted to glucose.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 3

Assertion (A): Only green parts of a variegated leaf can perform photosynthesis.

Reason (R): Chlorophyll, which is absent from white parts of a variegated leaf, is necessary for photosynthesis.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 4

Assertion (A): All food chains start with a producer.

Reason (R): Producers, such as green plants, synthesise their own food from inorganic substances through the process of photosynthesis.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 5

Assertion (A): Deserts plants can perform photosynthesis at night.

Reason (R): Desert plants such as cacti utilise the CAM pathway, which allows them to fix CO_2 during the night to minimise water loss.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

TYPE 2

Question 6

A group of students conducted an experiment to understand the opening and closing of stomata. They observed two leaves, one from a desert plant and another from a tropical plant, under a microscope. The desert plant's stomata were mostly closed, while the tropical plant's were open. Considering that stomata help in transpiration and gas exchange, which theory of stomata function supports this observation in relation to environmental conditions?

(a) K^+ ion concentration theory

(b) Sugar concentration theory

(c) Chlorophyll concentration theory

(d) Water potential theory

Question 7

Trisha is a young gardener who notices that her vegetables grow bigger and taste sweeter when they receive ample sunlight. Curious about the science behind this, she learns about the products of photosynthesis in school. Which product of photosynthesis is most likely contributing to the increased size and sweetness of Trisha's vegetables?

(a) Oxygen

(b) Glucose

(c) ATP

(d) NADPH

Question 8

Yug's science project involves growing plants under different colours of cellophane. He observes that plants under red cellophane have the highest oxygen output, while those under green cellophane have the least. Considering the steps of light-dependent reactions in photosynthesis, which step is most directly affected by the colour of the light?

(a) ATP formation

(b) Water photolysis

(c) NADPH formation

(d) Carbon dioxide fixation

Question 9

During a drought, a gardener notices that his plants have started to wilt and suspects that photosynthesis might be affected. Which internal factor related to water content is most likely impacting the rate of photosynthesis in her plants?

(a) Decreased translocation of food.

(b) Increased rate of respiration.

(c) Decreased closure of stomata.

(d) Decreased synthesis of chlorophyll.

Question 10

A biology teacher explains the importance of photosynthesis in the carbon cycle. A student asks why plants are considered the primary producers in many ecosystems. Based on the role of photosynthesis, what is the most accurate reason for this classification?

(a) Plants provide habitats for many organisms.

(b) Plants convert carbon dioxide into oxygen, which animals breathe.

(c) Plants convert sunlight into chemical energy, which is used to make food.

(d) Plants consume the most carbon dioxide during the day.

TYPE 3

Question 11

What factors are involved in the regulation of stomatal opening?

Statements:

A. K^+ ion concentration in guard cells affects stomatal opening.

B. Sugar concentration in guard cells has no effect on the stomatal opening.

C. Light triggers the active pumping of potassium ions into guard cells, causing the stomata to open.

D. Stomata close when the potassium ion concentration in guard cells is high.

(1) Only A and C

(2) A, C, and D

(3) B and D

(4) Only B

Question 12

What are the end-products of the light-dependent reactions in photosynthesis?

Statements:

A. ATP and NADPH are produced as a result of the light-dependent reactions.

B. Glucose is directly produced during the light-dependent phase.

C. Oxygen is released as a by-product of these reactions.

D. Carbon dioxide is consumed during the light-dependent reactions.

(1) Only A and C

(2) Only B and D

(3) A, C, and D

(4) B, C, and D

Question 13

What is demonstrated by the experiment that involves covering a leaf with black paper and then testing for starch?

Statements:

A. Sunlight is not necessary for photosynthesis.

B. The black paper blocks light and therefore starch production.

C. Chlorophyll alone is sufficient for starch production.

D. Only the parts of the leaf exposed to sunlight will produce starch.

(1) Only D

(2) B and D

(3) A and C

(4) Only A

Question 14

How do light intensity and carbon dioxide concentration affect the rate of photosynthesis?

Statements:

A. Increased light intensity always increases the rate of photosynthesis linearly.

B. There is an optimal concentration of CO_2 for the highest rate of photosynthesis.

C. Photosynthesis rate declines if the CO_2 concentration is above the optimal level.

D. Light intensity has no effect on the rate of photosynthesis once a certain threshold is reached.

(1) Only B

(2) B and C

(3) A and D

(4) Only D

Question 15

Which internal factors can affect the rate of photosynthesis in plants?

Statements:

A. Chlorophyll concentration is irrelevant to the rate of photosynthesis.

B. Dehydration of protoplasm can reduce the rate of photosynthesis.

C. Accumulation of carbohydrates enhances the rate of photosynthesis.

D. Loss of chlorophyll can cause a drop in trapping solar energy.

(1) Only B

(2) B and D

(3) A and C

(4) Only A

TYPE 4

Question 16

A student is conducting an experiment to determine which wavelength of light is most effective for photosynthesis. If she wants to test the absorption capacity of chlorophyll, which colours should she include in her light filters?

1. Blue and Green
2. Green and Red
3. Blue and Red
4. Ultraviolet and Infrared

(a) Only 1

(b) Only 2

(c) Only 3

(d) Only 4

Question 17

In a hydroponics lab, a plant's leaves are submerged in water with a controlled light source. The lab technician observes bubbles forming on the leaves. Which process is most likely occurring, and which elements are involved?

1. Cellular respiration
2. Photosynthesis
3. Transpiration
4. Chlorophyll activation

(a) Only 1 and 3

(b) Only 2 and 4

(c) Only 2, 3, and 4

(d) Only 1, 2, and 4

Question 18

A desert plant species performs photosynthesis at night using the CAM pathway. Which factors make this adaptation beneficial for the plant?

1. Reduced water loss
2. High CO_2 availability at night
3. Lower temperatures during the day
4. Increased oxygen release

(a) Only 1 and 2

(b) Only 3 and 4

(c) Only 1, 2, and 3

(d) Only 2, 3, and 4

Question 19

Considering the experiments on photosynthesis, which of the following sequences correctly describes the flow of carbon during the process?

1. CO_2 to glucose to oxygen
2. Glucose to CO_2 to oxygen

3. Oxygen to CO_2 to glucose
4. CO_2 to glucose to starch

(a) Only 1
(b) Only 2
(c) Only 3
(d) Only 4

Question 20

In an experiment to show that carbon dioxide is necessary for photosynthesis, a leaf half covered with black paper does not turn blue-black after iodine staining. What does this indicate about the components involved in photosynthesis?

1. Light is not necessary for photosynthesis
2. Carbon dioxide is not necessary for photosynthesis
3. Chlorophyll is not present in the covered part of the leaf
4. Starch is not synthesised in the absence of carbon dioxide

(a) Only 1 and 3
(b) Only 2
(c) Only 3 and 4
(d) Only 4

7 Chemical Coordination in Plants

TYPE 1

Question 1

Assertion (A): Ethylene is effective in promoting the ripening of fruits.

Reason (R): Ethylene acts by enhancing the breakdown of cell walls, which is a key process in fruit ripening.

(a) Both A and R are true, and R is the correct explanation for A
(b) Both A and R are true, but R is not the correct explanation for A
(c) A is true, but R is false
(d) A is false, but R is true.

Question 2

Assertion (A): Cytokinins inhibit apical dominance in plants.

Reason (R): Apical dominance is inhibited because cytokinins promote the growth of lateral buds.

(a) Both A and R are true, and R is the correct explanation for A
(b) Both A and R are true, but R is not the correct explanation for A
(c) A is true, but R is false
(d) A is false, but R is true.

Question 3

Assertion (A): Geotropism is the movement of plant parts in response to gravity.

Reason (R): Shoots display positive geotropism by growing towards the earth's gravitational force.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 4

Assertion (A): Thigmotropism in plants is a response to touch or mechanical stimuli.

Reason (R): Plant tendrils exhibit thigmotropism by coiling around other plants, which provides support for the climbing plant.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 5

Assertion (A): Auxins can induce fruit formation without fertilisation in some plants.

Reason (R): This process is known as parthenogenesis, which results in seedless fruits.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

TYPE 2

Question 6

A fruit vendor wants to sell ripe bananas. To hasten the ripening process, he places them in a closed space with ripe apples. After a day, he notices that the bananas have ripened significantly. Which hormone, released by the apples, has likely accelerated the ripening of the bananas?

(a) Auxins

(b) Ethylene

(c) Abscisic acid

(d) Cytokinins

Question 7

During a severe drought, a gardener notices that some plants are better at surviving with minimal water. She learns that these plants produce a hormone that helps them withstand drought conditions by closing the stomata. Which hormone enhances drought resistance in plants?

(a) Auxins

(b) Gibberellins

(c) Ethylene

(d) Abscisic acid

Question 8

While preparing for a science fair project, Raghav placed a potted plant on its side. After several days, he observed that the roots began to grow downward and the stem upward, regardless of the plant's position. This orientation of the plant in response to gravity is known as what?

(a) Positive phototropism

(b) Negative hydrotropism

(c) Positive geotropism

(d) Negative thigmotropism

Question 9

Naisha is conducting an experiment to understand how plants find water. She sets up a maze with moist soil on one end and dry soil on the other. She notices that the roots grow towards the moist soil. What is the name of the response that directs roots towards moisture?

(a) Positive phototropism

(b) Positive hydrotropism

(c) Negative geotropism

(d) Positive chemotropism

Question 10

Ava is fascinated by how pollen tubes grow within flowers. She learns that the growth of these tubes towards the ovules is guided by a specific type of plant movement. What is this movement called that is directed by chemical gradients?

(a) Phototropism

(b) Hydrotropism

(c) Chemotropism

(d) Thigmotropism

TYPE 3

Question 11

How do gibberellins influence plant growth and development?

Statements:

A. They stimulate stem elongation by promoting cell elongation.

B. Gibberellins are mainly distributed in the roots and stem apex.

C. They are used in the brewing industry to inhibit the malting process.

D. Gibberellins promote seed germination and fruit growth.

(1) Only A

(2) A and D

(3) B and C

(4) A, B, and D

Question 12

What functions does abscisic acid (ABA) perform in plants?

Statements:

A. ABA promotes stem elongation and germination.

B. It inhibits seed germination and induces dormancy.

C. ABA stimulates the closure of stomata in response to drought stress.

D. It is involved in inducing fruit ripening and floral development.

(1) Only B

(2) B and C

(3) A and D

(4) B, C, and D

Question 13

What is the correct description of phototropism and geotropism in plants?

Statements:

A. Phototropism refers to plant growth in response to light.

B. In geotropism, roots exhibit negative geotropic movement.

C. Shoots demonstrate positive phototropism by growing away from light.

D. Geotropism is a plant's growth response to moisture.

(1) A and B

(2) B and D

(3) C and D

(4) A and C

Question 14

How do auxins contribute to plant tropisms?

Statements:

A. Auxins accumulate on the side of the root facing light, promoting growth.

B. Auxins facilitate the bending of a shoot towards the light.

C. In roots, auxins inhibit growth on the side away from gravity.

D. High concentrations of auxins stimulate cell elongation on the shaded side of a shoot.

(1) Only B

(2) A and C

(3) B and D

(4) C and D

Question 15

What characterises the movement of plants in hydrotropism and thigmotropism?

Statements:

A. Hydrotropism involves growth towards areas of higher moisture.

B. In thigmotropism, plant parts grow away from the touch stimulus.

C. Roots are positively hydrotropic because they grow towards moisture.

D. Thigmotropism is a response to chemical stimuli.

(1) A and C

(2) B and D

(3) Only B

(4) C and D

TYPE 4

Question 16

A gardener notices that the sunflowers in their garden always turn to face the sun as it moves across the sky. Which phenomenon explains this movement and what is mainly responsible for it?

1. Phototropism; Auxins
2. Gravitropism; Gibberellins
3. Thigmotropism; Cytokinins
4. Hydrotropism; Ethylene

(a) Only 1

(b) Only 2

(c) Only 3

(d) Only 4

Question 17

In preparation for a science fair, a student applies a synthetic auxin to a bean plant to observe its effect on plant growth. Which two of the following outcomes are most likely to be observed due to the application?

1. Delay in leaf senescence
2. Promotion of lateral bud growth
3. Increased elongation of the stem
4. Induction of root formation in cuttings

(a) Only 1 and 3

(b) Only 2 and 4

(c) Only 3 and 4

(d) Only 1 and 4

Question 18

A tomato plant is genetically modified to lack the gene responsible for ethylene production. Considering this change, which of the following processes would be most directly affected in the plant's life cycle?

1. Root elongation
2. Seed germination
3. Fruit ripening
4. Leaf senescence

(a) Only 1 and 2

(b) Only 3 and 4

(c) Only 1, 2, and 3

(d) Only 2, 3, and 4

Question 19

A biology student observes that the roots of a plant grow downwards while the shoots grow upwards. What type of tropism is demonstrated by the roots and shoots, respectively?

1. Roots exhibit hydrotropism; shoots exhibit phototropism
2. Roots exhibit gravitropism; shoots exhibit thigmotropism
3. Roots exhibit phototropism; shoots exhibit hydrotropism
4. Roots exhibit gravitropism; shoots exhibit phototropism

(a) Only 1

(b) Only 2

(c) Only 3

(d) Only 4

Question 20

After watering a plant, the roots are observed to grow towards the source of moisture. This directional growth of roots is an example of which phenomenon?

1. Phototropism
2. Gravitropism
3. Thigmotropism
4. Hydrotropism

(a) Only 1

(b) Only 2

(c) Only 3

(d) Only 4

8 The Circulatory System

TYPE 1

Question 1

Assertion (A): In the circulatory system, arteries carry oxygenated blood away from the heart.

Reason (R): Arteries are depicted as red in colour diagrams because they are filled with oxygen-rich blood.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 2

Assertion (A): White blood cells (WBCs) are larger in size compared to red blood cells (RBCs).

Reason (R): WBCs contain a nucleus and other organelles, which require more space within the cell.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 3

Assertion (A): The heart's right ventricle has thinner walls than the left ventricle.

Reason (R): The right ventricle only needs to pump blood to the lungs which are closer than the rest of the body which the left ventricle targets.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 4

Assertion (A): Capillaries allow leukocytes to move out through their walls.

Reason (R): This is possible because capillaries have a single layer of squamous epithelial cells allowing for easy passage of cells.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 5

Assertion (A): The pulmonary artery carries oxygenated blood to the lungs.

Reason (R): Oxygenated blood is required for gas exchange in the lung alveoli.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

TYPE 2

Question 6

While volunteering at a clinic, Shanaya observed a patient with a high white blood cell count. The doctor explained that this could be a response to an infection due to a specific function of the white blood cells. Which function of white blood cells is primarily responsible for fighting infections?

(a) Producing antibodies

(b) Engulfing bacteria (Phagocytosis)

(c) Carrying oxygen

(d) Clotting blood

Question 7

Zoya is learning about the human heart in her biology class. She is told that the heart has four chambers that work together to pump blood. The atria are the chambers that receive blood. Which chamber receives oxygen-poor blood from the body?

(a) Left Atrium

(b) Right Atrium

(c) Left Ventricle

(d) Right Ventricle

Question 8

During a health check-up, Noah's doctor explains how the heart sounds are related to the cardiac cycle. The doctor says one of the heart sounds is associated with the closing of semilunar valves. Which phase of the cardiac cycle does this sound indicate?

(a) Atrial systole

(b) Ventricular systole

(c) Ventricular diastole

(d) Atrial diastole

Question 9

Sahil is learning about the body's defence mechanisms and comes across a fluid that is crucial for immune responses and is transported by a network of vessels and nodes. What is the name of this fluid that contains lymphocytes?

(a) Plasma

(b) Interstitial fluid

(c) Serum

(d) Lymph

Question 10

Kavya's grandfather is monitoring his blood pressure and observes two readings: systolic and diastolic. She understands that one of these reflects the pressure in the arteries when the heart beats. Which term refers to the blood pressure when the heart is beating?

(a) Systolic pressure

(b) Diastolic pressure

(c) Pulse pressure

(d) Central venous pressure

TYPE 3

Question 11

What properties of blood are correctly matched with their physiological significance?

Statements:

A. Bright red colour of arterial blood indicates higher oxygen content.

B. The salinity of blood contributes to its slight alkalinity with a pH between 7.3 to 7.45.

C. An adult human has 5 to 6 litres of blood which aids in the efficient transport of nutrients.

D. Blood's non-stationary nature is due to the continuous pumping action of the heart.

(1) A and C

(2) B and D

(3) A, B, and D

(4) All of the above

Question 12

Which phase of the heart cycle is depicted by the opening of the semilunar valves?

Statements:

A. Atrial diastole

B. Atrial systole

C. Ventricular diastole

D. Ventricular systole

(1) Only B

(2) Only D

(3) B and C

(4) A and D

Question 13

What is the relationship between heart rate and body size according to the data provided?

Statements:

A. Larger animals have higher heart rates.

B. Smaller bodies lose body heat more rapidly and thus have higher heart rates.

C. There is no relationship between heart rate and body size.

D. The heart rate in larger animals is slower because they have more body mass to sustain.

(1) Only A

(2) B and D

(3) Only C

(4) A and C

Question 14

Regarding the hepatic portal system, which of the following are true?

Statements:

A. The hepatic portal vein carries nutrient-rich blood from the digestive tract to the liver.

B. Blood from the hepatic portal vein is oxygen-rich.

C. This system is directly connected to the inferior vena cava.

D. The liver processes the blood from the hepatic portal vein before it enters the general circulation.

(1) Only A

(2) A and D

(3) B and C

(4) Only C

Question 15

What is the role of the lymphatic system in the circulatory system?

Statements:

A. The lymphatic system reabsorbs blood cells from the tissues.

B. Lymph vessels drain excess interstitial fluid and return it to the bloodstream.

C. Lymph nodes produce lymphocytes that are essential for immune defense.

D. The lymphatic system directly oxygenates the tissues.

(1) B and C

(2) Only D

(3) A and D

(4) Only A

TYPE 4

Question 16

During an allergic reaction, certain white blood cells are responsible for combating

the allergens. Which of the following cells are most likely to be involved?

1. Neutrophils
2. Eosinophils
3. Basophils
4. Monocytes

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 1, 2, and 4

(d) Only 1, 3, and 4

Question 17

During a blood transfusion, it is crucial to match the donor's blood type with the recipient's. Which elements determine the compatibility in the ABO blood system?

1. Antigen A
2. Antibody A
3. Rh factor
4. Antigen B

(a) Only 1 and 4

(b) Only 2 and 3

(c) Only 1, 2, and 4

(d) Only 1, 3, and 4

Question 18

An individual with a blockage in a coronary artery is likely to experience angina pectoris. What process is primarily affected by such a blockage?

1. Oxygenation of blood
2. Blood returning to the heart
3. Supply of nutrients to myocardium
4. Removal of carbon dioxide from myocardium

(a) Only 1 and 3

(b) Only 2 and 4

(c) Only 3 and 4

(d) Only 1, 3, and 4

Question 19

A biology student is learning about the hepatic portal system. Which vessels contribute to this system by delivering blood from the gastrointestinal tract to the liver?

1. Hepatic artery
2. Hepatic vein
3. Hepatic portal vein
4. Pulmonary vein

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 3

(d) Only 1, 3, and 4

Question 20

During a strenuous workout, a person's face turns red due to increased blood flow. Which type of blood vessels are primarily responsible for the change in skin colour?

1. Capillaries
2. Arteries
3. Veins
4. Venules

(a) Only 1

(b) Only 2 and 3

(c) Only 1 and 4

(d) Only 3 and 4

9 The Excretory System

TYPE 1

Question1

Assertion (A): Sweat is a means of excreting excess salts and water from the body.

Reason (R): Sweat glands filter blood plasma to produce sweat, which contains salts and water.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 2

Assertion (A): The kidneys remove waste products from the blood.

Reason (R): The primary waste products eliminated by the kidneys are nitrogenous wastes like urea and uric acid.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 3

Assertion (A): An individual suffering from kidney stones may experience haematuria.

Reason (R): Kidney stones can cause damage to the urinary tract lining, allowing blood cells to pass into the urine.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true

Question 4

Assertion (A): The presence of glucose in the urine is an abnormal condition.

Reason (R): Under normal circumstances, all glucose filtered by the glomerulus is reabsorbed in the proximal convoluted tubule.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true

Question 5

Assertion (A): In diabetes insipidus, the urine volume is abnormally high.

Reason (R): This condition is due to a deficiency of the antidiuretic hormone (ADH), which normally promotes water reabsorption in the kidneys.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true

TYPE 2

Question 6

A group of students are studying the impact of high salt intake on the body's excretory system. They predict that consuming a meal high in salt would immediately affect a certain excretory process. Which process would be affected first?

(a) The secretion of insulin.

(b) The reabsorption of water in the kidneys.

(c) The production of digestive enzymes.

(d) The elimination of carbon dioxide through respiration.

Question 7

Yuvaan, a player in your school's cricket team, drinks a lot of water during his training sessions. He understands that his body needs to balance the water intake with elimination to maintain homeostasis. After a particularly intense workout, he notices an increase in his urine output. What is the primary reason for this increase?

(a) The kidneys are filtering out excess bile pigments.

(b) There is an increase in carbon dioxide in his blood.

(c) His body is removing excess water to maintain homeostasis.

(d) The liver is detoxifying more substances post-exercise.

Question 8

Divya, an aspiring young biologist, is volunteering at a local health fair where she is explaining how the kidneys function. She uses a water filter as an analogy to demonstrate the process of urine formation. Divya explains that the first step is like the large debris being caught by a mesh, similar to how certain substances are filtered out of the blood. What is this initial step of urine formation called?

(a) Tubular secretion

(b) Glomerular filtration

(c) Reabsorption

(d) Micturition

Question 9

Khushi is a triathlete who pays close attention to her hydration levels during training. She knows that her body adjusts the concentration of urine depending on her fluid intake and the surrounding temperature. This biological process that maintains the balance of water and salts in her body is known as what?

(a) Urine excretion

(b) Glomerular filtration

(c) Osmoregulation

(d) Tubular absorption

Question 10

Myra is studying how the body responds to dehydration after a long day in the sun. She understands that a hormone plays a critical role in conserving water by affecting the urine concentration. What is the hormone that regulates water reabsorption in the kidneys and thus affects urine concentration?

(a) Antidiuretic hormone (ADH)

(b) Aldosterone

(c) Insulin

(d) Renin

TYPE 3

Question 11

Which of the following statements correctly describe the process of urine formation in the kidneys?

Statements:

A. Urine is formed through the filtration of blood, primarily in the glomerulus of the nephron.

B. The Loop of Henle is responsible for the reabsorption of water and the secretion of wastes.

C. The distal convoluted tubule is the initial part of the nephron that filters blood.

D. Urea is a by-product of protein metabolism and is filtered out of the blood by the nephron.

(1) Only A

(2) Only D

(3) A and B

(4) A and D

Question 12

How does the structure of the nephron contribute to its function in excretion?

Statements:

A. The Bowman's capsule allows for selective filtration of blood.

B. The Loop of Henle's primary function is to filter blood.

C. The proximal convoluted tubule reabsorbs nutrients back into the bloodstream.

D. The collecting duct gathers urine from many nephrons to deliver it to the ureter.

(1) A and C

(2) A, C, and D

(3) Only D

(4) B and D

Question 13

How does the body's osmoregulation contribute to maintaining homeostasis?

Statements:

A. It regulates the concentration of urine by altering water and salt balance.

B. It involves the secretion of bile pigments into the intestines.

C. It adjusts the respiratory rate to control water vapor loss.

D. It includes the reabsorption of water in the collecting ducts of the kidneys.

(1) Only A

(2) A and D

(3) B and C

(4) C and D

Question 14

What triggers the need for an artificial kidney?

Statements:

A. The formation of kidney stones that block the urinary tract.

B. The failure of both kidneys, necessitating dialysis to purify the blood.

C. The presence of glycosuria indicating excess glucose in urine.

D. The production of urine with abnormal pH levels.

(1) Only A

(2) Only B

(3) B and C

(4) A and D

Question 15

Which of the following statements correctly describe the role of different parts of the renal tubule in urine formation?

Statements:

A. The proximal convoluted tubule reabsorbs most water, sodium, and glucose.

B. The loop of Henle is primarily responsible for ultrafiltration.

C. The distal convoluted tubule reabsorbs water and sodium under the influence of ADH and aldosterone.

D. Bowman's capsule receives glomerular filtrate.

(1) Only A

(2) B and D

(3) A and C

(4) Only D

TYPE 4

Question 16

When a person is dehydrated, their body conserves water. Which part of the nephron is primarily responsible for the reabsorption of water to prevent dehydration?

1. Glomerulus
2. Proximal convoluted tubule
3. Loop of Henle
4. Distal convoluted tubule

(a) Only 3

(b) Only 2 and 3

(c) Only 1, 2, and 3

(d) Only 2, 3, and 4

Question 17

A patient is diagnosed with hyperuricemia, which is an excessive level of uric acid in the blood. Considering the excretory system, which organs are most likely involved in this condition?

1. Kidneys
2. Liver
3. Skin
4. Lungs

(a) Only 1

(b) Only 1 and 2

(c) Only 1, 2, and 3

(d) Only 2 and 3

Question 18

During a high fever, a patient's body attempts to cool down through increased sweating. What process is the body primarily using to regulate its temperature?

1. Selective absorption
2. Osmoregulation
3. Micturition
4. Tubular secretion

(a) Only 1 and 3

(b) Only 2

(c) Only 4

(d) Only 1 and 2

Question 19

If a person has been consuming a diet high in proteins, what change would most likely be observed in the properties of their urine?

1. Increased specific gravity
2. Decreased urea content
3. Alkaline pH
4. Presence of ketone bodies

(a) Only 1 and 3

(b) Only 2 and 4

(c) Only 1, 3, and 4

(d) Only 1

Question 20

A patient is diagnosed with a low concentration of urine, which may indicate a malfunction in osmoregulation. Which of the following components are primarily responsible for the concentration of urine in the kidneys?

1. Glomerulus
2. Loop of Henle
3. Bowmans Capsule
4. Distal Convoluted Tubule

(a) Only 1 and 3

(b) Only 2 and 4

(c) Only 1, 2, and 3

(d) Only 1, 3, and 4

10 The Nervous System

TYPE 1

Question 1

Assertion (A): Synapses are the point of contact between the terminal branches of the axon of one neuron and the dendrites of another.

Reason (R): At a synapse, the nerve impulse is transmitted directly through the gap without the use of chemical neurotransmitters.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 2

Assertion (A): The autonomic nervous system controls voluntary actions such as movement of skeletal muscles.

Reason (R): The autonomic nervous system includes the somatic nervous system, which conveys information to skeletal muscles.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 3

Assertion (A): Injury to the medulla oblongata can result in death.

Reason (R): The medulla oblongata controls involuntary actions like heart rate and breathing, which are vital for survival.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 4

Assertion (A): All reflexes are involuntary actions that occur without conscious thought.

Reason (R): Reflex actions such as withdrawing a hand from a hot object are not under the control of will but are instead controlled by the spinal cord reflexes.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 5

Assertion (A): A reflex action is slower than a voluntary action because it involves more neural pathways.

Reason (R): Reflex actions involve an intermediate or connecting neuron which slows down the response.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

TYPE 2

Question 6

After a long day of typing, Daksh noticed a tingling sensation in his fingertips, which became more pronounced when he touched cold objects. Curious about this sensation, Daksh researched and discovered that it's related to the transmission of nerve impulses in certain types of cells in the nervous system. What is the part of the neuron that is primarily responsible for transmitting the nerve impulse away from the cell body?

(a) Dendrites

(b) Axon

(c) Cell body (Soma)

(d) Myelin Sheath

Question 7

Just before a class presentation, Eeshan's heart rate increased and he started to sweat excessively. Which division of the autonomic nervous system was activated to cause these responses?

(a) Sympathetic nervous system

(b) Parasympathetic nervous system

(c) Somatic nervous system

(d) Central nervous system

Question 8

After attending a party where he consumed several glasses of wine, Mr. Thakur noticed that his balance was impaired and he had difficulty coordinating his movements when trying to walk. Considering the functions of the nervous system, which part of his brain was most likely affected by the alcohol leading to this loss of coordination?

(a) Cerebrum

(b) Medulla oblongata

(c) Cerebellum

(d) Hypothalamus

Question 9

While walking home from school, Nitya suddenly steps on a sharp object. She instantly pulls her foot away before even realising what she stepped on. This quick response is an example of a type of reflex. What kind of reflex is demonstrated by Nitya's immediate reaction?

(a) Voluntary reflex

(b) Conditioned reflex

(c) Inborn reflex

(d) Somatic reflex

Question 10

Pratham accidentally touches a hot stove and immediately withdraws his hand. The pathway this impulse took bypassed the brain, involving neurons at different levels of the spinal cord. This type of pathway is best described as what?

(a) Reflex arc

(b) Voluntary motor pathway

(c) Sensory pathway

(d) Cognitive response pathway

TYPE 3

Question 11

Which statements accurately describe the characteristics and functions of neurons?

Statements:

A. The axon is the part of the neuron that conducts electrical impulses away from the cell body.

B. Sensory neurons transmit impulses from the central nervous system to the receptors.

C. Synapses are junctions where neurotransmitters are released to stimulate the next neuron.

D. The myelin sheath increases the speed of impulse conduction along the axon.

(1) Only A

(2) Only C

(3) A and C

(4) B and D

Question 12

Which of the following statements accurately describe the functions of the cerebellum and medulla oblongata in the human brain?

Statements:

A. The cerebellum is responsible for coordinating muscular activity and maintaining balance of the body.

B. The medulla oblongata is the seat of intelligence and consciousness.

C. Injury to the medulla oblongata generally results in death.

D. The cerebellum is located at the base of the skull and controls involuntary actions such as heartbeat and breathing.

(1) A and C

(2) B and D

(3) Only A

(4) Only D

Question 13

What are the roles of the sensory and motor neurons in the reflex arc?

Statements:

A. Sensory neurons carry impulses from receptors to the central nervous system.

B. Motor neurons carry impulses from the central nervous system to effectors.

C. Sensory neurons directly stimulate the effectors without central processing.

D. Motor neurons initiate the sensory input from the receptors.

(1) Only A

(2) A and B

(3) C and D

(4) B and C

Question 14

How does the autonomic nervous system influence involuntary actions?

Statements:

A. It can trigger actions such as a change in pupil size in response to light.

B. It is solely responsible for voluntary movements like walking.

C. It operates independently of the emotional state of the individual.

D. It can mediate responses to internal stimuli, such as changes in blood pressure.

(1) Only D

(2) A and D

(3) B and C

(4) C and D

Question 15

What is the role of the corpus callosum in the brain?

Statements:

A. It is a sheet of fibres connecting the two cerebral hemispheres, allowing the transfer of motor information.

B. It controls the voluntary actions of the body.

C. It regulates the body temperature and pituitary gland.

D. It is involved in reflex actions involving the eyes and ears.

(1) Only A

(2) B and C

(3) A and D

(4) C and D

TYPE 4

Question 16

During an intense workout, a bodybuilder feels his heart rate increase and his breathing rate accelerate. Which parts of the nervous system are primarily responsible for these involuntary adjustments?

1. Somatic Nervous System (SNS)

2. Autonomic Nervous System (ANS)
3. Central Nervous System (CNS)
4. Peripheral Nervous System (PNS)

(a) Only 1 and 3
(b) Only 2 and 4
(c) Only 1, 2, and 4
(d) Only 2 and 3

Question 17

If a person steps on a sharp object, the pain signal travels to the CNS. Which structures ensure the one-way direction of this impulse towards the central nervous system?

1. Synaptic cleft
2. Dendrites
3. Axon Terminals
4. Nodes of Ranvier

(a) Only 1 and 2
(b) Only 1, 3, and 4
(c) Only 2, 3, and 4
(d) Only 1 and 4

Question 18

A student suddenly stands up after sitting for a long class and feels dizzy. Which components of the nervous system are likely working together to quickly adjust the body's blood pressure?

1. Sympathetic nervous system
2. Parasympathetic nervous system
3. Medulla oblongata
4. Cerebellum

(a) Only 1 and 3
(b) Only 2 and 4
(c) Only 1, 2, and 3
(d) Only 1, 3, and 4

Question 19

After eating a heavy meal, a person's digestive system is active, and their heart rate is moderate. Which parts of the nervous system are regulating these rest-and-digest functions?

1. Sympathetic nervous system
2. Parasympathetic nervous system
3. Spinal nerves
4. Cranial nerves

(a) Only 1 and 3
(b) Only 2 and 4
(c) Only 1, 3, and 4
(d) Only 2, 3, and 4

Question 20

When a student sees their teacher entering the classroom, they automatically stand up. Which type of reflex is demonstrated in this scenario?

1. Inborn reflex
2. Conditioned reflex
3. Voluntary action
4. Spinal reflex

(a) Only 1
(b) Only 2
(c) Only 3
(d) Only 4

11 Sense Organs

TYPE 1

Question 1

Assertion (A): Rods in the retina are responsible for colour vision.

Reason (R): Rods contain a pigment called rhodopsin, which is sensitive to different wavelengths of light that convey colour information.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 2

Assertion (A): Tears can help in killing germs that enter the eye.

Reason (R): Tears contain the enzyme lysozyme, which has antibacterial properties.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 3

Assertion (A): Astigmatism is caused by an irregular curvature of the cornea or lens.

Reason (R): This defect leads to multiple focus points either in front of or behind the retina, causing blurred vision.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true

Question 4

Assertion (A): The semi-circular canals in the inner ear are arranged at right angles to each other.

Reason (R): This arrangement allows the semi-circular canals to detect motion and balance in three-dimensional space.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 5

Assertion (A): The Eustachian tube helps in maintaining balance in the human body.

Reason (R): The Eustachian tube connects the middle ear to the throat and equalises air pressure to prevent imbalance.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

TYPE 2

Question 6

Kaushal, a photographer, notices that his vision becomes blurry when switching from photographing distant landscapes to reading text on his camera screen. He recalls learning that a certain process in the eye is responsible for this ability to focus on objects at different distances. What is the name of this process?

(a) Accommodation

(b) Refraction

(c) Phototransduction

(d) Vasoconstriction

Question 7

During a windy day at the park, Vishakha's eyes began to water excessively to remove the dust and debris carried by the wind. Which function of the lacrimal apparatus is primarily responsible for this response?

(a) Lubricating the eyeball

(b) Providing nutrients to the cornea

(c) Washing away foreign particles

(d) Protecting against infection

Question 8

Sameeksha has difficulty distinguishing between red and green colours. Her condition was identified during a colour vision test using coloured dot patterns. This condition is more common in males and is due to a mutation in which type of cell in the retina?

(a) Rod cells

(b) Cone cells

(c) Ganglion cells

(d) Bipolar cells

Question 9

While camping, Brij noticed that it took some time for him to see clearly after moving from the bright sunlight into his dark tent. This adaptation of his eyes to low light is primarily due to changes in which part of the eye?

(a) The lens becoming more convex

(b) The dilation of the pupil

(c) The regeneration of the visual purple

(d) The shortening of the eyeball

Question 10

Mrs. Ganguly recently got prescription glasses for reading. She learned that the ability of her eyes to focus on close objects depends on a specific process involving the lens. What is this process called, and what part of the eye changes to aid in focusing?

(a) Accommodation and the lens becomes more spherical

(b) Refraction and the iris constricts

(c) Photoreception and the retina adjusts

(d) Pupillary response and the pupil dilates

TYPE 3

Question 11

How do tears contribute to eye function?

Statements:

A. Tears contain lysozyme which has antiseptic properties.

B. Tears are solely for emotional expression and do not contribute to eye health.

C. Tear ducts drain tears into the nasal cavity.

D. Tears spread the liquid which serves as a lubricant for the eye.

(1) A and D

(2) B and C

(3) Only A

(4) C and D

Question 12

What are the functions of the aqueous and vitreous chambers in the eye?

Statements:

A. The aqueous chamber refracts light.

B. The vitreous chamber is filled with a clear watery liquid.

C. The aqueous humour helps in maintaining the shape of the eyeball.

D. The vitreous humour serves no functional purpose and is merely for structural support.

(1) A and C

(2) B and D

(3) Only A

(4) C and D

Question 13

How does the eye adapt when moving from a brightly lit area to a dark room?

Statements:

A. The rods in the retina regenerate the visual purple, increasing sensitivity to light.

B. The pupil dilates to allow more light to enter the eye.

C. The ciliary muscles contract to adjust the lens for near vision.

D. The cones in the retina increase in sensitivity more than the rods.

(1) A and B

(2) B and C

(3) C and D

(4) Only D

Question 14

Which statements accurately describe the defects and corrections of the eye?

Statements:

A. Myopia is corrected with a concave lens.

B. Hyperopia is a result of the eyeball being too long.

C. Astigmatism is corrected with cylindrical lenses.

D. Presbyopia is corrected with a diverging lens.

(1) A and C

(2) B and D

(3) Only C

(4) A, B, and C

Question 15

How do the following structures function in the process of hearing?

Statements:

A. The pinna collects sound waves and funnels them to the auditory canal.

B. The auditory nerve transmits balance information to the brain.

C. The oval window is responsible for converting sound waves into electrical signals.

D. The basilar membrane vibrates in response to fluid movement in the cochlear canals.

(1) A and D

(2) Only B

(3) B and C

(4) C and A

TYPE 4

Question 16

A biology teacher is explaining how different cells in the retina respond to light. Which of the following are the cells that allow us to see colours?

A. Rods

B. Cones

C. Ganglion cells

D. Bipolar cells

(1) Only A

(2) Only B

(3) Only A and C

(4) Only C and D

Question 17

During an eye examination, the optometrist explains the importance of the transparent layer that refracts light to focus it on the retina. Which of the following components is being described?

A. Vitreous humour

B. Cornea

C. Aqueous humour

D. Lens

(1) Only A and C

(2) Only B and D

(3) Only B and C

(4) Only D

Question 18

A person with vitamin A deficiency is likely to have difficulty seeing in dim light. Which part of the eye is directly affected by this deficiency, leading to night blindness?

A. Lens

B. Rod cells

C. Iris

D. Pupil

(1) Only B

(2) Only 1 and C

(3) Only C and D

(4) Only A, C, and D

Question 19

During an eye examination, the doctor uses drops to dilate a patient's pupils. This assists the doctor in inspecting the internal structures of the eye. What biological response is being inhibited by these drops?

A. Contraction of radial muscles

B. Relaxation of circular muscles

C. Contraction of circular muscles

D. Dilation of the pupil

(1) Only A and B

(2) Only C and D

(3) Only B and C

(4) Only A and D

Question 20

What is the sequence of events that leads to sound perception in the human ear?

A. Vibration of the stapes at the oval window generates waves in the cochlear fluid.

B. The eustachian tube vibrates to equalise air pressure.

C. Hair cells in the organ of Corti convert fluid waves into electrical signals.

D. The auditory nerve carries signals from the cochlea directly to the auditory cortex.

(1) A and C

(2) B and D

(3) A, C, and D

(4) All of the above

12 The Endocrine System

TYPE 1

Question 1

Assertion (A): Hormones can affect specific chemical changes and regulate metabolism.

Reason (R): Hormones like insulin and glucagon play a crucial role in regulating blood glucose levels.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 2

Assertion (A): Cortisol is a hormone that can suppress the immune system.

Reason (R): Cortisol is a glucocorticoid that increases blood glucose concentration and has anti-inflammatory effects.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 3

Assertion (A): The enlargement of the thyroid gland is referred to as goitre.

Reason (R): Goitre is exclusively caused by the overproduction of thyroid hormones.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 4

Assertion (A): Thyroid-stimulating hormone (TSH) is secreted by the anterior pituitary gland.

Reason (R): TSH stimulates the thyroid gland to produce and release thyroxine, which regulates metabolism.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 5

Assertion (A): Acromegaly is a condition caused by the overproduction of growth hormone (GH) in adults.

Reason (R): Overproduction of GH in adults enlarges bones and tissues since the growth plates have already closed.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

TYPE 2

Question 6

Parth is studying the difference between how the body reacts to immediate danger versus how it handles long-term stress. He understands that one system reacts quickly to stimuli, while the other has a more prolonged effect. What is the main difference in the response between the nervous system and the endocrine system?

(a) The nervous system reacts slowly and the endocrine system reacts rapidly.

(b) The nervous system affects a wide range of organs while the endocrine system targets specific organs.

(c) The nervous system response is immediate/rapid while the endocrine system is usually slower.

(d) The nervous system response is long-lasting, while the endocrine system's effects are short-lived.

Question 7

Raj lives in a coastal area where iodine deficiency is common due to the lack of iodine in the soil. As a result, many people in his community suffer from thyroid-related disorders. Raj knows that iodine is essential for the production of certain hormones in the thyroid gland. What hormone is directly affected by iodine deficiency?

(a) Calcitonin

(b) Adrenaline

(c) Thyroxine

(d) Insulin

Question 8

Abbas, a middle-aged man, has been experiencing weight loss, increased heart rate, and anxiety. After a series of tests, his doctor concludes that his thyroid gland is overactive. Which condition is Abbas most likely suffering from, given these symptoms?

(a) Hypothyroidism

(b) Exophthalmic goitre

(c) Simple goitre

(d) Myxoedema

Question 9

During a biology class, Ms. Shah describes a hormone that stimulates the adrenal cortex and is essential for the stress response. One of her students, Sakshi, remembers that this hormone is part of the hypothalamic-pituitary-adrenal axis. What is the name of the hormone that Ms. Shah is referring to?

(a) Adrenocorticotropic hormone (ACTH)

(b) Thyroid-stimulating hormone (TSH)

(c) Luteinizing hormone (LH)

(d) Prolactin

Question 10

Abineet is studying for his endocrinology exam and focuses on the actions of hormones secreted by the pancreas. He knows that one of these hormones is vital for lowering blood sugar levels after a meal. Which hormone is primarily responsible for reducing blood glucose levels?

(a) Insulin

(b) Glucagon

(c) Adrenaline

(d) Somatostatin

TYPE 3

Question 11

Based on the information provided about adrenal glands, which set of statements is correct?

Statements:

A. The adrenal cortex secretes adrenaline.

B. Adrenaline increases blood pressure and heart rate.

C. Adrenaline is secreted by the thyroid gland.

D. Cortisone is secreted by the adrenal medulla.

(1) Only A

(2) B and C

(3) Only B

(4) A and D

Question 12

Which statements accurately reflect the disorders associated with pituitary gland malfunction?

Statements:

A. Dwarfism results from the over-secretion of growth hormone in childhood.

B. Acromegaly is a result of under-secretion of growth hormone in adults.

C. Gigantism occurs due to the over-secretion of growth hormone in adults.

D. The pituitary gland is referred to as the master gland because it controls other endocrine glands.

(1) Only D

(2) A and C

(3) B and D

(4) Only A

Question 13

How do the hormones from the adrenal cortex and medulla differ in their principal actions?

Statements:

A. Mineral corticosteroids regulate carbohydrate metabolism.

B. Glucocorticoids regulate plasma sodium and potassium concentrations.

C. Adrenaline causes stimulation of sympathetic nervous system.

D. Sex hormones from adrenal cortex are involved in the stimulation of the uterus.

(1) Only B

(2) B and C

(3) A and D

(4) C and D

Question 14

Which combination of statements accurately reflects the functions of hormones secreted by the posterior pituitary gland?

Statements:

A. Antidiuretic hormone (ADH) is involved in the regulation of water reabsorption from the kidney tubules.

B. Oxytocin stimulates contractions of the uterus during childbirth and milk ejection.

C. ADH causes the kidneys to decrease water absorption, leading to dehydration.

D. Oxytocin decreases the reabsorption of water from the kidney tubules.

(1) A and B

(2) B and C

(3) A and D

(4) C and D

Question 15

Which of the following correctly describes the functions and consequences of hormonal imbalances in the pancreas?

Statements:

A. Under-secretion of insulin can lead to hyperglycaemia and diabetes.

B. Over-secretion of insulin may result in hypoglycaemia and potentially coma.

C. Insulin converts glucose directly into glycogen.

D. Glucagon lowers blood sugar levels by converting glycogen into glucose.

(1) Only A and B

(2) Only C and D

(3) A, B, and D

(4) All of the above

TYPE 4

Question 16

After a meal rich in carbohydrates, the body needs to manage the sudden increase in blood glucose levels. Which combination of hormones and processes are involved in the regulation of this postprandial glucose spike?

1. Insulin
2. Glucagon
3. Glycogenolysis
4. Gluconeogenesis

(a) Only 1 and 3

(b) Only 2 and 4

(c) Only 1, 2, and 3

(d) Only 1, 2, and 4

Question 17

A patient is diagnosed with hyperglycaemia and is found to have an insulin deficiency. Which of the following components are primarily involved in this condition?

1. Beta cells of the pancreas
2. Alpha cells of the pancreas

3. Glucagon
4. Glycogen

(a) Only 1 and 3
(b) Only 1 and 4
(c) Only 2 and 3
(d) Only 1, 3, and 4

Question 18

An endocrinologist explains to a medical student that the balance between insulin and glucagon is crucial for maintaining blood glucose levels. If a patient has an excessive secretion of glucagon, what condition might this lead to?

1. Hypoglycaemia
2. Hyperglycaemia
3. Diabetes mellitus
4. Insulin shock

(a) Only 1
(b) Only 2 and 3
(c) Only 1 and 4
(d) Only 3 and 4

Question 19

A patient diagnosed with Addison's disease is likely to have a deficiency in which hormones that are involved in regulating metabolism and immune response?

1. Mineral corticosteroids
2. Glucocorticoids
3. Adrenaline
4. Thyroxine

(a) Only 1 and 2
(b) Only 2 and 3
(c) Only 3 and 4
(d) Only 1, 2, and 4

Question 20

An endocrinologist is studying a case where a patient has an unusually high reabsorption of water from the kidney tubules. Which hormone is likely to be present in higher than normal levels in this patient?

1. Antidiuretic hormone (ADH)
2. Oxytocin
3. Growth hormone (GH)
4. Prolactin

(a) Only 1
(b) Only 1 and 2
(c) Only 2 and 3
(d) Only 4

13 The Reproductive System

TYPE 1

Question 1

Assertion (A): Spermatogenesis occurs at a lower temperature than the normal body temperature.

Reason (R): The scrotum, containing the testes, is located outside the body to provide a temperature that is 2 to 3°C lower than the body's core temperature, which is essential for sperm production.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 2

Assertion (A): The uterus is the site of implantation of the fertilised egg.

Reason (R): The muscular walls of the uterus contract to facilitate the implantation of the embryo.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 3

Assertion (A): The uterus has a thick lining of blood vessels and tissues.

Reason (R): The lining is necessary to receive and nourish the fertilised ovum, allowing it to develop into a foetus.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true

Question 4

Assertion (A): Fraternal twins result from the fertilisation of two different eggs.

Reason (R): Fraternal twins are genetically identical since they come from the same fertilisation event.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 5

Assertion (A): The umbilical cord can be seen attached to a new-born immediately after birth.

Reason (R): The umbilical cord is cut after the baby is delivered, not before.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

TYPE 2

Question 6

Ria is observing a population of bacteria and notes their rapid multiplication. She compares this to the slower process of reproduction in elephants. What is the main difference in the reproductive strategies of these two organisms?

(a) Bacteria use sexual reproduction, which is quicker, while elephants use a slower asexual method.

(b) Both bacteria and elephants reproduce sexually, but elephants have a longer gestation period.

(c) Bacteria reproduce asexually allowing for rapid population growth, whereas elephants reproduce sexually.

(d) Elephants utilise asexual reproduction for genetic variation, while bacteria reproduce sexually for the same reason.

Question 7

During a biology class, Debesh learns about the different components of the male reproductive system. He wonders about the role of accessory glands. Which of the following best describes the function of these glands?

(a) They produce sperm cells.

(b) They regulate the temperature of the testes.

(c) They provide nutrients to developing sperm.

(d) They secrete fluids that nourish and transport sperm.

Question 8

Bidya, a class 10 student, is learning about the menstrual cycle in her biology class. She understands that it's a monthly cycle that prepares the female body for future pregnancy. Curious about the hormones involved, she asks which hormone is primarily responsible for the thickening of the endometrium during the menstrual cycle?

(a) Oestrogen

(b) Progesterone

(c) Follicle-stimulating hormone (FSH)

(d) Luteinizing hormone (LH)

Question 9

Mrs. Arora is a first-time mother about to give birth. She learned in her school that the process of childbirth involves several stages. When her water breaks, which stage of labour is commencing, and what does the 'water' consist of?

(a) Cervical dilation, consisting of amniotic fluid.

(b) Expulsion, consisting of placental tissue.

(c) Placental stage, consisting of umbilical cord blood.

(d) Engagement, consisting of cervical mucus.

Question 10

As a biology teacher, Ms. Kakkar wants to explain to her class how the placenta functions as a selective barrier during pregnancy. She describes a scenario where a pregnant woman is exposed to a viral infection. To illustrate the role of the placenta, she asks the class which substance from the mother is least likely to pass through the placenta to the foetus in this situation?

(a) Oxygen

(b) Glucose

(c) Alcohol

(d) Antibodies

TYPE 3

Question 11

Which statement combination correctly explains the role of the following structures in the human male reproductive system?

Statements:

A. The vas deferens transports sperm from the testes to the ejaculatory duct.

B. Seminal vesicles produce a secretion that neutralises acid in the female's vagina.

C. The prostate gland provides a medium for sperm transportation.

D. Bulbo-urethral glands are responsible for the production of sperm.

(1) A and C

(2) B and D

(3) A and B

(4) C and D

Question 12

Which combination of statements is true about the role of the female reproductive system's structures?

Statements:

A. The ovaries release the ovum during the process of ovulation.

B. The Fallopian tubes carry sperm from the cervix to the egg.

C. The uterus is the site of fertilisation for the egg.

D. The vagina serves as the birth canal and the site for depositing sperm.

(1) A and D

(2) B and C

(3) A and B

(4) C and D

Question 13

Regarding fertilisation and early pregnancy, which of the following are true?

Statements:

A. The sperm penetrates the oocyte at the zona pellucida to achieve fertilisation.

B. Implantation occurs in the fallopian tube shortly after fertilisation.

C. The fertilised egg is known as a zygote before it begins cleavage.

D. The corpus luteum regresses immediately after fertilisation.

(1) A and C

(2) B and D

(3) Only C

(4) A, B, and D

Question 14

Which set of statements correctly compares fraternal and identical twins?

Statements:

A. Fraternal twins are produced from two different eggs fertilised by two different sperms.

B. Identical twins always have the same gender.

C. Fraternal twins can be as genetically similar as regular siblings.

D. Identical twins are always very similar in appearance and genetics due to coming from the same zygote.

(1) A and C

(2) B and D

(3) Only D

(4) A, C, and D

Question 15

Which statements are true regarding the exchange of materials through the placenta?

Statements:

A. The placenta is impermeable to glucose, so it does not reach the foetus.

B. Antibodies can be passed from the mother to the foetus via the placenta.

C. Carbon dioxide produced by the foetus can be eliminated through the placenta.

D. Alcohol can pass through the placenta from the mother to the foetus.

(1) B and C

(2) A and D

(3) Only B

(4) B, C, and D

TYPE 4

Question 16

A lecture on human reproduction includes a comparison between asexual and sexual reproduction. Which of the following are characteristics exclusive to sexual reproduction?

1. Involvement of two parents
2. Genetic mixing
3. No gametes formed
4. Identical offspring to the parents

(a) Only 1 and 2

(b) Only 3 and 4

(c) Only 1, 2, and 4

(d) Only 2, 3, and 4

Question 17

A young woman experiences her menstrual cycle, which is currently in the follicular phase. What biological processes and components are primarily active during this phase?

1. Thickening of the endometrium
2. Rupturing of the Graafian follicle
3. Release of luteinizing hormone (LH)
4. Formation of corpus luteum

(a) Only 1 and 3

(b) Only 2 and 4

(c) Only 1, 2, and 3

(d) Only 2, 3, and 4

Question 18

A female is diagnosed with a blockage in one of her fallopian tubes. Considering this condition, what implications does it have on her reproductive process?

1. Ovulation will not occur
2. Menstrual cycle will stop
3. Fertilisation may be impeded
4. Endometrial cycle will be affected

(a) Only 1 and 2

(b) Only 3

(c) Only 1, 3, and 4

(d) Only 2, 3, and 4

Question 19

A pregnant woman in her 8th week of gestation is undergoing an ultrasound. The doctor points out the placenta and its connection to the foetus. Which of the following functions does the placenta not perform?

1. Production of oestrogen and progesterone
2. Permitting diffusion of nutrients from the mother to the foetus
3. Acting as a protective barrier against all types of viruses

4. Exchanging oxygen and carbon dioxide between the mother and the foetus

(a) Only 1

(b) Only 3

(c) Only 1 and 4

(d) Only 2 and 4

Question 20

An expectant mother is told that her baby is to be delivered through parturition. What does this process involve?

1. The umbilical cord detaches first
2. The amniotic sac ruptures to release fluid
3. The baby is delivered through the abdominal wall
4. The placenta is expelled after the baby

(a) Only 1 and 3

(b) Only 2 and 4

(c) Only 4

(d) Only 1, 2, and 3

14 Human Evolution

TYPE 1

Question 1

Assertion (A): Vestigial organs are remnants of organs that were once useful in an organism's ancestors.

Reason (R): The vermiform appendix is considered a vestigial organ because it no longer serves a significant purpose in human digestion.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 2

Assertion (A): Industrial melanism in the peppered moth is an example of evolution in response to environmental change.

Reason (R): After the industrial revolution, the dark-coloured peppered moths were more visible to predators against the soot-covered trees, leading to their decline.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 3

Assertion (A): Cro-Magnon humans are anatomically similar to modern humans.

Reason (R): Cro-Magnon humans represent a stage in human evolution that directly precedes modern Homo sapiens.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 4

Assertion (A): Australopithecus species had smaller brain sizes compared to modern humans.

Reason (R): The diet of Australopithecus species consisted mainly of hard-to-process vegetation, which did not require advanced cognitive abilities to obtain.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 5

Assertion (A): Homo habilis is considered to have used tools.

Reason (R): The use of tools is directly correlated with the increase in cranial capacity observed in Homo habilis.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

TYPE 2

Question 6

Arnab learned in biology class that humans have organs which no longer serve a significant purpose. Intrigued, he observed his wisdom teeth were causing discomfort and required removal. What are such non-functional or less-functional organs in humans termed as?

(a) Adaptive organs

(b) Vestigial organs

(c) Inherited organs

(d) Functional organs

Question 7

In a forest affected by pollution, moths that were darker in colour started to outnumber the lighter-coloured moths because they were less visible to predators. What is this phenomenon an example of

(a) Natural selection

(b) Industrial melanism

(c) Artificial selection

(d) Camouflage adaptation

Question 8

Praniti, a Class 10 student, is researching the effects of environmental changes on human evolution. She hypothesises that climate played a significant role in shaping the physical characteristics of early humans. Which of the following environmental changes, did NOT contribute to the evolution of early humans?

(a) The dwindling of forests due to glaciation.

(b) The development of farming and settled communities.

(c) A steady increase in global temperatures.

(d) The increase in predatory threats from other species.

Question 9

In an isolated island, a population of birds has developed unique beak shapes to consume different kinds of food. This has led to the rise of new species over time. What is this process of forming new species known as?

(a) Adaptation

(b) Evolution

(c) Speciation

(d) Selection

Question 10

As a museum curator, Shaheen is setting up an exhibit on human evolution. She aims to highlight the significant changes in skull and brain size over time. When arranging the skulls from Australopithecus to Homo sapiens, Shaheen notices a trend in cranial capacity changes that reflects the evolution of cognitive abilities. What trend should Shaheen emphasise in the exhibit?

(a) Decrease in cranial capacity, indicating a regression in cognitive abilities.

(b) Fluctuation in cranial capacity, showing no clear trend over time.

(c) Gradual increase in cranial capacity, suggesting an enhancement in cognitive abilities.

(d) Initial increase followed by a sharp decrease in cranial capacity, indicating a complex evolutionary pathway.

TYPE 3

Question 11

According to the information provided, which statement is true about Darwin's contribution to the theory of evolution?

Statements:

A. Darwin could explain the sources of variations in organisms.

B. Darwin's original theory was modified with the advent of modern genetics, creating Neo-Darwinism.

C. Darwin proposed that variations are passed on to the next generation through use and disuse of organs.

D. Darwin's theories included the idea that evolution happens due to an organism's conscious efforts.

(1) Only B

(2) A and C

(3) C and D

(4) B and C

Question 12

What does the concept of "vestigial organs" support in the context of evolution?

Statements:

A. Vestigial organs are fully functional in all forms of life.

B. The presence of vestigial organs in humans suggests a shared ancestry with other species.

C. Vestigial organs provide evidence against the theory of evolution.

D. The vermiform appendix in humans is an example of a vestigial organ.

(1) B and D

(2) A and C

(3) Only A

(4) Only C

Question 13

Which statement combination accurately describes the evolutionary changes from

Australopithecus to modern Homo sapiens?

Statements:

A. Reduction in body hair was a consistent change throughout the evolutionary stages.

B. Development of a chin occurred during the transition from Homo habilis to Homo erectus.

C. The increase in cranial capacity was a significant evolutionary trend.

D. There was a continuous increase in body size from Australopithecus to modern man.

(1) Only A

(2) A and C

(3) C and D

(4) A, C, and D

Question 14

According to the information given, which of the following statements correctly reflect the characteristics of Cro-Magnon man?

Statements:

A. Cro-Magnon man's tools were more advanced than those of Homo erectus.

B. Cro-Magnon man had a cranial capacity less than that of Neanderthal man.

C. Cro-Magnon man was known for cave-dwelling and had a less hairy body.

D. Cro-Magnon man developed agriculture and domesticated animals.

(1) A and C

(2) Only D

(3) A, B, and C

(4) B, C, and D

Question 15

How does industrial melanism support the theory of natural selection?

Statements:

A. It demonstrates that organisms can inherit acquired characteristics.

B. It illustrates that environmental changes can lead to increased survival of certain traits within a population.

C. It shows that all variations within a species are equally likely to survive.

D. The phenomenon provides evidence that darker moths had a survival advantage in polluted environments.

(1) Only A

(2) B and D

(3) Only C

(4) A and C

TYPE 4

Question 16

Giraffes are known for their long necks, which according to a certain evolutionary theory, developed from ancestors stretching their necks to reach higher foliage. What does this theory propose as the mechanism of inheriting such traits?

1. Use and disuse
2. Inheritance of acquired characteristics
3. Survival of the fittest
4. Variation due to mutation

(a) Only 1 and 2

(b) Only 2 and 3

(c) Only 3 and 4

(d) Only 4

Question 17

A biologist studying the remains of ancient organisms hypothesizes that certain body structures have become less pronounced over time due to lack of use. This hypothesis aligns with which evolutionary concept?

1. Darwin's theory of evolution
2. Lamarck's theory of inheritance of acquired characters
3. Theory of Natural Selection
4. Vestigial structures

(a) Only 2

(b) Only 1 and 3

(c) Only 2 and 4

(d) Only 4

Question 18

An anthropology student is studying the evolutionary changes that led to modern humans. Which of the following changes are associated with the transition from Australopithecus to Homo sapiens?

1. Decrease in cranial capacity
2. Development of a prominent chin
3. Reduction in the size of canines
4. Adoption of agriculture and domestication

(a) Only 2 and 3

(b) Only 1, 2, and 4

(c) Only 2, 3, and 4

(d) Only 1, 3, and 4

Question 19

During a discussion on human evolution, a student asks about the significance of Homo erectus in the evolutionary timeline. Which of the following were key developments in Homo erectus?

1. Usage of fire and tools
2. Development of agriculture
3. Bipedal locomotion
4. Reduction of body hair

(a) Only 1 and 3

(b) Only 2 and 4

(c) Only 1, 3, and 4

(d) All of the above

Question 20

A student is comparing the tool use among early human species. Which species are correctly matched with the tools they used?

1. Australopithecus and scrapers
2. Homo habilis and hand-axes
3. Cro-Magnon and blades and spears
4. Neanderthal and microliths

(a) Only 2 and 3

(b) Only 1, 2, and 4

(c) Only 3 and 4

(d) Only 1, 3, and 4

15 Population– The Increasing Numbers and Rising Problems

TYPE 1

Question 1

Assertion (A): The invention of antibiotics and vaccines led to a decrease in mortality rates.

Reason (R): These medical advancements helped in controlling infectious diseases that were once leading causes of death.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 2

Assertion (A): The global population growth rate is projected to decline by the year 2100.

Reason (R): Improved educational and employment opportunities worldwide are expected to lead to a decrease in birth rates.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 3

Assertion (A): The Green Revolution contributed to the rapid rise in the world's population.

Reason (R): The Green Revolution led to the creation of high-yielding varieties of crops, which caused food shortages.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 4

Assertion (A): The birth rate is declining worldwide.

Reason (R): Improvements in healthcare lead to longer life expectancies, which reduce the need for larger families.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 5

Assertion (A): Deforestation contributes to climate change.

Reason (R): The reduction of forests leads to an increase in levels of CO_2 in the

atmosphere because trees absorb CO_2 during photosynthesis.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

TYPE 2

Question 6

In a developing country, health officials have observed a decline in nutritional diseases and a simultaneous increase in population. What medical advancement most likely contributed to this population growth?

(a) Introduction of prophylactic vaccinations

(b) Development of new surgical techniques

(c) Improvements in water sanitation

(d) Enhanced public health campaigns

Question 7

A historian is studying the impact of the agricultural revolution on human population growth. What change during the agricultural revolution significantly contributed to the increase in population?

(a) The domestication of animals

(b) The development of metal tools

(c) The decrease in infectious diseases

(d) The establishment of trade routes

Question 8

A forestry manager, Mrs. Srinivas, notices a significant decline in local wildlife populations. Upon investigation, she finds that a large area of forest has been cleared for agriculture, leading to habitat loss. Which biological phenomenon is most directly responsible for the decline in wildlife populations?

(a) Natural selection

(b) Habitat fragmentation

(c) Speciation

(d) Genetic drift

Question 9

An engineer, Palash, is designing a new sustainable housing development. He aims to reduce the carbon footprint by incorporating energy sources. Based on the emphasis on non-conventional energy sources, which of the following would be most appropriate for Palash to include?

(a) Coal-fired power plants

(b) Nuclear energy reactors

(c) Solar panel installations

(d) Natural gas heating systems

Question 10

In a developing country, a policy maker, Mrs. Arora, is working on a new family planning campaign. Her goal is to educate the public on the importance of family planning in relation to resource allocation. Based on the biological concepts of population growth and resource consumption, what message should Mrs. Arora emphasise to effectively convey the benefits of family planning?

(a) Increasing the number of children to boost the workforce

(b) Planning smaller families to ensure better resource distribution

(c) Relying on natural resources for economic development

(d) Expanding urban areas to accommodate growing families

TYPE 3

Question 11

What were the primary factors that enabled the human population to reach the reproductive age and thus contribute to the rapid increase in population during the twentieth century?

Statements:

A. The discovery of antibiotics and vaccinations.

B. The widespread outbreaks of infectious diseases.

C. A decrease in infant and old age mortality.

D. Nutritional diseases due to unbalanced diets.

(1) A and C

(2) B and D

(3) Only A

(4) Only B

Question 12

Which of the cultural revolutions had the greatest impact on the human population growth rate?

Statements:

A. The Tool-making Revolution increased the growth rate the most.

B. The Agricultural Revolution had the most significant impact on population growth.

C. The Scientific and Industrial Revolution contributed least to the growth rate.

D. The Industrial Revolution started the trend of rapid population growth.

(1) Only A

(2) Only B

(3) B and D

(4) Only D

Question 13

What are the correct statements regarding the factors responsible for the population explosion in India?

Statements:

A. High infant mortality rates discourage having more children.

B. Traditional beliefs have no impact on the population growth.

C. Illiteracy contributes to a lack of understanding about reproductive health.

D. A large section of the population considers children as a sign of prosperity.

(1) Only C

(2) C and D

(3) A and B

(4) Only A

Question 14

How does urbanisation contribute to environmental changes?

Statements:

A. It leads to more residential and commercial buildings.

B. It increases the number of natural habitats for wildlife.

C. It contributes to the expansion of streets and highways.

D. It reduces the encroachment on agricultural land.

(1) Only A

(2) A and C

(3) B and D

(4) Only D

Question 15

Which of the following is true about the relationship between population growth and resource consumption?

Statements:

A. More people result in a higher per capita income.

B. Larger populations lead to a decrease in general health quality.

C. Population growth promotes an increase in natural resource availability.

D. Rising populations have led to advancements in reproductive health technologies.

(1) Only D

(2) B and D

(3) A and C

(4) Only B

TYPE 4

Question 16

With the advent of the Industrial Revolution, there was a surge in population growth. Which of the following factors were likely influenced by this revolution?

1. Increased infant mortality rates
2. Better healthcare systems
3. Increased infectious disease outbreaks
4. Improved nutrition

(a) Only 2 and 4

(b) Only 1 and 3

(c) Only 3

(d) Only 1, 2, and 3

Question 17

Considering the 'surgical methods of population control', which of the following procedures are directly related to these methods?

1. Tubectomy
2. Vaccination
3. Vasectomy
4. Antibiotic treatment

(a) Only 1 and 3

(b) Only 2 and 4

(c) Only 1, 2, and 3

(d) Only 2, 3, and 4

Question 18

The rise in global population has been attributed to several factors, including better healthcare. Which of these advancements in medicine has had the most significant impact on population growth?

1. Prophylactic vaccinations
2. Discovery of penicillin
3. Introduction of antiseptics
4. Development of biotechnology

(a) Only 1 and 2

(b) Only 3 and 4

(c) Only 1, 2, and 3

(d) Only 2, 3, and 4

Question 19

A rapidly growing city is experiencing a decrease in per capita water availability. Which of the following factors are contributing to this scenario?

1. Increased impermeable surfaces
2. Enhanced water recycling
3. Reduced population growth
4. Expanded agricultural usage

(a) Only 1 and 4

(b) Only 2 and 3

(c) Only 1, 2, and 3

(d) Only 2, 3, and 4

Question 20

A family living in a developing region is trying to follow family planning advice to improve their standard of living. Which of the following actions would directly support this goal?

1. Using contraceptives
2. Increasing the family size
3. Delaying the first child
4. Reducing energy consumption

(a) Only 1 and 3

(b) Only 2 and 4

(c) Only 1, 2, and 4

(d) Only 3 and 4

16 Pollution– A Rising Environmental Problem

TYPE 1

Question 1

Assertion (A): Air pollution can lead to the formation of smog.

Reason (R): Smog is a mixture of smoke and fog which can reduce visibility and harm human health.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 2

Assertion (A): Oil spills are a significant source of water pollution.

Reason (R): Oil spills primarily occur due to the accidental release of detergents into water bodies.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 3

Assertion (A): Biodegradable waste can contribute to soil pollution.

Reason (R): Biodegradable wastes are non-toxic substances that break down without releasing harmful gases.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 4

Assertion (A): Chemical fertilizers are a significant cause of water pollution.

Reason (R): These fertilisers are easily soluble in water and can lead to excessive growth of bacteria in lakes and ponds.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

Question 5

Assertion (A): Noise pollution is defined as any unwanted or loud sound that interferes with normal hearing and concentration.

Reason (R): The major sources of noise pollution include natural phenomena like thunderstorms and animal sounds.

(a) Both A and R are true, and R is the correct explanation for A

(b) Both A and R are true, but R is not the correct explanation for A

(c) A is true, but R is false

(d) A is false, but R is true.

TYPE 2

Question 6

A group of students is creating a model to demonstrate the greenhouse effect. They want to show how certain gases in the atmosphere can trap heat, leading to global warming. Which gas should they include in their model for its significant role in the greenhouse effect?

(a) Oxygen (O_2)

(b) Carbon Dioxide (CO_2)

(c) Argon (Ar)

(d) Neon (Ne)

Question 7

A local community is attempting to reduce their environmental footprint by better managing their waste. They are trying to separate their waste into biodegradable and non-biodegradable components. Which of the following items should be classified as non-biodegradable?

(a) Vegetable peels

(b) Plastic bags

(c) Garden leaves

(d) Food leftovers

Question 8

Jaya is participating in a science fair with a project on global warming. She wants to demonstrate the impact of increased CO_2 levels in the atmosphere. What is a direct consequence of the greenhouse effect due to higher CO_2 concentrations?

(a) Decreased global temperatures

(b) Increased retention of solar radiation in the atmosphere

(c) Improved visibility due to reduced smog

(d) Enhanced ozone layer protection

Question 9

Neel, an environmental scientist, is conducting a study on the effects of acid rain on local vegetation. After a few weeks of observation, he notices a significant decline in plant health. What is the primary cause of the negative impact of acid rain on plants?

(a) Neutralisation of soil pH

(b) Increased nutrient absorption by plants

(c) Damage to plant leaves and reduced photosynthesis

(d) Enhanced growth due to increased soil minerals

Question 10

During a community clean-up event, Anika noticed that plastic waste was the most common type of litter found in the local park. She learned that this type of waste often ends up in landfills and can lead to various environmental issues. Anika is concerned about the long-term impact of plastic waste on the environment. Which of the following is a common problem associated with the accumulation of plastic waste in landfills?

(a) Increased soil fertility

(b) Enhanced decomposition of organic matter

(c) Production of greenhouse gases

(d) Improved water percolation

TYPE 3

Question 11

How does soil pollution differ from air and water pollution, and what are its sources?

Statements:

A. Soil pollution is localised and does not spread over long distances like air pollution.

B. Urban commercial and domestic waste are not major sources of soil pollution.

C. Chemical fertilisers contribute to soil pollution by altering the chemical balance of the soil.

D. Soil pollution has minimal impact on the environment compared to air and water pollution.

(1) Only A

(2) A and C

(3) B and D

(4) Only C

Question 12

Which statements correctly identify the sources and impacts of air pollution?

Statements:

A. Vehicular pollution only consists of gaseous emissions, not particulate matter.

B. Industrial activities release both gaseous and particulate pollutants into the atmosphere.

C. Smog is a combination of smoke and fog, which can cause respiratory issues in humans.

D. Natural sources of air pollution are negligible and do not contribute to environmental.

(1) Only B

(2) B and C

(3) C and D

(4) A and D

Question 13

What are the consequences of improper disposal of biomedical waste?

Statements:

A. It can lead to the spread of infections and diseases.

B. It may cause genetic variations and cancer.

C. Biomedical waste is mainly composed of recyclable materials.

D. It often reaches the soil and may cause harm to soil organisms and humans.

(1) A and D

(2) Only B

(3) B and C

(4) Only C

Question 14

How does noise pollution affect human health?

Statements:

A. Noise pollution can damage the ear drum and lead to deafness.

B. It is a major cause of respiratory diseases.

C. It can disturb the peace of mind and interrupt concentration.

D. It has no significant impact on human sleep patterns.

(1) Only A

(2) A and C

(3) B and D

(4) C and D

Question 15

What are the significant effects of pollution on climate and environment?

Statements:

A. Global warming is unaffected by pollution levels.

B. Ozone layer depletion is a direct result of increased CO_2 emissions.

C. Acid rain is caused by the dissolution of sulphur dioxide and nitrogen oxides in rain.

D. Air pollution has no effect on the greenhouse effect and global warming.

(1) Only C

(2) B and C

(3) A and D

(4) C and D

TYPE 4

Question 16

During a field trip, students observed a pond covered with algae and learned about the effects of nutrient pollution. Which of the following sources is likely contributing to this eutrophication?

1. Oil spills
2. Household detergents
3. Sewage discharge
4. Thermal pollution

(a) Only 1 and 4

(b) Only 2 and 3

(c) Only 3

(d) Only 1, 2, and 3

Question 17

A city experiences a significant increase in respiratory illnesses during the winter months. Considering the information provided on air pollution, which combination of pollutants is most likely contributing to this public health issue?

1. CO_2 and N_2
2. SO_2 and NOx
3. CFCs and DDT
4. Particulate matter and CO_2

(a) Only 1 and 4

(b) Only 2 and 4

(c) Only 3

(d) Only 2

Question 18

A city experiences a sharp increase in automobile usage without proper emission controls. Which of the following environmental issues is this city likely to face?

1. Increased acid rain
2. Enhanced ozone layer protection
3. Lowered CO_2 levels
4. Elevated greenhouse gas emissions

(a) Only 1 and 4

(b) Only 2 and 3

(c) Only 1, 2, and 3

(d) Only 2 and 4

Question 19

Following an accidental release of Cobalt 60 in a populated area, which of the following biological effects are likely to be observed in the exposed population?

1. Genetic variations
2. Hemorrhaging
3. Soil nutrient recycling
4. Decreased respiratory problems

(a) Only 1 and 2

(b) Only 3

(c) Only 2 and 4

(d) Only 4

Question 20

A community living near an industrial zone is affected by both air and water pollution. Which of the following health problems are they most susceptible to?

1. Asthma and respiratory disorders
2. Jaundice and gastrointestinal diseases
3. Hearing loss due to noise pollution
4. Genetic mutations from radiation exposure

(a) Only 1 and 2

(b) Only 3

(c) Only 2 and 4

(d) Only 1, 2, and 3

ANSWERS

Chapter 1 - Cell: The Structural and Functional Unit of Life

1. (a)	5. (a)	9. (a)	13. (2)	17. (a)
2. (c)	6. (c)	10. (c)	14. (2)	18. (a)
3. (a)	7. (c)	11. (1)	15. (2)	19. (b)
4. (a)	8. (b)	12. (1)	16. (d)	20. (b)

Chapter 2 - Structure of Chromosomes, Cell Cycle, and Cell Division

1. (a)	5. (a)	9. (b)	13. (1)	17. (b)
2. (a)	6. (c)	10. (c)	14. (3)	18. (c)
3. (c)	7. (b)	11. (4)	15. (3)	19. (c)
4. (a)	8. (b)	12. (2)	16. (b)	20. (c)

Chapter 3 - Genetics: Some Basic Fundamentals

1. (b)	5. (c)	9. (c)	13. (1)	17. (b)
2. (a)	6. (c)	10. (a)	14. (4)	18. (b)
3. (a)	7. (a)	11. (1)	15. (1)	19. (c)
4. (a)	8. (d)	12. (1)	16. (d)	20. (a)

Chapter 4 - Absorption by Roots: The Processes Involved

1. (d)	5. (a)	9. (c)	13. (1)	17. (a)
2. (a)	6. (b)	10. (c)	14. (1)	18. (c)
3. (a)	7. (d)	11. (1)	15. (1)	19. (a)
4. (a)	8. (c)	12. (1)	16. (b)	20. (a)

Chapter 5 - Transpiration

1. (b)	5. (a)	9. (b)	13. (1)	17. (a)
2. (a)	6. (a)	10. (b)	14. (1)	18. (a)
3. (a)	7. (c)	11. (2)	15. (2)	19. (b)
4. (a)	8. (c)	12. (2)	16. (b)	20. (c)

Chapter 6 - Photosynthesis

1. (b)	2. (d)	3. (a)	4. (a)	5. (a)

6. (a)	9. (d)	12. (1)	15. (2)	18. (a)
7. (b)	10. (c)	13. (2)	16. (c)	19. (d)
8. (b)	11. (1)	14. (2)	17. (b)	20. (d)

Chapter 7 - Chemical Coordination in Plants

1. (a)	5. (b)	9. (b)	13. (1)	17. (d)
2. (a)	6. (b)	10. (c)	14. (3)	18. (b)
3. (c)	7. (d)	11. (2)	15. (1)	19. (d)
4. (a)	8. (c)	12. (2)	16. (a)	20. (d)

Chapter 8 - The Circulatory System

1. (b)	5. (d)	9. (d)	13. (2)	17. (c)
2. (a)	6. (b)	10. (a)	14. (2)	18. (a)
3. (a)	7. (b)	11. (4)	15. (1)	19. (c)
4. (a)	8. (c)	12. (2)	16. (b)	20. (a)

Chapter 9 - The Excretory System

1. (a)	5. (a)	9. (c)	13. (2)	17. (b)
2. (a)	6. (b)	10. (a)	14. (2)	18. (b)
3. (a)	7. (c)	11. (4)	15. (3)	19. (d)
4. (a)	8. (b)	12. (2)	16. (b)	20. (b)

Chapter 10 - The Nervous System

1. (c)	5. (c)	9. (d)	13. (2)	17. (a)
2. (d)	6. (b)	10. (a)	14. (2)	18. (a)
3. (a)	7. (a)	11. (3)	15. (1)	19. (b)
4. (d)	8. (c)	12. (1)	16. (b)	20. (b)

Chapter 11 - Sense Organs

1. (d)	4. (a)	7. (c)	10. (a)	13. (1)
2. (a)	5. (b)	8. (b)	11. (1)	14. (1)
3. (a)	6. (a)	9. (c)	12. (1)	15. (1)

16. (2)	17. (2)	18. (1)	19. (3)
			20. (3)

Chapter 12 - The Endocrine System

1. (a)	5. (a)	9. (a)	13. (4)	17. (b)
2. (b)	6. (c)	10. (a)	14. (1)	18. (b)
3. (c)	7. (c)	11. (3)	15. (3)	19. (a)
4. (a)	8. (b)	12. (1)	16. (a)	20. (a)

Chapter 13 - The Reproductive System

1. (a)	5. (a)	9. (a)	13. (1)	17. (b)
2. (b)	6. (c)	10. (d)	14. (1)	18. (c)
3. (a)	7. (d)	11. (1)	15. (4)	19. (b)
4. (c)	8. (a)	12. (2)	16. (c)	20. (b)

Chapter 14 - Human Evolution

1. (a)	5. (b)	9. (c)	13. (2)	17. (a)
2. (c)	6. (b)	10. (c)	14. (1)	18. (d)
3. (a)	7. (b)	11. (1)	15. (2)	19. (c)
4. (b)	8. (d)	12. (1)	16. (a)	20. (b)

Chapter 15 - Population: The Increasing Numbers and Rising Problems

1. (a)	5. (a)	9. (c)	13. (2)	17. (a)
2. (b)	6. (c)	10. (b)	14. (2)	18. (c)
3. (c)	7. (a)	11. (1)	15. (2)	19. (a)
4. (b)	8. (b)	12. (3)	16. (c)	20. (a)

Chapter 16 - Pollution: A Rising Environmental Problem

1. (a)	5. (c)	9. (c)	13. (1)	17. (b)
2. (c)	6. (b)	10. (c)	14. (2)	18. (a)
3. (b)	7. (b)	11. (2)	15. (1)	19. (a)
4. (a)	8. (b)	12. (2)	16. (b)	20. (d)

Civics

1 The Union Parliament

TYPE 1

Question 1

The Lok Sabha is known as the House of the People. Which of the following statements are true regarding the composition of the Lok Sabha?

(a) It has a fixed strength of 552 members.

(b) Members of the Lok Sabha are elected by the President of India.

(c) Seats are reserved for Scheduled Castes and Scheduled Tribes.

(d) Both (1) and (3)

Question 2

What are some of the functions of the Rajya Sabha as described?

(a) It can introduce and pass a Money Bill.

(b) It consists of no more than 250 members nominated by the President of India.

(c) It is a permanent body and cannot be dissolved.

(d) Both (b) and (c)

Question 3

What is the role of the President in the context of the 'Zero Hour' in the Indian Parliament?

(a) The President directly answers the questions raised.

(b) The President has no role during the 'Zero Hour'.

(c) The President can call for the 'Zero Hour' to discuss urgent matters.

(d) Both (a) and (b)

TYPE 2

Question 4

Which qualification is NOT required for a person to become a member of the Lok Sabha in India?

A. The person must be a citizen of India.

B. The person must not be less than twenty-five years of age.

C. The person must hold a degree in law.

D. The person must not be disqualified by any law currently in force.

(a) A and B

(b) B and D

(c) C and D

(d) A and C

Question 5

What role does the Speaker of the Lok Sabha, the Lower House of India's Parliament, play in disciplinary actions?

A. The Speaker decides on the expulsion of members for misconduct.

B. The Speaker can pardon members for certain disciplinary offenses.

C. The Speaker conducts investigations into allegations against members.

D. The Speaker has the authority to suspend members and decide on questions of privilege.

(a) A and B

(b) C and D

(c) B and C

(d) A and D

Question 6

Which of the following is true about 'Joint Session'?

A. It is convened by the President when a bill passes in one House but not the other.

B. It is a regular session held annually to deliberate on new bills.

C. It is a meeting called during a financial emergency.

D. It is presided by the Speaker.

(a) A and C

(b) B and D

(c) A and D

(d) C and D

TYPE 3

Question 7

Lok Sabha Member : Minimum age 25 Years : : Rajya Sabha Member : Minimum age _____ years.

(a) 25

(b) 30

(c) 35

(d) 21

Question 8

Election Commission : Delimitation of constituencies : : Rajya Sabha : _____

(a) Nomination of members by President

(b) Allocation of seats by population

(c) Direct election by people

(d) Appointment by the Speaker

Question 9

Zero Hour : Members Can Raise Matters without Prior Notice : : Question Hour : _____

(a) Members Discuss Agenda Set by the Speaker

(b) Ministers Respond to Questions with Prior Notice

(c) Members Vote on Legislative Proposals

(d) The House Debates on Executive Orders

TYPE 4

Question 10

Read the two statements below regarding the federal features of the Indian Constitution and identify the correct relationship between (A) and (B).

(A) The Indian Constitution has a unitary bias because it gives more powers to the Union compared to the states.

(B) In the event of a conflict between Union and State laws, the Constitution provides that the state law will prevail.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Read the two statements given below about the representation of States in the Rajya Sabha and select the option that shows the correct relationship between (A) and (B).

(A) The allocation of seats in the Rajya Sabha is based on the population of the states.

(B) The Union Territories have a standard number of seats irrespective of their population.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Analyze the two statements below regarding legislative procedure in the Union Parliament and select the option that correctly reflects their relationship.

(A) A Money Bill, once passed by the Lok Sabha, must be considered by the Rajya Sabha within 14 days.

(B) The Rajya Sabha has the power to amend or reject a Money Bill.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

Based on the structure of Union Parliament, if the President of India were to impose 'President's Rule' in a state, what could be the immediate consequence in the Lok Sabha?

(a) The state's representation in the Lok Sabha would increase.

(b) The Members of Parliament from that state would be required to resign.

(c) The state's representation in the Lok Sabha would remain unaffected.

(d) The Members of Parliament from that state would be suspended from the Lok Sabha.

Question 14

Which of these scenarios best shows the Deputy Speaker using their powers in the legislative process?

(a) The Deputy Speaker often votes in legislative decisions to demonstrate political allegiance.

(b) The Deputy Speaker votes in the case of a tie in the legislature, maintaining neutrality.

(c) The Deputy Speaker actively debates and proposes legislation in the legislature.

(d) The Deputy Speaker represents the government in international legislative forums.

Question 15

If an Ordinary Bill is passed by the Lower House but rejected by the Upper House, what is the most likely outcome?

(a) The Bill is sent back to the Lower House for reconsideration.

(b) The President can directly pass the Bill into law.

(c) A joint session of both Houses is convened to resolve the disagreement.

(d) The Bill cannot become law without the Upper House's agreement.

TYPE 6

Question 16

Which of the following statements does not hold true?

(a) The Union Parliament consists of the President and two Houses.

(b) The Supreme Court has the power to uphold the expulsion of Members of Parliament.

(c) Rajya Sabha is also known as the House of the People.

(d) The Lok Sabha and the Rajya Sabha together are referred to as the Parliament of India.

Question 17

Identify the odd one out based on the powers and functions of the Speaker:

(a) The Speaker conducts the proceedings of the Lok Sabha in an impartial manner.

(b) The Speaker decides whether a bill is a Money Bill or not.

(c) The Speaker nominates members to various committees of the Lok Sabha.

(d) The Speaker is responsible for maintaining the contingency fund of the Parliament.

Question 18

Identify the incorrect statement about the legislative procedure in the Parliament of India:

(a) A Money Bill can be introduced only in the Lok Sabha.

(b) The President can return a Money Bill for reconsideration.

(c) The Rajya Sabha must return a Money Bill with recommendations within 14 days.

(d) A Bill becomes an Act when it is passed by both Houses of Parliament and receives assent from the President.

2 The Union Executive: The President and the Vice President

Question 1

Regarding the impeachment of the President of India, which of the following statements are correct?

(a) The process must start in the Lok Sabha.

(b) The Vice-President must consent to the impeachment motion.

(c) If one house passes the motion, it must then be passed by a two-thirds majority in the other house.

(d) Both (a) and (b)

Question 2

When can the President issue ordinances?

(a) When both Houses of the Parliament are not in session.

(b) If the Parliament cannot reach a decision on proposed legislation.

(c) When the laws passed by Parliament are deemed unconstitutional.

(d) Both (a) and (b)

Question 3

The Vice-President of India serves as the ex-officio Chairman of the Rajya Sabha. Which of the following functions correctly describe this role?

(a) The Vice-President can vote in the Rajya Sabha to resolve a deadlock.

(b) The Vice-President directly participates in the daily proceedings of the Rajya Sabha.

(c) The Vice-President has the authority to adjudicate over a breach of discipline and decorum in the Rajya Sabha.

(d) Both (a) and (b)

TYPE 2

Question 4

What are the discretionary powers that the President of India can exercise?

A. Declare war or national emergency

B. Appoint the Prime Minister

C. Grant pardons or reprieves

D. Summon the Houses of Parliament

(a) A and C

(b) B and C

(c) C and D

(d) A, B, and C

Question 5

What is the role of the Union Cabinet during the Proclamation of Emergency due to war or external aggression?

A. It can issue proclamations independently of the President.

B. It advises the President on the Proclamation of Emergency.

C. It has the sole responsibility to declare a state of emergency.

D. It is responsible for the deployment of armed forces.

(a) A and D

(b) B and C

(c) B and D

(d) C and D

Question 6

What is the term of office for the Vice-President of India, and what happens upon the completion of the term?

A. 5 years; the Vice-President can be re-elected

B. 6 years; the Vice-President must step down

C. 5 years; the Vice-President may be removed by a resolution

D. Indefinite; until the President decides otherwise

(a) A only

(b) B only

(c) C only

(d) A and C

TYPE 3

Question 7

Removal for Violation of Constitution : President :: No-Confidence Motion : _____

(a) Vice-President

(b) Prime Minister

(c) Chief Justice

(d) Governor of a State

Question 8

Advisory Jurisdiction of the President : Seeking Information : : Ordinance-Making Power of the President : _____

(a) Issuing Laws

(b) Amending the Constitution

(c) Judicial Review

(d) Declaring War

Question 9

Vice President as Chairman of Rajya Sabha : Presiding over meetings : : Speaker of Lok Sabha : _____

(a) Conducting Legislative Business

(b) Executive Decisions

(c) Judiciary Functions

(d) Electoral Duties

TYPE 4

Question 10

Read the two statements given below about the term of office for the President of India and select the option that shows the correct relationship between (A) and (B).

(A) The term of office of the President of India is five years from the date they enter upon the office.

(B) The President can be re-elected for the office an unlimited number of times.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Analyze the following statements about the judicial review of the Emergency provisions and choose the correct option that indicates their relationship.

(A) The Constitution protects the proclamation of Emergency from judicial review.

(B) The Supreme Court has the authority to examine the validity of an Emergency proclamation if the case is brought before it.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below about the role of the Vice-President of India and select the option that shows the correct relationship between (A) and (B).

(A) The Vice-President of India acts as the ex-officio Chairman of the Rajya Sabha.

(B) The Vice-President has the same legislative powers as the President of India.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

The process of impeachment of the President of India requires the initiation of the procedure in either house of Parliament. What does this imply about the nature of the impeachment process?

(a) It is a judicial process conducted by the Supreme Court.

(b) It is a political process involving the legislative body.

(c) It is a unilateral decision made by the Prime Minister.

(d) It is a process that the public votes on in a referendum.

Question 14

If the central government of a country enforces a law that allows it to control media content during a proclaimed emergency, which group or entity would most likely face the greatest limitation in their freedom of expression?

(a) the central government

(b) the citizens

(c) the judiciary

(d) international media outlets

Question 15

where the President of India is incapacitated, and the Vice President is also unable to assume the duties of the President, which of the following provisions is most likely to be activated according to the Indian Constitution?

(a) The Speaker of the Lok Sabha will take over as the President.

(b) The Chief Justice of India will assume the role of the President.

(c) The Prime Minister will be appointed as the interim President.

(d) The senior-most Governor of a state will act as the President.

TYPE 6

Question 16

Identify the odd one out regarding the functions and powers of the President of India:

(a) The President appoints the Prime Minister and, on the Prime Minister's advice, appoints the members of the Council of Ministers.

(b) The President has the power to grant pardons, reprieves, respites, or remissions of punishment under certain circumstances.

(c) The President is responsible for making a wide variety of appointments, including the Governors of States and the Chief Justice of India.

(d) The President plays an active role in the day-to-day administration and decision-making process of the Union Government.

Question 17

Identify the option that is NOT a characteristic of the financial emergency provisions as described:

(a) The President can direct states to observe canons of financial propriety.

(b) Salaries and allowances of all or any class of persons serving in the state can be reduced.

(c) All Money Bills of the states need the President's recommendation for consideration.

(d) A financial emergency requires a Judicial review to be declared by the President.

Question 18

Based on the powers and functions described, which of the following is NOT a duty of the Vice-President of India?

(a) To act as the ex-officio Chairman of the Rajya Sabha

(b) To succeed the President in case of death, resignation, or removal

(c) To serve as the head of the executive of the Indian federal structure

(d) To cast a vote in the Rajya Sabha to resolve a deadlock

3 The Union Executive: The Prime Minister, the Union Cabinet, and the Council of Ministers

TYPE 1

Question 1

The Prime Minister has a pivotal role in the Union Cabinet. Which of the following statements correctly describe the powers and functions of the Prime Minister?

(a) The Prime Minister is responsible for the dissolution of the Council of Ministers.

(b) The Prime Minister represents the country at various international forums.

(c) The Prime Minister is the chief advisor to the President in matters related to the Council of Ministers.

(d) Both (b) and (c)

Question 2

The Council of Ministers is constituted based on what criteria?

(a) Solely on the discretion of the Prime Minister.

(b) Based on the representation of different states as advised by the President.

(c) Reflecting the diversity of the ruling party or coalition.

(d) Both (a) and (c)

Question 3

What is the significance of collective responsibility in the parliamentary system?

(a) It ensures individual ministers are solely responsible for their departments.

(b) It mandates that all Cabinet decisions must be unanimous.

(c) It binds all members of the government to support Cabinet decisions in the legislature.

(d) Both (b) and (c)

TYPE 2

Question 4

Considering the powers of the Prime Minister and the Council of Ministers, which of the following statements is true?

A. The Prime Minister holds office at the pleasure of the President, while the Council of Ministers is collectively responsible to the Lok Sabha.

B. The Council of Ministers holds office at the discretion of the Prime Minister only.

C. The Prime Minister can be removed by the Lok Sabha, but the Council of Ministers remains unaffected.

D. The Council of Ministers must resign if the Prime Minister is removed from office by the President.

(a) A and B

(b) A and D

(c) B and C

(d) C and D

Question 5

In the context of the Council of Ministers, what demonstrates the collective responsibility principle in the Indian government?

A. Ministers must be Members of Parliament

B. The Prime Minister can appoint Ministers outside of the Parliament

C. Decisions of the Council of Ministers must be unanimous

D. Resignation of the Prime Minister necessitates the entire Council's resignation

(a) A and C

(b) C and D

(c) B and D

(d) A and D

Question 6

What is a fundamental feature of Ministerial Responsibility in a Parliamentary system?

A. Ministers are responsible only to the President or Head of State.

B. Ministers are collectively responsible to the Lok Sabha and must answer questions individually.

C. Only the Prime Minister is responsible to the Lok Sabha and can dismiss other ministers.

D. Ministers are responsible to international bodies rather than domestic institutions.

(a) A and C

(b) B and D

(c) B and C

(d) A and D

TYPE 3

Question 7

Prime Minister of India: Leads the Council of Ministers:: President of India : _____

(a) Commands the armed forces.

(b) Leads the Parliamentary proceedings.

(c) Directs the daily administration of the government.

(d) Presides over the meetings of the Cabinet.

Question 8

Constitution: Supreme Law of the Land: : Union Executive : _____

(a) Legislative Power

(b) Judicial Review

(c) Administrative Authority

(d) Electoral Process

Question 9

Executive Control by Parliament: Questioning Ministers: : Legislative Function of Parliament : _____

(a) Enacting laws

(b) Appointing the Prime Minister

(c) Overseeing the national budget

(d) Diplomatic negotiations

TYPE 4

Question 10

Read the two statements given below about the appointment of the Prime Minister and select the option that shows the correct relationship between (A) and (B).

(A) The President appoints the Prime Minister and the latter must have a majority in the Lok Sabha.

(B) The Prime Minister must be a member of one of the Houses of Parliament at the time of their appointment.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Read the two statements given below about the functions of the Council of Ministers and select the option that shows the correct relationship between (A) and (B).

(A) The Council of Ministers is collectively responsible to the House of the People.

(B) The Prime Minister is free to choose ministers outside of the parliamentary members.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below about the functioning of the Cabinet and select the option that shows the correct relationship between (A) and (B).

(A) The Cabinet's role is restricted to the formulation of general policy and administration, not concerning individual ministries.

(B) The Cabinet must approve major appointments and key decisions taken by individual ministries.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

In a hypothetical scenario where the President of India is required to exercise discretion in appointing a Prime Minister due to an unclear election result, what is the most likely criterion the President would use to make this decision?

(a) The personal preference of the President

(b) The candidate's popularity among the general public

(c) The candidate leading the party with the majority in Lok Sabha

(d) The candidate's previous experience in governance

Question 14

The Prime Minister holds significant influence over both the Council of Ministers and the nation's representation in international forums. If a Prime Minister utilizes these powers to primarily promote their personal political agenda rather than the nation's collective interests, which democratic value is at risk of being undermined?

(a) Federalism

(b) Republicanism

(c) Individual liberties

(d) Public trust in democratic institutions

Question 15

The Legislative branch checks on the Executive through budget proposals. What can the legislature do if it does not agree with the budget proposed by the Executive?

(a) It can implement the budget as it is without changes.

(b) It can suggest changes to the budget, which the Cabinet may have to incorporate.

(c) It can dissolve the Executive immediately.

(d) It can pass a law to increase its own salaries.

TYPE 6

Question 16

Regarding the appointment of the Prime Minister and the Council of Ministers, which of the following is NOT in line with the Indian Constitution?

(a) The President of India appoints the Prime Minister.

(b) The members of the Council of Ministers are appointed on the advice of the Prime Minister.

(c) The Council of Ministers must have the confidence of the Lok Sabha.

(d) The Prime Minister's appointment is independent of the majority party or coalition in the Lok Sabha.

Question 17

Identify the odd one out of the following functions of the Council of Ministers:

(a) To assist the Prime Minister in the administration of government policies.

(b) To act as a body which decides the timing of elections.

(c) To implement the decisions made by the Prime Minister.

(d) To aid and advise the President in the exercise of his functions.

Question 18

Identify the odd one out of the following actions under the principle of 'Ministerial Responsibility':

(a) Ministers answering questions in the Lok Sabha to give an account of their ministries.

(b) The Prime Minister advising a minister to resign following a breach of office.

(c) A minister making legislative proposals without consulting the Cabinet.

(d) The Cabinet deciding on matters of foreign policy as a collective unit.

4 The Union Judiciary: The Supreme Court

TYPE 1

Question 1

The Supreme Court of India has been granted the power to enforce the Fundamental Rights. Which of the following statements are true regarding this power?

(a) The Supreme Court can only advise the government on matters concerning Fundamental Rights.

(b) The Supreme Court can directly hear matters related to Fundamental Rights without going through lower courts.

(c) This power is limited to issuing guidelines which the legislature may choose to enforce or ignore.

(d) Both (b) and (c)

Question 2

Special Leave to Appeal by the Supreme Court can be granted in any judgment or decree or final order of any court within the territory of India, except:

(a) A military tribunal.

(b) Matters related to the armed forces.

(c) Cases involving the interpretation of the Constitution.

(d) Both (a) and (b)

Question 3

According to the concept of Public Interest Litigation (PIL), who can file a case in the interest of the public?

(a) Only a victim of a violation can file a PIL.

(b) Any concerned individual or organization can file a PIL.

(c) PILs can only be filed by non-governmental organizations.

(d) Both (a) and (b)

TYPE 2

Question 4

What is the significance of the Supreme Court's ability to interpret the Constitution in the Indian judicial system?

A. It ensures the centralization of legislative power.

B. It maintains the supremacy of the Constitution over all laws.

C. It provides a check on the executive branch's powers.

D. It upholds the fundamental rights against arbitrary state actions.

(a) A and C

(b) B and D

(c) A and D

(d) B and C

Question 5

In the Advisory Jurisdiction, who has the authority to seek the opinion of the Supreme Court?

A. The President of India

B. The Prime Minister of India

C. The Parliament of India

D. The Chief Justice of India

(a) A and B

(b) B and C

(c) A and D

(d) C and D

Question 6

What ensures the independence and impartiality of the Supreme Court of India?

A. The direct election of its judges by the public.

B. The appointment of judges by the Chief Justice of India alone.

C. The involvement of the executive and legislative branches in judicial decisions.

D. The appointment of judges by the President of India following a consultative process and security of their tenure.

(a) A and D

(b) B and D

(c) A only

(d) D only

TYPE 3

Question 7

Supreme Court : Final Interpreter and Guardian of the Constitution : : High Court : _____

(a) Sole interpreter of state laws

(b) Ultimate appellate body

(c) Exclusive guardian of the Constitution

(d) Primary protector of Fundamental Rights

Question 8

Supreme Court : Appellate Jurisdiction :: District Court : _____

(a) Advisory Decisions

(b) Protection of Fundamental Rights

(c) Original Jurisdiction in Civil and Criminal Matters

(d) Constitutional Amendments

Question 9

Fundamental Rights Enforcement : Supreme Court and High Courts : : Free Distribution of Resources : _____

(a) District Courts

(b) Executive branch

(c) Panchayats and Local Bodies

(d) Legislative Assembly

TYPE 4

Question 10

Read the two statements given below about the Supreme Court of India and select the option that shows the correct relationship between (A) and (B).

(A) The Supreme Court is at the apex of the Indian Judiciary and has the power to interpret the Constitution.

(B) The existence of the Supreme Court ensures that state governments and central authority operate within the limits of the Constitution.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Consider the following statements about the appellate jurisdiction of the Supreme Court and choose the correct relationship between them.

(A) The appellate jurisdiction is invoked when the Supreme Court hears an appeal from the High Court.

(B) The appellate jurisdiction allows the Supreme Court to review the decisions of lower courts if the Constitution is involved.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below about the enforcement of fundamental rights in India and select the option that shows the correct relationship between (A) and (B).

(A) The Supreme Court and High Courts have the power to issue writs for the enforcement of fundamental rights.

(B) Fundamental rights can be enforced against private individuals as well as the state.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

Considering the concept of 'Independence and Impartiality of the Judiciary' as essential to a democracy, what would be a

potential consequence if the judiciary is perceived to be influenced by the legislative or executive branches?

(a) Increased efficiency in the implementation of new laws.

(b) Erosion of public trust in the judicial system.

(c) Enhanced collaboration between different branches of government.

(d) Streamlined judicial processes due to clear policy direction.

Question 14

If the President wishes to seek the advisory opinion of the Supreme Court on a matter of public importance that has arisen, which aspect of jurisdiction allows for this?

(a) Original Jurisdiction

(b) Appellate Jurisdiction

(c) Advisory Jurisdiction

(d) Enforcing the Fundamental Rights

Question 15

Considering the role of Public Interest Litigation (PIL) as a tool to protect social rights, which group is most likely to utilize PIL to challenge a law that disproportionately affects a vulnerable section of society?

(a) The ruling political party

(b) Corporate entities affected by the law

(c) Civil society organizations or NGOs

(d) International bodies with no jurisdiction in India.

TYPE 6

Question 16

Which of the following is not a feature of the Supreme Court's jurisdiction?

(a) The Supreme Court has original jurisdiction in cases involving disputes between different states of India.

(b) The appellate jurisdiction of the Supreme Court covers civil, criminal, and constitutional cases.

(c) The advisory jurisdiction allows the Supreme Court to make recommendations on the constitutionality of laws.

(d) The Supreme Court is empowered to regulate the digital economy and cybersecurity.

Question 17

Identify the odd one out related to the powers of the Supreme Court of India:

(a) Granting special leave to appeal from any judgment in any matter

(b) Deciding on disputes between the Government of India and one or more States

(c) Reviewing its own judgments or orders as provided under law

(d) Enacting legislation on civil rights and liberties

Question 18

Which of the following is not a principle associated with Public Interest Litigation (PIL)?

(a) Allowing marginalised individuals to seek justice.

(b) Permitting the court to proceed Suo Moto in some cases.

(c) Enhancing the powers of the executive branch.

(d) Simplifying legal procedures to increase access to justice.

5 The State Judiciary: The High Courts

TYPE 1

Question 1

The appointment of High Court judges in India involves:

(a) Selection solely by the President of India.

(b) Consultation with a variety of judicial and political entities.

(c) Automatic elevation from lower courts based on seniority.

(d) Both (a) and (b)

Question 2

The independence and impartiality of the High Court are ensured by:

(a) Appointment of judges by the President only.

(b) Security of tenure of the judges.

(c) The requirement that the conduct of a judge cannot be discussed in the Parliament without a due process.

(d) Both (b) and (c)

Question 3

The jurisdiction of the High Court in civil and criminal cases can be described as:

(a) Appellate and supervisory only.

(b) Original, appellate, and supervisory.

(c) Limited to the cases involving fundamental rights only.

(d) Both (a) and (b)

TYPE 2

Question 4

How are the jurisdictions of High Courts typically determined?

A. By the discretion of the Chief Justice alone

B. Through historical precedents only

C. Based on legislative acts and the constitution

D. According to the needs of the federal judiciary system

(a) A and B

(b) B and C

(c) C and D

(d) A and D

Question 5

What distinguishes the power of High Courts in India with respect to Writ Jurisdiction?

A. They can issue writs only for enforcement of Fundamental Rights.

B. Their writ jurisdiction is confined to the geographical limits of the state.

C. They possess the authority to issue writs for any purpose, not just for Fundamental Rights.

D. They can issue writs only against the decisions of lower courts.

(a) A and B

(b) B and D

(c) B only

(d) C only

Question 6

Regarding the appointment and removal of High Court judges in India, which of the following statements are true?

A. The President of India appoints the High Court judges.

B. High Court judges are appointed by the Governor of the respective state.

C. The Parliament can remove a High Court judge on grounds of proven misbehaviour or incapacity.

D. The Chief Justice of India plays no role in the appointment of High Court judges.

(a) A and C

(b) B and D

(c) A and B

(d) C and D

TYPE 3

Question 7

Chief Justice of High Court : Head of the Judiciary in a State :: Chief Justice of Supreme Court : _____

(a) Head of the Judiciary in the Union Territory

(b) Head of the National Judicial Academy

(c) Head of the Judiciary in India

(d) Head of the Legislative Assembly

Question 8

High Court : Certiorari and Prohibition Writs : : Subordinate Courts : _____

(a) Issuance of Writs of Habeas Corpus

(b) Enforcement of Fundamental Rights

(c) Execution of Decrees of Higher Courts

(d) Judicial Review of Legislative Actions

Question 9

High Court : Writs of Habeas Corpus :: Civil Court : _____

(a) Writs of Certiorari

(b) Issuance of Summonses

(c) Enforcement of Property Rights

(d) Arbitration in Commercial Disputes

TYPE 4

Question 10

Read the two statements given below about the appointment and transfer of judges in the Indian High Courts and select the option that depicts the correct relationship between (A) and (B).

(A) The Chief Justice of the High Court is appointed by the President of India after consultation with the Chief Justice of India and the Governor of the concerned state.

(B) The transfer of a High Court judge to another High Court is determined solely by the seniority of the judges.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Examine the two statements below concerning the jurisdiction of High Courts in India and choose the option that correctly describes the relationship between (A) and (B).

(A) The High Courts have jurisdiction over the state or union territory for which they are established.

(B) The jurisdiction and powers of High Courts are defined by the Parliament of India and can vary between different High Courts.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below about the independence and impartiality of the High Court and select the option that shows the correct relationship between (A) and (B).

(A) The Chief Justice of the High Court is appointed by the President of India.

(B) The Chief Justice of the High Court is accountable to the Central Government which affects the independence of the judiciary.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

The jurisdiction of the High Court extends over various states and union territories. What could be the impact of this arrangement on the legal system in these regions?

(a) Uniformity in the interpretation of the law across different regions.

(b) Increased legal complexity due to differing regional laws.

(c) Delays in legal proceedings due to overburdening of the High Courts.

(d) Enhanced access to justice for residents of remote union territories.

Question 14

The High Court's jurisdiction to issue writs for the enforcement of Fundamental Rights indicates that it can:

(a) Modify the Fundamental Rights as necessary

(b) Directly enforce Fundamental Rights against private individuals

(c) Only advise the Supreme Court on matters of Fundamental Rights

(d) Issue orders to ensure that Fundamental Rights are not violated

Question 15

The High Court is considering a case where an individual claims their right to

freedom of speech has been violated by a state law. What power does the High Court exercise when reviewing such cases against the backdrop of a constitutional guarantee?

(a) Judicial activism

(b) Judicial review

(c) Judicial restraint

(d) Judicial advisory

TYPE 6

Question 16

Identify the option that does not align with the jurisdiction and seats of High Courts.

(a) The High Court of Assam, Mizoram, Nagaland, and Arunachal Pradesh is in Guwahati.

(b) The High Court for the Union Territories of Dadra and Nagar Haveli, Daman and Diu, and Lakshadweep is in Mumbai.

(c) Delhi has its own High Court with the seat in New Delhi.

(d) The High Court of West Bengal is located in Chennai.

Question 17

Identify the incorrect statement about the powers of the High Court:

(a) The High Court can interpret the Constitution when the validity of laws is questioned.

(b) The High Court can transfer cases from one High Court to another if justice demands.

(c) The High Court's power of judicial review is limited to subordinate legislation.

(d) The High Court has the authority to ensure that the governance is conducted in accordance with the Constitution.

Question 18

Which of the following is not a characteristic of the High Court's role in judicial review?

(a) The High Court can declare any law unconstitutional if it violates fundamental rights.

(b) The High Court exercises its powers of judicial review to uphold the principle of the rule of law.

(c) The High Court's power of judicial review is derived from the Constitution.

(d) The High Court can use its judicial review powers to introduce new legislation.

6 The Subordinate Courts

TYPE 1

Question 1

Lok Adalats (People's Court) have been established to:

(a) Replace the formal judicial courts.

(b) Provide an alternative method for dispute resolution and quicker justice.

(c) Handle only civil cases and not criminal matters.

(d) Both (b) and (c)

Question 2

Which statements accurately describe the jurisdiction of Subordinate Courts in India?

(a) They can hear any matter related to family disputes and criminal cases.

(b) They function under the exclusive control of the High Court.

(c) They only deal with civil cases and have no jurisdiction over criminal matters.

(d) Both (a) and (b)

Question 3

The Family Courts Act was enacted to provide a certain type of resolution. Which of the following statements are true regarding its purpose?

(a) To expedite the settlement of disputes relating to marriage and family affairs.

(b) To serve as a secret society secretly settling disputes.

(c) To handle cases related to electricity and water supply disputes.

(d) Both (a) and (b)

TYPE 2

Question 4

In the event of a criminal procedure, which entity is responsible for the confirmation of death sentences according to the new code of criminal procedure?

A. Sessions Judge

B. High Court

C. Lok Adalat

D. Supreme Court

(a) A only

(b) B only

(c) C only

(d) B and D

Question 5

What is the role of Lok Adalats within the Indian legal system?

A. They serve as formal courts for criminal cases.

B. They act as mediation centers to provide voluntary settlements.

C. They function as appellate courts for civil disputes.

D. They replace the need for police investigations in public grievances.

(a) A and C

(b) B and D

(c) B only

(d) C and D

Question 6

How do Lok Adalats contribute to reducing the burden on the Indian judiciary?

A. By imposing strict legal penalties.

B. By offering an alternative dispute resolution mechanism.

C. By enforcing new laws and regulations.

D. By prosecuting criminal cases.

(a) A and C

(b) B and D

(c) B only

(d) C and D

TYPE 3

Question 7

Civil Courts : Civil Cases :: Chief Judicial Magistrate Court : _____ Cases

(a) Revenue

(b) Criminal

(c) Constitutional

(d) Appellate

Question 8

Lok Adalat : Settlement of Disputes : : Family Courts : _____

(a) Enforcement of Laws

(b) Settlement of Family and Marriage Disputes

(c) Industrial and Labour Disputes

(d) Appellate Jurisdiction

Question 9

Revenue Courts : Land Revenue Matters : :Consumer Courts : _____

(a) Criminal Cases

(b) Revenue Collection

(c) Consumer Protection Issues

(d) Civil Rights Enforcement

TYPE 4

Question 10

Read the two statements given below about the Subordinate Courts and select the option that shows the correct relationship between (A) and (B).

(A) The Sessions or Additional Sessions Judge imposes the death sentence only in cases where it is confirmed by the High Court.

(B) The Chief Metropolitan Magistrate or Chief Judicial Magistrate can pass a sentence of imprisonment for life.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Read the two statements given below about the Civil Courts and select the option that shows the correct relationship between (A) and (B).

(A) The lowest appellate court in the civil court hierarchy is the Court of the District Judge.

(B) The Commissioner's Court is the highest court in the revenue court hierarchy.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below about Lok Adalat and select the option that

shows the correct relationship between (A) and (B).

(A) Lok Adalat is an initiative to resolve disputes with an alternative, non-traditional legal forum.

(B) Lok Adalat reduces the burden of litigation in regular courts by offering a platform for compromise settlement.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

The Sessions Court holds a specific role in the criminal justice process. Which of the following statements best describes the function of the Sessions Court?

(a) It exclusively handles civil disputes and property issues.

(b) It is the first point of appeal for decisions made by Magistrates.

(c) It has jurisdiction over administrative matters in the state.

(d) It primarily deals with cases relating to revenue and land records.

Question 14

Considering the New Code of Criminal Procedure introduced in the 1973, what can be inferred about the changes it brought to criminal proceedings?

(a) It made the process less formal and more accessible to the common people.

(b) It enforced stricter and more rigorous legal proceedings.

(c) It reduced the role of the judiciary in criminal matters.

(d) It increased the incarceration period for all crimes.

Question 15

Considering the Lok Adalat system is known for providing inexpensive justice and avoiding the complexities of regular courts, who among the following would particularly benefit from it?

(a) Wealthy individuals preferring private litigation.

(b) Individuals with simple cases seeking a quick resolution.

(c) Law firms specializing in high-profile cases.

(d) Government entities involved in complex legal battles.

TYPE 6

Question 16

Select the option that does not correspond with the judicial magistrate's powers:

(a) Judicial Magistrates are empowered to pass sentences of imprisonment up to three years.

(b) Chief Judicial Magistrates can pass sentences of imprisonment for life.

(c) Judicial Magistrates can pass a sentence of imprisonment up to seven years.

(d) The Sessions Judge can pass any sentence authorised by law.

Question 17

Identify the odd one out regarding the objectives of Lok Adalats:

(a) To provide free legal services to the weaker sections of society

(b) To facilitate the functioning of the regular courts without disturbances

(c) To promote the settlement of disputes through compromise and agreement

(d) To implement new legislation for criminal cases

Question 18

Which of the following is not a type of case typically handled by the Lok Adalat?

(a) Matrimonial disputes

(b) Land acquisition matters

(c) Murder cases

(d) Labour disputes

ANSWERS

Chapter 1: The Union Parliament

1. (c)	4. (c)	7. (b)	10. (a)	13. (c)	16. (c)
2. (c)	5. (d)	8. (a)	11. (a)	14. (b)	17. (d)
3. (b)	6. (c)	9. (b)	12. (c)	15. (a)	18. (b)

Chapter 2: The Union Executive: The President and the Vice President

1. (c)	4. (a)	7. (b)	10. (c)	13. (b)	16. (d)
2. (a)	5. (c)	8. (a)	11. (a)	14. (b)	17. (d)
3. (a)	6. (d)	9. (a)	12. (c)	15. (b)	18. (c)

Chapter 3: The Union Executive: The Prime Minister, the Union Cabinet, and the Council of Ministers

1. (d)	4. (b)	7. (a)	10. (b)	13. (c)	16. (d)
2. (d)	5. (b)	8. (c)	11. (c)	14. (d)	17. (b)
3. (c)	6. (c)	9. (a)	12. (a)	15. (b)	18. (c)

Chapter 4: The Union Judiciary: The Supreme Court

1. (b)	4. (b)	7. (d)	10. (b)	13. (b)	16. (d)
2. (d)	5. (a)	8. (c)	11. (d)	14. (c)	17. (d)
3. (b)	6. (d)	9. (c)	12. (c)	15. (c)	18. (c)

Chapter 5: The State Judiciary: The High Courts

1. (b)	4. (c)	7. (c)	10. (c)	13. (a)	16. (d)
2. (d)	5. (d)	8. (c)	11. (d)	14. (d)	17. (c)
3. (b)	6. (a)	9. (b)	12. (c)	15. (b)	18. (d)

Chapter 6: The Subordinate Courts

1. (b)	4. (d)	7. (b)	10. (d)	13. (b)	16. (c)
2. (d)	5. (c)	8. (b)	11. (d)	14. (a)	17. (d)
3. (a)	6. (c)	9. (c)	12. (b)	15. (b)	18. (C)

HISTORY

1 The First War of Independence (1857)

TYPE 1

Question 1

The establishment of English Education in India by the British had multiple impacts. Which of the following were among them?

(a) It led to the revival of ancient Indian educational institutions.

(b) It created a class of people who were Indian in blood but British in tastes, opinions, and intellect.

(c) It reduced the influence of traditional Indian learning and scriptures.

(d) Both (b) and (c)

Question 2

Based on the Indian Rebellion of 1857, which of the following statements is correct regarding the immediate outcomes following the rebellion?

(a) The British government took direct control over Indian territories.

(b) The East India Company was strengthened and maintained its rule.

(c) There was a significant shift in the policies governing the Indian subcontinent, focusing on respecting local traditions.

(d) Both (a) and (c)

Question 3

How is the memory of the First War of Independence preserved in Indian history?

(a) Through official recognition by the British government.

(b) By becoming a symbol of challenge to British Raj and pride in Indian nationalism.

(c) Solely through academic studies and historical debates.

(d) Both (a) and (b)

TYPE 2

Question 4

What was the initial catalyst that sparked the Indian soldiers' rebellion in the First War of Independence in 1857?

A. Discontent with the East India Company's trade policies

B. Rumours of the use of cow and pig fat in the new Enfield rifle cartridges

C. The imposition of high taxes on the local populace

D. The introduction of Western education methods

(a) A and C

(b) B and D

(c) A and B

(d) C and D

Question 5

What was the significant outcome of the First War of Independence in terms of administrative changes?

A. Immediate independence of India

B. Transfer of power from the East India Company to the British Raj

C. Establishment of the Indian National Congress

D. Division of India into provinces

(a) A and C

(b) B and D

(c) A and B

(d) Only B

Question 6

How does the document describe the British reaction to the Indian rebellion of 1857?

A. The British were indifferent and did not take any significant action.

B. The British recognised it as a legitimate war of independence.

C. The British undertook punitive measures against the rebels.

D. The British considered it a minor disturbance that was quickly resolved.

(a) B and D

(b) C and A

(c) C and D

(d) A and B

Question 7

Which two leaders played a crucial role in the 1857 uprising?

A. Rani Lakshmibai of Jhansi

B. Mangal Pandey

C. Lord Dalhousie

D. Bahadur Shah Zafar

(a) A and B

(b) B and C

(c) A and D

(d) C and D

TYPE 3

Question 8

Revolt of 1857 : First War of Independence : : Doctrine of Lapse : _____

(a) Policy of Economic Sanctions

(b) Policy of Annexation

(c) Policy of Non-Intervention

(d) Policy of Religious Conversions

Question 9

Doctrine of Lapse : Lord Dalhousie :: Doctrine of Subsidiary Alliance : _____

(a) Lord Cornwallis

(b) Lord Wellesley

(c) Lord Canning

(d) Lord Bentinck

Question 10

Sepoy Mutiny : Military Cause :: Mass Conversion Fears : _____ Cause

(a) Economic

(b) Administrative

(c) Social and Religious

(d) Technological Advancement

TYPE 4

Question 11

Evaluate the two statements below in relation to the Revolt of 1857 and select the option that shows the correct relationship between (A) and (B).

(A) The Revolt of 1857 was an outcome of the cumulative dissatisfaction among various sections of the Indian society.

(B) The Revolt of 1857 was mainly a military revolt without any support from the civilian population.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Examine the two statements below regarding the Sepoy Mutiny and choose the option that correctly represents the relationship between (A) and (B).

(A) The Sepoy Mutiny was sparked by a variety of grievances among the Indian sepoys, including the issue with the new rifle cartridges.

(B) The sepoys' grievances were solely based on high-handed British policies without any cultural or religious underpinnings.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 13

Read the two statements given below about the perception of the 1857 uprising and select the option that shows the correct relationship between (A) and (B).

(A) The nationalistic spirit of the 1857 uprising was recognised by figures like Jawaharlal Nehru, who saw it as a challenge to British rule.

(B) Some British officials such as John Lawrence saw the uprising purely as a military revolt without any nationalistic significance.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 14

During British rule, various policies were implemented that had long-term effects on the Indian social fabric. Among these was the promotion of Western education. What was the likely motive behind this educational policy?

(a) To encourage the spread of Indian traditional education

(b) To support the growth of indigenous industries

(c) To create a class of persons, Indian in blood but British in tastes and intellect

(d) To facilitate the economic independence of the Indian masses

Question 15

Given the military changes that took place in India's army, where the professional soldiers replaced the earlier system of peasant levy, which group would have been most directly affected by these changes in the short term?

(a) The peasant community

(b) The professional soldiers

(c) The local artisans

(d) The foreign diplomats

Question 16

"The Revolt remained localised in character." What could be inferred about the nature of the 1857 uprising based on this statement?

(a) The rebellion enjoyed widespread support across all social classes in India.

(b) The rebellion was characterised by organised resistance with centralised planning.

(c) The rebellion was limited in geographical scope and did not unify under a common nationalistic cause.

(d) The rebellion led to immediate changes in British policy regarding the governance of India.

TYPE 6

Question 17

Identify the odd one out regarding the objectives of Christian missionaries in India during the British rule:

(a) To spread Christian beliefs and values

(b) To provide Western education and medical aid

(c) To support the spread of Hindi as a national language

(d) To offer humanitarian assistance to the poor

Question 18

Which of the following was not a consequence of the British Crown taking control after the Sepoy Mutiny?

(a) The British government aimed to respect the rights and dignities of Indian princes.

(b) Policies were implemented to ensure that Indians could not hold high military or civil posts.

(c) The British sought to avoid any appearance of religious bias or intent to convert Indians to Christianity.

(d) The British government prioritised the promotion of democratic institutions and equal representation for Indians.

Question 19

Identify the odd one out regarding the British perspective on the 1857 uprising:

(a) They viewed it as a mere 'Sepoy Mutiny' rather than a legitimate war of independence.

(b) They recognised it as a war of independence and made efforts to address the concerns of the Indian people.

(c) They considered the uprising to be an event of insubordination by military personnel.

(d) They dismissed the idea that the uprising had a wider nationalistic sentiment among Indians.

2 Factors Leading to e Growth of Nationalism and Foundation of the Indian National Congress

TYPE 1

Question 1

The Indian National Congress (INC) played a crucial role in the Indian National Movement. Which of the following statements about the INC's objectives are correct?

(a) INC aimed to represent the interests of the entire Indian population, irrespective of caste or creed.

(b) INC's immediate objective was to obtain full independence from British rule.

(c) INC sought to foster a sense of national unity among the Indian people.

(d) Both (a) and (c)

Question 2

What was a common goal shared by socio-religious reform movements in 19th century India?

(a) They aimed to reinforce the caste distinctions and untouchability.

(b) They strove to promote nationalism and unity across different social strata.

(c) They worked exclusively to improve the economic conditions of the upper castes.

(d) Both (a) and (b)

Question 3

The First Session of the Indian National Congress in 1885 was notable for which of the following reasons?

(a) It was presided over by A.O. Hume, the founder of the Congress.

(b) It saw a large turnout with representatives from all parts of India.

(c) It resulted in the immediate abolition of the Indian Civil Service examination.

(d) Both (a) and (b)

TYPE 2

Question 4

What was the common thread in the economic ideas of Raja Ram Mohan Roy and Jyotiba Phule?

A. Support for the British military expenditure in India.

B. Advocacy for the reduction of the military budget to reallocate funds for health and education.

C. Encouragement of the British economic policies without reforms.

D. Promotion of increased taxation on the Indian peasantry.

(a) A and C

(b) B and D

(c) B only

(d) C and D

Question 5

How did Indian nationalists respond to British colonial policies and their impact on Indian society?

A. By advocating complete acceptance of British economic and political practices

B. By creating literature and press that supported British rule

C. By challenging colonial policies through legal battles and promoting national literature

D. By seeking alliances with other colonial powers to counter British influence

(a) A and B

(b) B and C

(c) C and D

(d) A and D

Question 6

What was a significant impact of the Ilbert Bill controversy on the judicial system in India?

A. No European could be tried by an Indian magistrate

B. Only Europeans could serve as jurors in trials involving Europeans

C. Indian magistrates were allowed to try European offenders under certain conditions

D. The Vernacular Press Act was withdrawn as a result of the controversy

(a) A and B

(b) B and C

(c) A and D

(d) C and D

TYPE 3

Question 7

Raja Rammohan Roy : Anti-Sati Movement : : Jyotiba Phule : _____

(a) Revolt Against Indigo Planters

(b) Upliftment of Lower Castes and Women

(c) Establishment of English Education

(d) Campaign Against British Imperialism

Question 8

Dadabhai Naoroji's 'Rast Goftar' : Advocacy for Independence : : Bal Gangadhar Tilak's 'Kesari' : _____

(a) Promotion of British Rule

(b) Reporting Local News

(c) Spread of Nationalist Ideas through Press

(d) Commentary on Economic Affairs

Question 9

Vernacular Press Act, 1878 : Suppression of Press Freedom : : Ilbert Bill Controversy : _____

(a) Religious Conflict

(b) Racial Discrimination in Judiciary

(c) Economic Exploitation

(d) Educational Reforms

TYPE 4

Question 10

Read the two statements given below about Jyotiba Phule's contribution to the

social reform movement in India and select the option that shows the correct relationship between (A) and (B).

(A) Jyotiba Phule's work focused on uplifting lower castes and offering education to women.

(B) Jyotiba Phule believed that British rule was detrimental and offered no tools to fight social injustice in India.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Read the two statements given below about the repressive colonial policies and select the option that shows the correct relationship between (A) and (B).

(A) The repressive policies of Lord Lytton as Viceroy of India from 1876 to 1880, such as the Vernacular Press Act, were intended to silence opposition against the British government.

(B) The Indian National Congress was founded during Lord Lytton's tenure, a period marked by criticism for his policies and their impact on Indian society.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below about the Ilbert Bill controversy and select the option that shows the correct relationship between (A) and (B).

(A) The Ilbert Bill introduced by Lord Ripon faced opposition because it allowed European offenders to be tried by Indian magistrates.

(B) The Indian community was in favour of the Ilbert Bill as it stood for judicial equality.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

Raja Ram Mohan Roy was a prominent figure in the socio-religious reform movements in India. If a country today were to have a reformer with similar impact as Roy, which area would likely see significant progress as a result of the reformer's influence?

(a) Military expansion

(b) Religious and educational transformation

(c) Technological innovation in entertainment

(d) Economic policies favouring the elite class

Question 14

Considering the economic policies of the British during their rule in India, which modern economic strategy is similar to the 'Zamindari System' that led to peasants' suffering?

(a) Progressive taxation on the wealthy

(b) A welfare state with subsidies for the poor

(c) Land reforms distributing land to the tillers

(d) Privatization of common lands with heavy taxation on produce

Question 15

The Ilbert Bill controversy demonstrated the racial prejudices of the British in India. If a similar bill proposing equal legal rights for all races were to be introduced in a contemporary society with a colonial past, which group would most likely oppose it?

(a) The descendants of the colonial settlers who still hold power.

(b) The immigrants who have arrived after the end of colonial rule.

(c) The international human rights organizations.

(d) The local majority population who were once colonised.

TYPE 6

Question 16

Identify the odd one out in relation to the social reforms advocated by Jyotiba Phule:

(a) Uplifting the status of lower castes in society.

(b) Encouraging the education and remarriage of widows.

(c) Reducing the military budget to fund social programs.

(d) Promoting gender equality by advocating for the education of girls.

Question 17

Which of the following was not a reason for the dissatisfaction among educated Indians during British rule?

(a) The better-paid jobs were kept out of their reach.

(b) A dismissed ICS official due to superficial grounds.

(c) The imposition of the Vernacular Press Act and the Arms Act.

(d) The widespread adoption of the English language among the educated class.

Question 18

Identify the odd one out of the following associated with the formation of the Indian National Congress:

(a) The Congress was the forerunner of the Indian National Conference founded in 1885

(b) A.O. Hume is considered the Father of the Indian National Congress

(c) The first session of the Congress was presided over by W.C. Bonnerjee

(d) The Congress was formed to support the British economic policies in India

3 Objectives and Methods of Struggle of the Early Nationalists

TYPE 1

Question 1

What were the core demands of the early nationalists regarding constitutional reforms in British India?

(a) They demanded complete independence from British rule.

(b) They sought the abolition of the Indian Council and expansion of legislative councils.

(c) They advocated for the establishment of a parliamentary democracy in India.

(d) Both (b) and (c)

Question 2

What was the primary aim of Dadabhai Naoroji when he founded the East India Association in 1866?

(a) To promote the cultural exchange between India and England.

(b) To facilitate the migration of Indian labourers to England.

(c) To inform the British public and parliament about the true state of affairs in India.

(d) Both (a) and (b).

Question 3

What was Gopal Krishna Gokhale's perspective on the inclusion of Indians in the British administration?

(a) He believed that no Indian should be a part of the British administration.

(b) He argued that Indians should be given a large share in the Indian Civil Service.

(c) He was indifferent to the participation of Indians in the British administration.

(d) He only supported Indians being part of the British administration if they were educated abroad.

TYPE 2

Question 4

What methods did the early nationalists in India use to safeguard civil liberties and promote economic reforms?

A. Petitions and resolutions, along with violent protests to oppose the government

B. Safeguarding civil liberties through absolute freedom of press and speech

C. Demanding the reduction in land-revenue and protection of peasants against unjust demands from Zamindars

D. Promoting industrial growth through unrestricted import policies

(a) A and D

(b) B and C

(c) C and D

(d) A and B

Question 5

How did Dadabhai Naoroji contribute to the Indian nationalist movement?

A. By promoting the 'Drain Theory' and serving as a member of the British House of Commons

B. By leading armed rebellions against the British rule

C. By establishing an independent Indian state

D. By negotiating India's independence with the British Government directly

(a) A and B

(b) A and C

(c) A and D

(d) B and C

Question 6

What was Surendranath Banerjea's stance on the method of political resistance in India?

A. Advocated for violent uprisings against British rule.

B. Supported the use of knowledge and oratory to influence change.

C. Believed in armed struggle as the only means to achieve freedom.

D. Encouraged unconditional cooperation with the British.

(a) A and C

(b) B and D

(c) C and D

(d) A and B

TYPE 3

Question 7

Economic Reforms : Land-revenue Reduction :: Administrative Reforms : _____

(a) Indigenous Manufacturing

(b) Executive and Judicial Separation

(c) Press Freedom

(d) Expansion of Legislative Councils

Question 8

Dadabhai Naoroji : Member of British House of Commons :: _____ : Member of the Viceroy's Executive Council

(a) Pherozeshah Mehta

(b) Gopal Krishna Gokhale

(c) Sir Syed Ahmad Khan

(d) Bal Gangadhar Tilak

Question 9

The Indian National Congress under Surendranath Banerjea : Twice presided over sessions : : Gopal Krishna Gokhale's role in Congress : _____

(a) Once presided over as a session secretary

(b) Never participated in any sessions

(c) Presided over the Varanasi session

(d) Acted solely as a financial advisor

TYPE 4

Question 10

Read the two statements given below about the methods of struggle of the early Indian nationalists and select the option

that shows the correct relationship between (A) and (B).

(A) Early Congressmen opposed tooth and nail the suppression of the freedom of speech and expression.

(B) The Congress believed that the suppression of a free press would not check 'sedition' or rebellion against the government.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Consider the following statements regarding the early nationalists' methods of struggle and choose the correct relationship between (A) and (B).

(A) The early nationalists in India believed that agitation through constitutional means was the path to political and economic reforms.

(B) The British government welcomed the constitutional methods of the early nationalists and supported their reforms.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Consider the following statements about Gopal Krishna Gokhale's approach to the Indian freedom struggle and choose the correct relationship between (A) and (B).

(A) Gokhale believed that constitutional agitation, petitions, appeals to justice, and passive resistance were the means to achieve the goal.

(B) Gokhale supported the Swadeshi Movement, which was a form of active resistance.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

Considering the economic reforms demanded by early Congress leaders, which contemporary policy would align with their principles?

(a) Privatization of public sector enterprises

(b) Introduction of regressive taxation

(c) Reduction in government welfare spending

(d) Relief measures for the agrarian sector

Question 14

Dadabhai Naoroji's work on the 'Drain Theory' and his efforts in the British House of Commons were aimed at highlighting the economic exploitation of India by Britain. What was the intended outcome of exposing this 'Drain' to the British Parliament and public?

(a) To support the continuation of the British Raj with minor reforms.

(b) To garner support for the British economic policies in India.

(c) To seek compensation for the economic losses of India.

(d) To create awareness and gather support for Indian self-rule.

Question 15

Considering the objectives of the early Indian National Congress sessions listed, which outcome would best reflect the Congress's intent during its formative years?

(a) The establishment of a totalitarian regime

(b) The creation of an independent judiciary system and legislative reforms

(c) The continued colonial rule with minor administrative changes

(d) The immediate transition to a fully independent democratic government

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TYPE 6

Question 16

Identify the odd one out regarding the beliefs and methods of struggle of the Early Nationalists:

(a) They had a strong belief in the British sense of fair play and justice.

(b) They adopted moderate methods of struggle such as petitions and resolutions.

(c) They aimed to establish a total independent rule immediately.

(d) They favoured the growth of Indian representation in administrative services.

Question 17

Which of the following was NOT a criticism made against the early Indian nationalists?

(a) They used beggarly methods of prayers and petitions.

(b) They were labelled as "Armchair Politicians" for their approach.

(c) They only represented the English-educated elite, not the masses.

(d) They failed to involve women in the nationalist movement.

Question 18

Which of the following does not align with Gopal Krishna Gokhale's approach to India's struggle for freedom?

(a) Presiding over sessions of the Indian National Congress

(b) Advocating for constitutional agitation and passive resistance

(c) Calling for the employment of educated Indians in the British Civil Service

(d) Encouraging the use of violent means for political change

4 Second Phase of the Indian National Movement: Partition of Bengal and Other Developments

TYPE 1

Question 1

Bal Gangadhar Tilak was a prominent figure in the Indian National Movement. What can be inferred about his role?

(a) He was solely responsible for the spread of the plague in India.

(b) He used his writings to educate peasants about their rights during the famine relief efforts.

(c) He was imprisoned by the British for his moderate stance on Indian self-rule.

(d) Both (b) and (c)

Question 2

How did the Assertive Nationalists' approach to the British rule in India differ from the Early Nationalists?

(a) Assertive Nationalists sought to replace the British administration, whereas Early Nationalists aimed for administrative reforms within the British framework.

(b) Early Nationalists did not have faith in the British sense of justice, unlike Assertive Nationalists who believed in British justice.

(c) Assertive Nationalists believed in self-reliance and Swadeshi, while Early Nationalists favoured legislative councils.

(d) Both (a) and (c)

Question 3

Lala Lajpat Rai's participation in the Indian freedom movement is chronicled. Which of the following activities was he involved in?

(a) He was a founding member of the Swaraj Party and later joined the Nationalist Party.

(b) He initiated the Non-Cooperation Movement in response to the Jallianwala Bagh Massacre.

(c) He was primarily an educational reformer with little involvement in active politics.

(d) Both (a) and (b)

TYPE 2

Question 4

What were the primary aims of Lord Curzon's partition of Bengal in 1905?

A. To improve administrative efficiency by dividing a large province.

B. To strengthen national unity between Hindus and Muslims.

C. To suppress the rise of nationalism by sowing division.

D. To promote economic development equally across the region.

(a) A and B

(b) B and D

(c) A and C

(d) C and D

Question 5

Which of the following was a core belief of the Assertive Nationalists during the Indian National Movement?

A. They had unlimited faith in the British government and the goodness of the British people.

B. They believed in seeking reforms within the framework of British rule.

C. They sought to achieve 'Swaraj' and considered 'Dominion Status' to be an end goal.

D. They had no faith in the British government and their ideal was Absolute Swaraj.

(a) A and B

(b) B and C

(c) C and D

(d) A and D

Question 6

What role did Lala Lajpat Rai play in the Non-Cooperation Movement and subsequent political developments in India?

A. He led the movement and later formed the Swaraj Party to contest council elections.

B. He was primarily involved in the scholarly publication to support the movement.

C. He focused solely on economic strategies and did not participate in active politics.

D. He advocated for direct cooperation with the British rather than non-cooperation.

(a) A and B

(b) A and C

(c) B and D

(d) C and D

TYPE 3

Question 7

Surat Split of 1907 : Moderates and Extremists :: Bengal Partition of 1905 : _____

(a) Hindus and Muslims

(b) British and Indian Feudatories

(c) Agriculturalists and Industrialists

(d) Government and Opposition

Question 8

Swarajists' decision to enter Legislative Councils : to obstruct colonial policies :: Revolutionary Nationalists' path of _____ : to overthrow the British government

(a) petitions and appeals

(b) armed struggle

(c) passive resistance

(d) legal reforms

Question 9

Lala Lajpat Rai : Protest against Simon Commission :: Bipin Chandra Pal : _____

(a) Support of Partition of Bengal

(b) Advocacy for French Revolution Ideals

(c) Leadership in Swadeshi Movement

(d) Ambassadorship in the United Kingdom

TYPE 4

Question 10

Consider the following statements about the Surat Split and determine the correct relationship between (A) and (B).

(A) The Surat Split of 1907 in the Indian National Congress was a division between the assertive nationalists and the moderates.

(B) The split was intended to strengthen the position of Bal Gangadhar Tilak in the Congress.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Read the two statements given below about the ideologies of early nationalists and select the option that shows the correct relationship between (A) and (B).

(A) Early nationalists had faith in British institutions and sought reforms within the framework of British rule.

(B) Assertive nationalists had no faith in British institutions and sought complete independence.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below about the ideologies of Madam Cama and select the option that shows the correct relationship between (A) and (B).

(A) Madam Cama's activities in the Indian independence movement were primarily focused on social reform and women's rights.

(B) Madam Cama represented India at the International Socialist Conference in Germany where she stressed the need for India's independence.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

Considering the Surat Split of 1907, what can be inferred as a primary consequence of internal divisions within the Indian National Congress at the time?

(a) Strengthening of the British Raj's control over India

(b) Increased cooperation between moderate and assertive nationalists

(c) Unification of Indian political factions against the British

(d) The prevention of Bal Gangadhar Tilak from becoming President of the Congress

Question 14

The Early Nationalists believed in achieving self-government by working

within the British colonial system. If a present-day organization believed in a similar ideology of reform from within, what strategy would they most likely pursue?

(a) Organize revolutionary activities to overthrow the system

(b) Call for international sanctions against their own government

(c) Participate in elections and legislative processes

(d) Engage in civil disobedience and non-cooperation

Question 15

In the Home Rule Movement, if a similar movement were to occur in a modern-day democratic country, which group would most likely be its primary supporters?

(a) Foreign nationals seeking influence

(b) The central federal government

(c) State or provincial governments seeking more autonomy

(d) International governing bodies

TYPE 6

Question 16

Identify the odd one out regarding the reactions to the Partition of Bengal in 1905:

(a) A massive meeting was held at the Town Hall in Kolkata.

(b) The day of partition was declared as a "day of mourning" by the people.

(c) The Swadeshi and Boycott movement were launched as forms of protest.

(d) Support was expressed for the partition as a means of administrative convenience.

Question 17

Which of the following does not align with the basic beliefs of the Assertive Nationalists?

(a) They had no faith in the British sense of justice and fairness.

(b) Their ideal was absolute Swaraj or complete independence.

(c) They believed in obtaining rights and reforms through legal appeals and petitions.

(d) They considered self-reliance and boycott of foreign goods as a means of struggle.

Question 18

Which of the following ***does not*** accurately reflect Gopal Krishna Gokhale's contributions to the Indian national movement?

(a) He was a senior leader of the Indian National Congress.

(b) He was one of the earliest leaders to advocate for self-rule in India.

(c) He was a staunch advocate for direct action and protests against the British.

(d) He was a mentor to Mahatma Gandhi.

5 Muslim League and its Objectives

TYPE 1

Question 1

What was the British reaction to the establishment of the Mohammedan Anglo-Oriental College at Aligarh by Sir Syed Ahmad Khan?

(a) They supported it as it was in line with their policy of promoting loyalty among Muslims.

(b) They saw it as a threat to their rule and attempted to close it down.

(c) They remained indifferent as it did not align with their educational policies.

(d) Both (a) and (b)

Question 2

What was a major concern for the Muslims that led to the formation of the Muslim League?

(a) They wanted to support the Hindu-Urdu controversy.

(b) They were seeking assurances from the British for safeguarding their political rights.

(c) They aimed to promote loyalty towards the British rule.

(d) Both (b) and (c)

Question 3

How did the British use educational policies to foster communal divisions in India?

(a) By creating separate educational institutions for Muslims and Hindus.

(b) By promoting Western education among Muslims to create a loyal administrative class.

(c) By encouraging Muslims to believe that supporting the government was the surest way of getting government jobs or other rewards.

(d) Both (b) and (c)

TYPE 2

Question 4

Which of the following strategies were employed by the British to maintain their power in India?

A. Encouraging industrial development

B. Dividing and ruling through communal rifts

C. Promoting economic equality

D. Fostering pan-Indian nationalism

(a) A and B

(b) B and D

(c) A and C

(d) C and D

Question 5

In the context of educational and economic backwardness of the Muslim community,

what role did Sir Syed Ahmad Khan's efforts play?

A. He discouraged Western education among Muslims

B. He established the Mohammedan Anglo-Oriental College

C. He promoted loyalty towards the British government

D. He supported the Hindu-Urdu controversy

(a) B and C

(b) A and D

(c) C and D

(d) A and B

Question 6

What was a significant concern of Lord Minto that led to the Morley-Minto Reforms of 1909?

A. Safeguarding the political rights and interests of the Muslims

B. Preventing the rise of the Indian National Congress

C. Providing separate representation to curb Hindu dominance

D. Encouraging the Muslim League to support British rule

(a) A and C

(b) B and D

(c) A and D

(d) B and C

TYPE 3

Question 7

Economic Backwardness of Muslims : Lack of Western Education : : General Economic Backwardness of Country : _____

(a) Industrial Progress

(b) Reservation of Jobs

(c) Communal Jobs Distribution

(d) Exploitation of Resources

Question 8

Morley-Minto Reforms : Separate Electorates :: Government of India Act, 1935 : _____

(a) Provincial Autonomy

(b) Communal Harmony

(c) Centralised Governance

(d) Abolition of Monarchy

Question 9

All-India Muslim League formation : 1906 :: Lucknow Pact between Congress and League : _____

(a) 1909

(b) 1913

(c) 1916

(d) 1920

TYPE 4

Question 10

Read the two statements given below about the objectives of the Aligarh Movement and select the option that shows the correct relationship between (A) and (B).

(A) The Aligarh Movement led by Sir Syed Ahmad Khan was primarily focused on promoting loyalty towards the British rulers among Muslims.

(B) The Aligarh Movement was a response to the educational and economic backwardness of the Muslim community in India.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Read the two statements given below about the partition of Bengal and select the option that shows the correct relationship between (A) and (B).

(A) The partition of Bengal was justified by the British as a means to improve administrative efficiency.

(B) The real intent of the partition was to create religious divisions between Muslims and Hindus.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below about the Morley-Minto Reforms and select the option that shows the correct relationship between (A) and (B).

(A) The Morley-Minto Reforms of 1909 allowed for separate electorates for Muslims in the Imperial Legislative Council as well as Provincial Councils.

(B) The Morley-Minto Reforms were designed to ensure that communal representation in legislative bodies would not impact the unity of Indian society.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

Based on the British policy of "Divide and Rule" as outlined in the provided historical context, what was the primary objective of the British in implementing this policy in India?

(a) To ensure fair and equal representation of all communities

(b) To foster unity and cooperation between different religious groups

(c) To maintain British control by creating rifts between various Indian communities

(d) To promote economic development and educational reforms in India

Question 14

Based on the Muslim League's objectives, what was the attitude of the League towards the British government?

(a) The League adopted a confrontational stance against the British rulers.

(b) The League was formed to promote loyalty towards the British government.

(c) The League's primary objective was to ensure immediate independence from British rule.

(d) The League sought to align with the Congress to demand self-rule.

Question 15

The annulment of Bengal's partition in 1911 and the subsequent efforts like the Lucknow Pact of 1916 indicate a shift in the political strategy of the Muslim League. What does this shift suggest?

(a) A move towards seeking exclusive political power for the Muslim community.

(b) A growing inclination to collaborate with the British to suppress nationalist movements.

(c) A willingness to work with other communities to reach a consensus on political questions.

(d) An attempt to reinforce separate electorates and increase communal tensions.

TYPE 6

Question 16

Identify the odd one out of the following effects of British policies on Muslim League's objectives:

(a) To garner Muslim support for the British government

(b) To facilitate the economic advancement of Muslims through the Aligarh Movement

(c) To encourage the Hindu-Muslim unity against the British

(d) To counter the influence of Hindu-dominated Congress

Question 17

Which of the following is not a described consequence of the communal instruction in history by the British?

(a) The British authors' portrayal of Muslims as the descendants of Turks and Mughals

(b) The British textbooks detailing the cruelty of Muslim rulers towards Hindu subjects

(c) The textbooks becoming a tool for packing biased information into students' minds

(d) The British fostering scientific and Western learning among Muslims

Question 18

Which statement does not accurately reflect the attitude of the Nationalist Muslims towards British rule as?

(a) Nationalist Muslims believed there could be no future for India unless cooperation was established between different communities.

(b) Nationalist Muslims supported the idea of a loyalist organisation to promote allegiance to British rule.

(c) Nationalist Muslims, like Rashid Ahmad of the Deoband School, urged Muslims not to be afraid of Hindu majority.

(d) Many Nationalist Muslims joined the Congress, including Habibur Rahman.

6 National Movement during the First World War: Lucknow Pact and Other Developments

TYPE 1

Question 1

What was a major reason for the initiation of the Non-Cooperation Movement in 1920?

(a) Dissatisfaction with the Montagu-Chelmsford Reforms

(b) Protest against the Jallianwala Bagh Massacre

(c) Gandhi's return from South Africa

(d) Both (a) and (b)

Question 2

The Nehru Report of 1928 was significant because it:

(a) Outlined a vision for India's future constitution

(b) Led to the launch of the Civil Disobedience Movement

(c) Proposed the idea of Dominion Status for India

(d) Both (a) and (c)

Question 3

The Swaraj Party was formed due to:

(a) The successful negotiation of the Lucknow Pact

(b) Dissatisfaction with Gandhi's suspension of the Non-Cooperation Movement after the Chauri Chaura incident

(c) The need to oppose the Simon Commission

(d) Both (a) and (b)

TYPE 2

Question 4

The Civil Disobedience Movement of 1930 was a response to which of the following reasons?

A. The Simon Commission's report

B. The failure of the Non-Cooperation Movement

C. The non-fulfilment of the Nehru Report's demands

D. The arrest of major nationalist leaders

(a) A and B

(b) B and C

(c) A and C

(d) C and D

Question 5

The Government of India Act 1919 is criticised for which of the following reasons?

A. Introducing the Diarchy system which was illogical and inadequate

B. Providing excessive powers to the British government

C. Ignoring the demands for complete independence

D. The exclusion of Indians from the legislative process

(a) A and C

(b) B and D

(c) A and B

(d) C and D

Question 6

The August Declaration of 1917 by the Secretary of State for India, Mr. Montague, promised which of the following?

A. Gradual development of self-governing institutions

B. Immediate granting of full independence

C. Abolition of the caste system

D. Establishment of communal electorates

(a) A and B

(b) B and C

(c) A and D

(d) C and D

TYPE 3

Question 7

Home Rule Movement : Self-Government : : Civil Disobedience Movement (1930) : _____

(a) Full Sovereignty

(b) Communal Harmony

(c) Complete Non-Cooperation

(d) Constitutional Amendments

Question 8

The August Declaration (1917) : Gradual Development of Self-Governing Institutions : : Montagu-Chelmsford Reforms (1919) : _____

(a) Immediate Full Self-Government

(b) Introduction of Communal Electorates

(c) Decentralization of Power

(d) Responsible Government at Provincial Level

Question 9

Annie Besant's Home Rule League : Local Autonomy : : Gandhi's Non-Cooperation Movement : _____

(a) Complete British Withdrawal

(b) Constitutional Reforms

(c) National Education

(d) Economic Independence

TYPE 4

Question 10

Read the two statements given below about the Home Rule Movement and select the option that shows the correct relationship between (A) and (B).

A. The Home Rule Movement aimed at self-governance through constitutional methods.

B. The Government of India Act, 1919, was a direct result of the Home Rule Movement.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Read the two statements given below about Gandhi's early life and select the option that shows the correct relationship between (A) and (B).

(A) Gandhi was known for his advocacy of non-violence and satyagraha.

(B) Gandhi pursued a career in violent revolutionary activities before adopting non-violence.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below about the Government of India Act, 1919, and select the option that shows the correct relationship between (A) and (B).

(A) The Act introduced a dyarchy system in the provincial governments.

(B) The Government of India Act, 1919, was fully supported and welcomed by the Indian leaders.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

The Civil Disobedience Movement was a significant part of the National Movement in India. What was its main goal?

(a) To demand complete independence from British rule

(b) To promote Hindu-Muslim unity

(c) To secure better representation in the British Parliament

(d) To implement the Lucknow Pact

Question 14

The Government of India Act, 1919, was criticised for its introduction of Dyarchy. What was the primary reason for this criticism?

(a) It was too complex and difficult to implement

(b) It offered too much power to Indians at the provincial level

(c) It was seen as a division of power that was illogical and inefficient

(d) It completely transferred power from the British to Indian authorities

Question 15

The Home Rule Leagues during the First World War aimed to:

(a) Support the British war effort unconditionally

(b) Agitate for Indian self-government during and after the war

(c) Advocate for the rights of the British in India

(d) Promote religious interests in governance

TYPE 6

Question 16

Which of the following was NOT an outcome of the August Declaration of 1917?

(a) The promise of gradual development of self-governing institutions

(b) The establishment of the Home Rule Leagues

(c) The policy of the British government was of gradual development of self-governing institutions

(d) The Secretary of State for India, operating from England, should be abolished

Question 17

Which one of the following was NOT a criticism of the Government of India Act, 1919?

(a) It kept alive the system of separate electorates

(b) It was seen as 'inadequate' and 'unsatisfactory' by the Congress

(c) It introduced a Communal Veto in legislation

(d) It established full independence for India

Question 18

Identify the odd one out related to the impact of the Non-Cooperation Movement:

(a) It was a significant step toward Hindu-Muslim unity

(b) It led to the development of self-governing institutions

(c) It was a reaction to the Rowlatt Act and the Jallianwala Bagh massacre

(d) It resulted in the creation of the Simon Commission

7 National Movement 1919 - 1934

TYPE 1

Question 1

The Civil Disobedience Movement initiated by Gandhi emphasised the use of non-violent resistance against British rule. Which of the following statements correctly describe its characteristics?

(a) It was closely related to the Swadeshi movement, promoting the use of Indian-made goods.

(b) The movement was temporarily suspended after the signing of the Gandhi-Irwin Pact.

(c) The Dandi March was a part of the Civil Disobedience Movement.

(d) Both (b) and (c)

Question 2

How did the government respond to the Non-Cooperation Movement?

(a) The movement was completely ignored by the British government.

(b) The government engaged in dialogue with Gandhi to address the issues.

(c) The British government arrested and faced political trials to suppress the movement.

(d) Both (b) and (c)

Question 3

The Simon Commission was met with widespread protest upon its arrival in India. Which of the following statements accurately describe the reasons for its opposition?

(a) It was formed to review the Government of India Act of 1919.

(b) It was entirely composed of British members, with no Indian representation.

(c) Its recommendations included granting full independence to India.

(d) Both (a) and (b).

TYPE 2

Question 4

Which event directly catalysed the initiation of the Non-Cooperation Movement by the Congress in 1920?

A. The Jallianwala Bagh Massacre

B. The enactment of the Rowlatt Act

C. Gandhi's return to India from South Africa

D. The failure of the Cripps Mission

(a) A and B

(b) C and D

(c) A and D

(d) B and C

Question 5

Which of the following were objectives of the Non-Cooperation Movement initiated by Mahatma Gandhi?

A. Boycott of British educational institutions and law courts

B. Surrender of titles and honorary positions given by the British

C. Promotion of Hindu-Muslim unity

D. Complete independence from British rule

(a) A and B

(b) B and C

(c) A, B, and C

(d) All of the above

Question 6

The Poona Pact of 1932 was significant for which reasons?

A. It marked the beginning of the Civil Disobedience Movement

B. It resulted in the Communal Award by the British government

C. It was an agreement between Ambedkar and Gandhi regarding seat allocation for the Depressed Classes

D. It was rejected by the British government leading to a new wave of civil disobedience

(a) B and C

(b) A and D

(c) C and D

(d) A and B

TYPE 3

Question 7

Rowlatt Act : Preventive Detention without Trial : : Simon Commission : _____

(a) Constitutional Reforms

(b) Abolition of Salt Tax

(c) Judicial Inquiry into Political Crimes

(d) Economic Policy Formulation

Question 8

Khilafat Movement : Unity of Hindu-Muslim Community : : Civil Disobedience Movement : _____

(a) Indian Economic Independence

(b) Boycott of British Goods and Services

(c) Parliamentary Reforms in India

(d) Restoration of the Caliphate

Question 9

Poona Pact: Representation of the depressed classes in legislatures : : Gandhi-Irwin Pact : _____

(a) Restoration of confiscated properties to Satyagrahis

(b) Recognition of the Indian National Congress

(c) Unconditional release of all political prisoners

(d) Legalization of the production of salt by villagers

TYPE 4

Question 10

Read the two statements given below about the Non-Cooperation Movement and select the option that shows the correct relationship between (A) and (B).

(A) The Non-Cooperation Movement was launched by Gandhi as a direct response to the Jallianwala Bagh massacre.

(B) The Non-Cooperation Movement aimed to revoke the Rowlatt Act, which allowed for imprisonment without trial.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Analyze the two statements about the Swaraj Party and choose the correct option that represents their relationship.

(A) The Swaraj Party was formed to enter legislative assemblies and obstruct the government.

(B) The Swaraj Party aimed to promote violent agitation against the British Raj.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below about the communal representation in British India and select the option that shows the correct relationship between (A) and (B).

(A) The Simon Commission suggested the continuation of communal representation for Muslims.

(B) The Nehru Report recommended a Federal Structure with no communal representation.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

The Non-Cooperation Movement led by Gandhi in the early 1920s was a direct response to certain events and policies in India at the time. What was the primary reason for launching the Non-Cooperation Movement?

(a) To protest against the Jallianwala Bagh massacre and the Rowlatt Act.

(b) To support the British government in recruiting Indian soldiers for World War I.

(c) To demand the immediate independence of India from British rule.

(d) To retaliate against the government's failure to pass the Nehru Report.

Question 14

The Civil Disobedience Movement led by Gandhi involved non-violent resistance and non-cooperation with the British authorities, including the refusal to pay taxes. If a group in a modern democratic nation were to adopt similar tactics to protest against a government policy, which of the following is the most likely immediate reaction by the government?

(a) Acknowledgment and immediate repeal of the policy

(b) Negotiation with the protesters to find a compromise

(c) Implementation of stricter laws to curb protests

(d) Ignoring the protests and making no changes to policy

Question 15

The Nehru Report of 1928 was significant in the context of the Indian National Movement because it recommended a particular framework for the country's future governance. Based on the information provided, which of the following was NOT a recommendation of the Nehru Report?

(a) Full Dominion Status for India

(b) The inclusion of separate electorates for religious minorities

(c) The creation of a bicameral federal legislature

(d) The implementation of responsible government at the provincial level

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TYPE 6

Question 16

Identify the odd one out of the following strategies used in the National Movement (1919-1934):

(a) The Swaraj Party contesting elections to disrupt British legislative councils from within

(b) The Non-Cooperation Movement encouraging the boycott of British goods and services

(c) The Civil Disobedience Movement defying the salt tax through the Salt March

(d) The Revolutionary Movement adopting constitutional measures to gain independence

Question 17

Identify the odd one out of the following outcomes of the Non-Cooperation Movement:

(a) It led to the establishment of a sense of Indian national unity.

(b) It increased the credibility of the British government among the Indian populace.

(c) It promoted the swadeshi movement and the boycott of foreign goods.

(d) It involved surrendering titles and honorary positions awarded by the British.

Question 18

Which of the following was not a significant impact of the Civil Disobedience Movement?

(a) Women became more involved in the freedom struggle

(b) The movement received global attention and support

(c) There was a significant reduction in communal tensions

(d) The movement led to the confiscation of lands and buildings

8 The Cripps Mission and the Quit India Movement

TYPE 1

Question 1

Why were the Cripps Proposals of 1942 ultimately rejected by the Congress and the Muslim League?

(a) The proposals called for the immediate setting up of a Constitution Assembly after the war.

(b) They included provisions for the protection of racial and religious minorities in India.

(c) The proposals implied a potential partition of India.

(d) Both (a) and (c)

Question 2

Regarding the Quit India Movement's impact and significance, which of the following statements are accurate?

(a) The movement was considered a total failure without any significant impact.

(b) It was symbolic of the new confidence that the Indian people had attained.

(c) The movement's failure was solely due to harsh government repression.

(d) Both (b) and the fact that it was a precursor to India's eventual independence.

Question 3

The Quit India Movement of 1942 encountered various reactions and resistance. What were the reasons behind this as per the historical context given?

(a) The movement was viewed as too extreme by some sections of society.

(b) It lacked a clear-cut programme of action, leading to confusion.

(c) The British government agreed to negotiate with the Congress, reducing the need for the movement.

(d) Both (a) and (b)

TYPE 2

Question 4

Why did the Congress Ministries resign in 1939?

A. They were against India's involvement in the war without consultation

B. They wanted immediate independence from British rule

C. They were in favour of cooperating with the British war efforts

D. They objected to the provisions of the August Offer

(a) A and B

(b) B and C

(c) A and D

(d) Only A

Question 5

What was the significance of the Government of India Act, 1935?

A. It established Provincial Autonomy

B. It created a Constituent Assembly

C. It initiated the formation of an All-India Federation

D. It involved the direct election of Indian representatives

(a) A and C

(b) B and D

(c) A and B

(d) C and D

Question 6

How did Mahatma Gandhi and the Congress party view the Cripps Mission proposals?

A. As a step towards immediate independence

B. As an adequate basis for framing India's constitution after the war

C. As a scheme that could potentially divide India into several independent states

D. As a definitive promise for the partition of India

(a) A and C

(b) B and D

(c) C and D

(d) A and B

TYPE 3

Question 7

Individual Satyagraha : Vinoba Bhave's peaceful protest : : Quit India Movement : _____

(a) Collective passive resistance

(b) Violent uprising

(c) Negotiated settlement with the British

(d) Sectoral strikes in industries

Question 8

Muslim League's Response to Cripps Proposals : Demand for Pakistan : : Congress Socialist Party's Role in Quit India Movement : _____

(a) Advocacy for Non-Violence

(b) Struggle for Immediate Independence

(c) Support for British War Efforts

(d) Acceptance of Dominion Status

Question 9

British Government's Reaction to the Quit India Movement : Repressive Measures : : Congress Party's Reaction to Cripps Mission : _____

(a) Passive Acceptance

(b) Strategic Negotiations

(c) Call for Mass Struggle

(d) Conditional Cooperation

TYPE 4

Question 10

Read the two statements given below about the Cripps Mission and select the option that shows the correct relationship between (A) and (B).

(A) Sir Stafford Cripps's proposal included the immediate establishment of an Indian constitution.

(B) The Cripps proposals were rejected because they satisfied both the Congress and the Muslim League.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Read the two statements given below about the response to the Cripps Mission and select the option that shows the correct relationship between (A) and (B).

(A) The Cripps Mission was rejected because it did not promise complete independence after World War II.

(B) The proposals of the Cripps Mission were considered a threat to the principle of democracy as they did not allow the election of representatives to the proposed Constitution-making body.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below about the impact of the Quit India Movement and select the option that shows the correct relationship between (A) and (B).

(A) The Quit India Movement did not result in immediate independence for India.

(B) The Quit India Movement was a significant event that sparked a new sense of confidence and sacrifice among the Indian people.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

The Cripps Mission of 1942 proposed a draft declaration of the British Government's intentions regarding India's future. If the Cripps proposals had been accepted, what immediate change would have been most likely?

(a) An immediate end to British rule in India

(b) The beginning of a civil war in India

(c) The creation of a constitution-making body

(d) The immediate grant of full independence to India

Question 14

The Quit India Movement was launched in response to the failure of the Cripps Mission and other factors. What was the primary mode of protest adopted by the Congress during the Quit India Movement?

(a) Armed Rebellion

(b) Campaign of Individual Civil Disobedience

(c) Negotiations with the British Government

(d) Formation of a parallel government

Question 15

The Quit India Movement saw the arrest of key leaders including Mahatma Gandhi, Nehru, and others. What impact did this have on the movement?

(a) It led to the movement gaining peaceful and organised momentum.

(b) It resulted in the movement becoming leaderless and causing violent outbreaks.

(c) It caused the movement to end immediately due to a lack of leadership.

(d) It unified other political parties to take over the leadership of the movement.

TYPE 6

Question 16

Identify the odd one out regarding the stance of Congress Ministries towards the British government's war efforts:

(a) The Congress Ministries resigned due to non-consultation by the British Government

(b) They supported the British war effort unconditionally

(c) They demanded that no Constitutional Scheme be finalised without their approval

(d) They viewed the British Government as enemy number one

Question 17

Which of the following statements does not align with the Congress party's response to the Cripps Mission as detailed?

(a) The Congress party demanded a true National Government with the Viceroy acting only as a Constitutional Head.

(b) The Congress party was satisfied with the Cripps Mission as it promised immediate independence after the war.

(c) The Congress party rejected the Cripps proposal because it did not guarantee immediate independence.

(d) The Congress party opposed the idea of any Province forming their own constitution if they did not accept the new Constitution proposed by Cripps.

Question 18

Which of the following is not a reason for the failure of the Quit India Movement?

(a) Jayaprakash Narayan's belief that there was a lack of a clear-cut programme of action.

(b) The sentiment that no future promises could affect the present situation, leading to a lack of faith in British intentions.

(c) The people's readiness and willingness to accept the British proposition for Dominion Status post-war.

(d) The government's repressive measures which led to the arrest of key leaders and suppression of the movement.

9 Subhas Chandra Bose, Forward Bloc, and the Indian National Army (INA)

TYPE 1

Question 1

Which of the following statements best represents the ideological differences between Subhas Chandra Bose and Gandhi?

(a) Bose was a staunch supporter of Gandhi's non-violent methods.

(b) Bose believed in the necessity of socialist measures and state-planning for post-independence India.

(c) Gandhi agreed with Bose on seeking support from Axis powers during World War II.

(d) Both (b) and (c)

Question 2

What was the significance of the Forward Bloc, as founded by Subhas Chandra Bose?

(a) It was a movement that aligned with the British to hasten the process of independence.

(b) It was a faction within the Congress aimed at providing a platform for Bose's re-election as President.

(c) It aimed at an anti-imperialist national independence with a socialist framework.

(d) Both (a) and (b)

Question 3

What were the primary objectives of the Indian National Army (INA) as outlined by Subhas Chandra Bose?

(a) To form an armed struggle against the British rule in India.

(b) To create a provisional government recognised by nine countries.

(c) To ensure the last Britisher is either in prison or thrown out of the country.

(d) Both (a) and (c)

TYPE 2

Question 4

Which of the following strategies did Subhas Chandra Bose employ that contrasted with Gandhi's principles?

A. Belief in socialist ideologies and state-planned economy.

B. A diplomatic approach towards British colonial powers.

C. Seeking external support for India's freedom struggle.

D. Promoting religious and linguistic cultural autonomy.

(a) A and C

(b) B and D

(c) C and D

(d) A and B

Question 5

What significant actions did Subhas Chandra Bose undertake as the leader of the INA?

A. Formed a government in exile and renamed Andaman and Nicobar Islands

B. Sought and obtained full support from Hitler and Mussolini

C. Surrendered to the British forces after the fall of Japan

D. Advocated for peaceful protests rather than armed struggle

(a) A and B

(b) A and C

(c) B and D

(d) C and D

Question 6

After the fall of the INA, what was the impact on the Indian population and the British Empire?

A. It caused widespread apathy towards Indian independence

B. It diminished the spirit of the Indian liberation struggle

C. It sparked a spirit of freedom and led to revolts in the Indian armed forces

D. It strengthened the control of the British Empire over India

(a) A and D

(b) B and C

(c) C and D

(d) A and B

TYPE 3

Question 7

Azad Hind Fauz : Subhas Chandra Bose :: Indian National Army : _____

(a) Jawaharlal Nehru

(b) Mohandas Karamchand Gandhi

(c) Rash Behari Bose

(d) Rajendra Prasad

Question 8

Tokyo Conference: Strengthening Indian Independence Movement :: Bangkok Conference : _____

(a) Establishing Azad Hind Fauz

(b) Surrendering to Allied Forces

(c) Forming the Provisional Government

(d) Planning the Civil Disobedience Movement

Question 9

Provisional Government of Free India : Unity, Faith, Sacrifice :: INA's Defeat : _____

(a) Disbandment and Return to British Rule

(b) Strengthening of Indian Nationalism

(c) Formation of United Nations

(d) Victory of Japanese Forces

TYPE 4

Question 10

Read the two statements given below about the Forward Bloc and select the option that shows the correct relationship between (A) and (B).

(A) The Forward Bloc was founded by Subhas Bose with the objective of an uncompromising anti-imperialist struggle for attaining national independence.

(B) The Congress Working Committee was supportive of the Forward Bloc and its objectives.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Read the two statements given below about Subhas Chandra Bose and select the option that shows the correct relationship between (A) and (B).

(A) Bose's hunger strike led to a change in the British government's policy towards the Indian independence movement.

(B) Subhas Bose decided to go on an indefinite hunger strike while he was imprisoned, which alarmed the government.

(a) (B) contradicts (A).

(b) (B) is the reason for (A)

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below and select the option that shows the correct relationship between (A) and (B).

(A) The rift between Bose and Gandhi was mainly due to their differing views on the use of violence in the freedom struggle.

(B) Gandhi's insistence on non-violence led to a fundamental ideological clash with Bose.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

The Forward Bloc, formed by Subhas Chandra Bose, had a distinct vision for post-independence India. According to the

Bloc's objectives, which of the following would be a priority in their envisioned governance?

(a) Promoting a capitalist economy with minimal state intervention

(b) Ensuring a strict adherence to Gandhian thought and principles

(c) Establishing a socialist society with substantial state control over key sectors

(d) Maintaining the status quo of British economic policies

Question 14

Subhas Chandra Bose's approach to India's freedom was marked by his belief in seeking international support and his disagreement with Gandhi's principles. Given this context, which of the following actions would Bose most likely have supported during India's struggle for independence?

(a) Negotiating solely within the frameworks set by the British

(b) Forming alliances with foreign powers that could aid in India's independence

(c) Focusing exclusively on peaceful protests and non-cooperation movements

(d) Upholding strict non-violence even at the cost of prolonging British rule

Question 15

The Indian National Army (INA) allied with which country during World War II to fight against British control in India?

(a) The United States

(b) Germany

(c) Japan

(d) France

TYPE 6

Question 16

Based on the information provided, which of these was NOT an objective of the Forward Bloc as founded by Subhas Chandra Bose?

(a) To attain Indian independence through uncompromising anti-imperialist struggle.

(b) To establish a system of socialist work for the post-colonial society.

(c) To support the British government in their efforts during World War II.

(d) To promote socialist measures such as the abolition of the Zamindari system.

Question 17

Identify the odd one out of the following actions taken by Subhas Chandra Bose:

(a) Formation of the Forward Bloc to challenge the Gandhian ideology within the Congress.

(b) Escape from house arrest and journey to Germany and Japan to seek support.

(c) Establishment of the Provisional Government of Free India during World War II.

(d) Negotiation with British authorities to achieve a peaceful transition to Indian self-rule.

Question 18

Which of the following does NOT accurately represent the impact of the Indian National Army's actions?

(a) The INA sought to recruit women for their forces.

(b) The INA's military expeditions were successful and resulted in long-term territorial gains.

(c) The INA's struggle was instrumental in arousing nationalistic sentiment among Indians.

(d) The INA's existence and actions compelled the British government to consider negotiating India's independence.

10 Independence and the Partition of India

TYPE 1

Question 1

The Muslim League's demand for a separate nation led to the creation of Pakistan. What were the considerations behind this demand?

(a) The Muslim League wanted to ensure Muslim domination in government.

(b) It was a response to fears of minority status and safeguarding rights.

(c) The demand considered religious differences.

(d) Both (b) and (c)

Question 2

How did Lord Mountbatten's appointment as the Viceroy of India influence the political landscape of the time?

(a) His appointment marked the beginning of a series of communal riots.

(b) Mountbatten's arrival accelerated the process towards an independent India and Pakistan.

(c) Mountbatten was instrumental in convincing the Congress and the Muslim League to participate in a coalition government.

(d) Both (a) and (c)

Question 3

The "Tryst with Destiny" speech by Jawaharlal Nehru marked India's independence. What does the speech primarily symbolise?

(a) A future of peace and prosperity without British rule.

(b) The beginning of a civil war in India.

(c) A rejection of the violence and division that accompanied partition.

(d) Both (a) and (c)

TYPE 2

Question 4

How did the Congress Party view the Cabinet Mission Plan regarding the Constituent Assembly?

A. They fully supported the plan without reservations.

B. They rejected the plan due to its proposal of grouping provinces.

C. They accepted the plan under the condition of a divided Punjab.

D. They were in favour of a complete partition over the Cabinet Mission Plan.

(a) A and C

(b) B and D

(c) A and D

(d) B and C

Question 5

What was the significance of the Direct Action Day announced by the Muslim League in the history of India's independence movement?

A. It led to the formation of an interim government.

B. It marked the beginning of the civil disobedience movement.

C. It signified the Muslim League's rejection of the Cabinet Mission Plan.

D. It was a call for Hindu-Muslim unity.

(a) A and B

(b) C and D

(c) A and C

(d) B and D

Question 6

Which of the following did the Indian Independence Act NOT directly address?

A. The partition of British India into India and Pakistan

B. The establishment of a dominion status for the new nations

C. The future role of the British monarchy in India

D. The civil rights of individual citizens post-independence

(a) A and B

(b) B and C

(c) C and D

(d) A and D

TYPE 3

Question 7

Cabinet Mission Plan : Propose federal structure for Independent India : : Wavell Plan : _____

(a) Establish Hindu and Muslim independent states

(b) Propose dominion status for India

(c) Recommend partition of India into two nations

(d) Suggest provincial autonomy for Indian states

Question 8

The Cabinet Mission Plan : Propose a federal solution for independent India :: Interim Government of 1946 : _____

(a) Enforce the policies of the British Raj

(b) Implement the Mountbatten Plan

(c) Administer governance before full independence

(d) Draft the constitution of India

Question 9

Muslim League's Demand for Pakistan : 1940 Lahore Session : : Congress' Rejection of Two-Nation Theory : _____

(a) 1942 Quit India Movement

(b) 1931 Round Table Conferences

(c) 1946 Cabinet Mission Plan

(d) 1947 Indian Independence Act

TYPE 4

Question 10

Consider the following statements regarding the reactions to the Cabinet Mission's proposals and select the correct relationship between (A) and (B).

(A) The Congress mainly accepted the long-term plan for a loose federation as proposed by the Cabinet Mission.

(B) The Muslim League rejected the Cabinet Mission's plan because it demanded a fully sovereign Pakistan immediately.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Consider the following statements regarding the Mountbatten Plan and the partition of India.

(A) The Mountbatten Plan led to the partition of India into two separate nations based on religious demographics.

(B) The Mountbatten Plan was accepted without any opposition because it promised a peaceful solution to the communal problems.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below and select the option that shows the correct relationship between (A) and (B).

(A) The partition of India resulted in massive migration and communal riots.

(B) The demarcation of borders was based on religious demography, leading to population displacement.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

The Cripps Mission was aimed at securing Indian cooperation during World War II. Based on the context, what was a potential reason for its failure to win Indian support?

(a) It proposed a complete handover of power to Indians.

(b) It offered dominion status subject to the acceptance of the British Commonwealth.

(c) It did not offer any real change from the existing colonial government.

(d) It guaranteed complete independence post-World War II.

Question 14

According to the documents, which factor played a critical role in the eventual acceptance of the Mountbatten Plan by the Muslim League?

(a) The fear of a civil war escalating from communal tensions.

(b) The assurance of absolute majority in the central legislature.

(c) The provision of separate electorates for Muslims.

(d) The guarantee of an independent state as per the Lahore Resolution.

Question 15

Considering the division of India into the Dominions of India and Pakistan, which principle of the Partition appears to have been most influential based on the context provided?

(a) The economic interests of the British Empire.

(b) The religious and cultural identities of the Indian population.

(c) The military strategies of the Indian National Army.

(d) The political ambitions of the Indian and Pakistani leaders.

TYPE 6

Question 16

Identify the odd one out concerning the objectives of the Cabinet Mission Plan in India:

(a) To ensure a united India by proposing a federal structure with a strong center.

(b) To allow provinces to form groups and each group to have its own constitution.

(c) To promote the transfer of full power from British to Indian hands.

(d) To endorse the creation of separate sovereign states based on religion.

Question 17

Which of the following statements about the Mountbatten Plan is inconsistent with the others?

(a) It proposed the partition of India and the creation of Pakistan.

(b) It was accepted by the Muslim League in June 1947.

(c) It aimed to establish a democratic framework for an independent India.

(d) It was designed to reinforce the British colonial rule over India and Pakistan.

Question 18

Identify the odd one out concerning the factors that led the British to leave India:

(a) The impact of Subhas Chandra Bose and the Indian National Army

(b) The civil disobedience and non-cooperation movements

(c) The naval mutinies that shook British confidence

(d) The immediate economic prosperity of Britain after World War II

11 The First World War (1914 - 1918)

TYPE 1

Question 1

The formation of the Constituent Assembly was a significant step towards India's independence. Which of the following statements correctly describes the events leading to its formation?

(a) The Cabinet Mission Plan intended for the Constituent Assembly to have equal representation from all religious groups.

(b) The Muslim League boycotted the Constituent Assembly entirely.

(c) The Congress led the Constituent Assembly, but it faced boycotts from other major political parties.

(d) Both (a) and (c)

Question 2

Why did the Muslim League eventually agree to participate in the interim government after initially declining?

(a) The Muslim League saw it as an opportunity to prevent the partition of India.

(b) They aimed to share power with the Indian National Congress in governing India.

(c) The interim government was seen as a step towards complete self-governance.

(d) Both (b) and (c)

Question 3

How did Jawaharlal Nehru's "Tryst with Destiny" speech relate to the historical context of India's independence?

(a) It declared India's support for continued British presence in the region.

(b) It marked the official acceptance of the Indian Independence Act by the Constituent Assembly.

(c) It signalled the beginning of a civil war in India.

(d) It highlighted the challenges India faced, such as poverty and disease.

TYPE 2

Question 4

What was the major reason for the rejection of the Cabinet Mission Plan by the Muslim League?

A. The plan proposed a centralised form of government

B. The plan suggested a division of Pakistan into separate states

C. The plan did not ensure an independent Pakistan

D. The plan favoured the Indian National Congress over the Muslim League

(a) A and B

(b) C and D

(c) A and C

(d) B and D

Question 5

What was the stance of the Muslim League regarding the formation of an interim government in India?

A. They fully supported it without reservations.

B. They joined it conditionally, asserting representation rights.

C. They opposed it and demanded a separate nation.

D. They remained neutral, without taking any definitive stance.

(a) A and B

(b) B and C

(c) A and D

(d) C and D

Question 6

What were the factors that contributed to the British decision to leave India?

A. International pressure and the threat of a civil war

B. The naval revolts and Subhas Bose's activities

C. The weakened position after World War II and Subhas Bose's leadership

D. The fear of communist forces and internal rebellions

(a) A and B

(b) A and C

(c) B and D

(d) C and D

TYPE 3

Question 7

Mountbatten Plan : Partition of British India into India and Pakistan : : Wavell Plan : _____

(a) Division of India based on princely states' decisions

(b) Creation of a central government with representation from all parties

(c) Allowing Indian states to form their independent constitutions

(d) Establishing a communal electoral roll

Question 8

Interim Government: Preparing for Independence :: Provincial Assemblies : _____

(a) Drafting Provincial Laws

(b) Conducting Diplomacy

(c) Directing National Defence

(d) Administering Local Affairs

Question 9

Secretary of State for India: Responsible for the governance of India under British rule : : President of the Constituent Assembly : _____

(a) Enforcing colonial laws

(b) Overseeing the drafting of the Indian Constitution

(c) Advising the British on Indian affairs

(d) Leading the Indian National Army

TYPE 4

Question 10

Read the two statements given below about the objectives of the British government in relation to India's independence and select the option that shows the correct relationship between (A) and (B).

(A) The British intended to maintain control over India's defence and foreign affairs.

(B) The British favoured the quick and complete transfer of power to Indian hands to ensure a smooth transition.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Read the two statements given below about the Mountbatten Plan and select the option that shows the correct relationship between (A) and (B).

(A) The Mountbatten Plan resulted in the partition of British India into two separate nations.

(B) The Indian National Congress accepted the Mountbatten Plan before the Muslim League.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Examine the two statements below regarding Jawaharlal Nehru's role in the independence of India and choose the option that correctly describes the relationship between (A) and (B).

(A) Jawaharlal Nehru delivered the "Tryst with Destiny" speech at the moment of India's independence.

(B) Nehru's speech was focused on the past struggles and did not mention the socio-economic challenges facing independent India.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

The rejection of the Cabinet Mission Plan by the Muslim League led to the direct action day riots. What does this imply about the political climate of India at that time?

(a) There was a broad consensus on India's future governance structure.

(b) There was significant harmony between the different religious communities.

(c) The religious and political divisions had reached a point where peaceful negotiations were no longer viable.

(d) The British were successfully implementing their policies without any opposition.

Question 14

The Government of India Act of 1935 proposed provincial autonomy and the formation of a federation at the center. Based on the context provided, which of the following groups was most likely to be directly affected by the shift from a centralised authority to provincial autonomy?

(a) The British officials in India

(b) The provincial leaders and regional parties

(c) The European traders in India

(d) Non-political citizens of India

Question 15

In the context of the international pressure during the transfer of power in India, which global leader's attitude is inferred to have potentially influenced the British decision to relinquish control?

(a) The President of China, Chiang-kai-Shek

(b) The President of the United States, Harry S. Truman

(c) The Prime Minister of the United Kingdom, Clement Attlee

(d) The leaders of the Indian National Congress

TYPE 6

Question 16

Identify the option that does not align with the objectives of the Cabinet Mission Plan:

(a) To prevent the division of India into smaller sovereign states.

(b) To ensure a dominant role for the British in the future governance of India.

(c) To create a federal union with a central government.

(d) To maintain Indian unity and avoid partition.

Question 17

Identify the goal that was not pursued by the Interim Government formed in September 1946 as described:

(a) To manage the affairs of the country until a new constitution was adopted.

(b) To incorporate representatives from both the Muslim League and the Congress.

(c) To serve as a transitional administration leading up to Indian independence.

(d) To enforce the Direct Action Day to achieve the objectives of the Muslim League.

Question 18

Which of the following statements is not an accurate reflection of the pressures faced by Britain that contributed to the transfer of power to India?

(a) The weakening of Britain's global position as a result of World War II

(b) The need to focus on rebuilding the British economy post-war

(c) The international pressure, especially from leaders like President Truman

(d) The global expansion of the British Empire post-World War II

12 Rise of Dictatorships: Fascism in Italy and Nazism in Germany

TYPE 1

Question 1

Mussolini and Hitler's regimes both had certain charismatic qualities. What made their leadership appealing to the masses?

(a) Their ability to attract, influence, and inspire people by their personal qualities.

(b) Their democratic policies and inclusive governance.

(c) Their promise of restoring national pride and economic stability.

(d) Both (a) and (c)

Question 2

What role did propaganda play in the regimes of Mussolini and Hitler?

(a) It was used to promote democratic values and pluralistic society.

(b) It served to spread their ideologies and justify their expansionist and racist policies.

(c) It was employed to foster open debate and criticism within the party and among the populace.

(d) Both (a) and (b)

Question 3

How did the Nazi Party's economic policies reflect its broader ideological goals?

(a) They emphasised the importance of private ownership and free-market principles.

(b) They centralised economic control within the state to support war efforts and autarky.

(c) They allowed for traditional Marxist doctrines to promote class struggle and workers' rights.

(d) Both (a) and (b)

TYPE 2

Question 4

How did Mussolini and Hitler's approaches to establishing control differ?

A. Mussolini used the Black-Shirts to exert force, while Hitler relied solely on political manoeuvring.

B. Mussolini was legally appointed by the King, whereas Hitler gained power through a military coup

C. Both leaders utilised political leverage and societal fears to gain support

D. Mussolini focused on foreign policy, while Hitler emphasised domestic restructuring

(a) A and C

(b) B and C

(c) A and D

(d) C and D

Question 5

How did the economic policies in Nazi Germany differ from traditional capitalist societies?

A. They allowed industries to be privately owned but controlled by the state.

B. They completely nationalised all industries without private ownership.

C. They had no interference in the economy, allowing for total free market.

D. They abolished all forms of wages and salaries.

(a) A and B

(b) A and C

(c) B and D

(d) C and D

Question 6

According to the documents, which of the following was a shared characteristic of both Fascist Italy and Nazi Germany?

A. A strong emphasis on democratic processes.

B. An economic structure completely controlled by the government.

C. A belief in racial superiority as a part of their official ideologies.

D. The use of propaganda to bolster the regime's image.

(a) B and C

(b) C and D

(c) A and B

(d) A and D

TYPE 3

Question 7

Treaty of Versailles : Germany's War Indemnity :: Treaty of Saint-Germain : _____

(a) Austria's territorial concessions

(b) France's military restrictions

(c) Britain's naval expansion

(d) Russia's economic reparations

Question 8

Mussolini's March on Rome : Fascist control of Italy :: Hitler's Beer Hall Putsch : _____

(a) Nazi control of Germany

(b) Communist control of Russia

(c) Attempted Nazi coup in Germany

(d) Fascist control of Spain

Question 9

'Final Solution' to the Jewish Question : Nazi Germany :: 'Race hatred' under Nazi influence : _____

(a) Italy

(b) Soviet Union

(c) United States

(d) Great Britain

TYPE 4

Question 10

Read the two statements given below about the Fascist ideology and select the option that shows the correct relationship between (A) and (B).

(A) Fascism in Italy was characterised by a one-party system controlled by a personal dictator and was against democratic principles.

(B) The core of Nazi ideology was racism, but it shared the anti-democratic, one-party system characteristics with Italian Fascism.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Read the two statements given below about the economic policies of Fascist Italy and select the option that shows the correct relationship between (A) and (B).

(A) Mussolini's theory of a Corporate State placed the economy under state control to direct industrial growth.

(B) The Fascist Corporate State in Italy emphasised the importance of individual enterprise over state intervention.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below about the Nazi ideology and select the option that shows the correct relationship between (A) and (B).

(A) The Nazi Party promoted the idea of racial purity, with a strong belief in the superiority of the Aryan race.

(B) Both Fascism and Nazism did not incorporate racism as an essential part of their ideologies.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

Considering the factors that led to the rise of Nazism in Germany, which of the following conditions was most instrumental in enabling the Nazi party to recruit new members?

(a) The success of the Treaty of Versailles

(b) The low rate of inflation and economic stability

(c) The sense of national humiliation and economic crisis

(d) The liberal policies of the Weimar government

Question 14

The provided content outlines that both Fascist Italy and Nazi Germany had leaders who were seen as charismatic and could attract, influence, and inspire people. What impact did the leadership style of Mussolini and Hitler have on the political culture of their respective countries?

(a) It encouraged a culture of critical debate and rational decision-making.

(b) It promoted a pluralistic society with multiple political parties.

(c) It fostered a sense of individualism and personal achievement.

(d) It led to a cult of personality where the leader's authority was unchallenged.

Question 15

Mussolini's Italy and Hitler's Germany shared some similarities in their fascist ideologies. What was a common element in the domestic policies of both regimes?

(a) Support for traditional democratic institutions.

(b) Tolerance and inclusion of intellectual dissent.

(c) Strict control over the state by a single political party.

(d) Equal economic rights for all social classes.

TYPE 6

Question 16

Identify the odd one out based on Mussolini's policies and actions as depicted:

(a) Establishment of a one-party system controlled by a personal dictator.

(b) Use of Black-Shirts to assert control and suppress opposition.

(c) Advocating for a democratic system with multiple political parties.

(d) Crushing of individual liberty and promoting the state's authority.

Question 17

Identify the odd one out of the following policies related to the Nazi Party's racial ideology:

(a) Belief in the superiority of the Aryan race

(b) Implementation of the Ghetto Laws against Jews

(c) Advocacy for democracy and personal liberty

(d) The enactment of policies leading to the Holocaust

Question 18

Which of the following statements does not accurately reflect the Nazi Party's approach to governance?

(a) Rejection of international peace as a viable goal

(b) Consolidation of power into a one-party or one-man rule

(c) Establishment of a perpetual war economy

(d) Encouragement of intellectualism and critical thought

13 The Second World War (1939 – 1945)

TYPE 1

Question 1

The Treaty of Versailles was intended to ensure peace after World War I. Which of the following statements accurately reflects its impact on World War II?

(a) The Treaty's restrictions on Germany's military were effectively enforced, preventing German remilitarization.

(b) The Treaty's harsh economic demands on Germany fuelled the rise of Nazism and Hitler's aggressive policies.

(c) The Treaty successfully resolved territorial disputes, which contributed to lasting peace in Europe.

(d) Both (a) and (b)

Question 2

The policy of Appeasement was adopted by Britain and France in response to aggressive actions by Germany. What was the rationale behind this policy?

(a) It was believed that meeting some of Hitler's demands would prevent a larger conflict.

(b) Britain and France were prepared for war and used appeasement as a tactic to buy time.

(c) Appeasement was based on the belief that Germany had legitimate grievances that needed to be addressed.

(d) Both (a) and (c)

Question 3

The Allied forces' invasion of Italy in July 1943 led to significant political changes in the country. Which of the following statements are true regarding the consequences of the invasion?

(a) The invasion immediately resulted in Italy's surrender.

(b) Mussolini was captured by the Allied forces.

(c) Mussolini tried to escape but was caught and executed by Italians.

(d) Both (a) and (b)

TYPE 2

Question 4

What was the immediate cause that triggered the Second World War?

A. The Treaty of Versailles and its harsh terms on Germany

B. The Munich Conference and the transfer of Sudetenland

C. The Invasion of Poland and the Danzig Corridor issue

D. The annexation of Austria and the failure of the League of Nations

(a) A and B

(b) B and D

(c) C and D

(d) A and C

Question 5

Which factors contributed to the rise of aggressive nationalism leading to the Second World War?

A. Dissatisfaction with the Treaty of Versailles and economic crises

B. The failure of the League of Nations and the policy of appeasement

C. The invasion of Poland and the annexation of Austria

D. Ideological differences between democratic and one-party states

(a) A and B

(b) A and D

(c) B and C

(d) C and D

Question 6

What was the primary reason for the use of atomic bombs by the United States during World War II?

A. To demonstrate power to the Soviet Union

B. To force Japan to surrender without an invasion

C. To retaliate for the attack on Pearl Harbor

D. To test the effectiveness of nuclear weapons

(a) A and B

(b) B and C

(c) C and D

(d) A and D

TYPE 3

Question 7

Hitler's Invasion of Poland : Start of World War II : : Japan's Invasion of Manchuria : _____

(a) Beginning of the Korean War

(b) Initiation of the League of Nations' Sanctions

(c) Start of the Second Sino-Japanese War

(d) Establishment of the United Nations

Question 8

Warsaw Pact : Military alliance of the Communist Bloc : : NATO : _____

(a) Economic partnership of the Western Bloc

(b) Cultural exchange program among democratic nations

(c) Military alliance of the Western Bloc

(d) Non-aggression pact between the USA and USSR

Question 9

Nuremberg Trials : Prosecution of major war criminals : : International Military Tribunal for the Far East : _____

(a) Trial of minor war crimes

(b) Prosecution of Axis countries' military leaders

(c) Settlement of territorial disputes post-WWII

(d) Hearing of cases related to economic war reparations

TYPE 4

Question 10

Read the two statements given below about the Treaty of Versailles and select the option that shows the correct relationship between (A) and (B).

(A) The Treaty of Versailles was intended to promote peace and stability in Europe after World War I.

(B) The harsh terms of the Treaty of Versailles, including heavy reparations and territorial losses for Germany, led to widespread discontent and the eventual rise of Nazism.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Read the two statements given below about the actions leading up to the Second World War and select the option that shows the correct relationship between (A) and (B).

(A) The League of Nations was established to prevent conflicts through collective security and diplomatic efforts.

(B) The failure of the League of Nations to effectively counter acts of aggression by Axis powers contributed to the outbreak of World War II.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below about the Cold War and select the option that shows the correct relationship between (A) and (B).

(A) The Cold War was characterised by a race for armaments between the USA and the USSR.

(B) The Warsaw Pact was dissolved as a direct result of the armaments race between the USA and the USSR.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

The Treaty of Versailles imposed severe restrictions on Germany after World War I. Which of the following was a direct consequence of these restrictions?

(a) Germany's quick economic recovery due to reduced military spending

(b) The rise of pacifism and international cooperation in Germany

(c) The growth of nationalism and the rise of the Nazi party in Germany

(d) The development of a strong democratic political system in Germany

Question 14

Following the deployment of the atomic bombs on Hiroshima and Nagasaki, which group would be the primary beneficiary of the rapid conclusion of World War II due to Japan's surrender?

(a) The European nations devastated by war

(b) The Axis Powers seeking to avoid complete defeat

(c) The Allied Powers aiming to minimize further casualties

(d) The Neutral Nations interested in post-war reconstruction

Question 15

Considering the outcomes of World War II, which of the following was a significant consequence of the Allies' victory for the global balance of power?

(a) The establishment of the United Nations aiming for global peace

(b) The division of Germany and Berlin into zones controlled by the Allies

(c) The initiation of the Cold War due to ideological differences between the USA and USSR

(d) The development of the Non-Aligned Movement to reduce Cold War tensions

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TYPE 6

Question 16

Identify the odd one out in terms of the outcomes of the Treaty of Versailles:

(a) Germany's military was severely restricted.

(b) Germany was required to pay heavy war indemnities.

(c) The Treaty led to a period of strong German nationalism and military build-up.

(d) Germany had to concede large territories to the Allies.

Question 17

Identify the odd one out in terms of the outcomes of the Treaty of Versailles:

(a) Germany's military was severely restricted.

(b) Germany was required to pay heavy war indemnities.

(c) The Treaty led to a period of strong German nationalism and military build-up.

(d) Germany had to concede large territories to the Allies.

Question 18

Which of the following does not align with the actions of Axis Powers prior to World War II?

(a) Germany's annexation of the Sudetenland.

(b) Italy's invasion of Manchuria.

(c) Japan's invasion of China.

(d) The signing of the Berlin-Rome-Tokyo Axis.

14 United Nations Organizations: Origin, Objectives, and the Principal Organs

TYPE 1

Question 1

The failure of the League of Nations was attributed to several factors. Which of the following statements correctly reflects these factors?

(a) The League successfully prevented military aggression in the 1930s.

(b) The League of Nations had its own armed forces to enforce its resolutions.

(c) It failed to act decisively against acts of aggression when it had the chance.

(d) Both (a) and (b)

Question 2

What is the role of the General Assembly with respect to the United Nations budget?

(a) The General Assembly solely funds the UN's peacekeeping operations.

(b) It considers and approves the budget of the United Nations.

(c) The General Assembly can allocate funds without consulting the Security Council.

(d) Both (a) and (b).

Question 3

The International Court of Justice (ICJ) is an important component of the United Nations. Which of the following statements correctly describe its composition and jurisdiction?

(a) All members of the United Nations are automatically parties to the ICJ's statute.

(b) The Security Council and the General Assembly each elect 7 judges to the ICJ.

(c) The court has compulsory jurisdiction over cases involving breaches of international law.

(d) Both (a) and (c)

TYPE 2

Question 4

Which events directly led to the formation of the United Nations?

A. The Atlantic Charter and the Washington Declaration

B. The Dumbarton Oaks Conference and the San Francisco Conference

C. The establishment of the League of Nations and the signing of the Treaty of Versailles

D. The end of World War I and the bombing of Hiroshima and Nagasaki

(a) A and B

(b) B and C

(c) A and C

(d) B and D

Question 5

How are decisions taken in the Security Council on procedural matters?

A. By a two-thirds majority

B. By a majority of the Members present and voting

C. By the veto power of the permanent members

D. By an affirmative vote of nine Members

(a) A and C

(b) B and D

(c) A and D

(d) C and D

Question 6

The International Court of Justice plays a role in international law by:

A. Providing a platform for the pacific settlement of disputes

B. Enforcing its judgments through direct military intervention

C. Offering advisory opinions to the Economic and Social Council

D. Electing the Secretary-General of the United Nations

(a) A and C

(b) B and D

(c) A and B

(d) C and D

TYPE 3

Question 7

Mutually Assured Destruction (MAD) : Cold War Era :: 'Omnicide' : _____

(a) Nuclear Non-Proliferation Treaty

(b) Nuclear War

(c) Biological Warfare

(d) Cyber Warfare

Question 8

International Court of Justice : Legal Disputes Between States : : Secretariat : _____

(a) Issuing Binding Resolutions

(b) Providing Support Services for the United Nations

(c) Administering Peacekeeping Operations

(d) Monitoring Human Rights Violations

Question 9

International Court of Justice : Legal Disputes between States : : The Secretariat :

(a) Judicial Decisions on International Law

(b) Administration of UN Day-to-Day Work

(c) Peacekeeping Operations

(d) Economic Sanctions Enforcement

TYPE 4

Question 10

Consider the following statements regarding the United Nations and choose the correct relationship between them.

(A) The United Nations was officially established on October 24, 1945, after the ratification of the UN Charter by a majority of signatory states.

(B) The Dumbarton Oaks Conference in 1944 was where the draft of the UN Charter was formulated.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Read the two statements given below about the functions of the United Nations General Assembly and select the option that shows the correct relationship between (A) and (B).

(A) The General Assembly has the power to make recommendations for the purpose of promoting international cooperation.

(B) The General Assembly is able to enforce its resolutions through binding legal obligations on Member States.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Consider the following statements about the International Court of Justice (ICJ):

(A) The ICJ is the principal judicial organ of the United Nations and all members of the UN are ipso facto parties to the Statute of the Court.

(B) The Security Council can directly enforce the decisions made by the ICJ without the consent of the involved parties.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

According to the Atlantic Charter of 1941, what was a fundamental goal agreed upon by the United States and Britain that would later influence the creation of the UN?

(a) To establish English as the primary language of diplomacy

(b) To encourage economic cooperation and advancement post-war

(c) To maintain a permanent military presence in the Atlantic

(d) To create a league of nations with centralised power

Question 14

According to the principles of the United Nations, if a member state engages in peaceful negotiations to settle a dispute with another member state, this reflects adherence to which of the following principles?

(a) Settling disputes by peaceful means

(b) Sovereign equality of member states

(c) Non-intervention in domestic matters

(d) Promotion of social progress and better standards of life

Question 15

The Economic and Social Council of the United Nations aims to address global challenges. Which of the following best captures the Council's primary objectives?

(a) To manage the world's financial systems and ensure profitable international trade.

(b) To promote human rights and to adjudicate international legal disputes.

(c) To free the world from fear and want by addressing economic, social, cultural, and health matters.

(d) To oversee military interventions and maintain international peace and security.

TYPE 6

Question 16

Identify the odd one out of the following reasons for the establishment of the United Nations:

(a) To provide a platform for dialogue and prevent the outbreak of another world war

(b) To create a global forum for addressing issues of mutual concern among nations

(c) To ensure a stable and sustainable economic growth in post-war reconstruction

(d) To establish a global currency to facilitate international trade

Question 17

Which of the following does not represent the regional representation of the ten non-permanent members of the Security Council?

(a) Afro-Asian Countries – 5 seats

(b) Latin American Countries – 2 seats

(c) East European Countries – 1 seat

(d) Scandinavian Countries – 2 seats

Question 18

Identify the option that does not accurately represent the jurisdiction or capabilities of the International Court of Justice:

(a) The Court has compulsory jurisdiction over certain international disputes.

(b) The Court can issue advisory opinions on legal questions from the UN organs.

(c) The Court can impose sanctions on countries for non-compliance with its rulings.

(d) The Court contributes to the codification of international law.

15 Major Agencies of the United Nations

TYPE 1

Question 1

The United Nations Development Programme (UNDP) plays a significant role in global development. Which of the following statements are true regarding its purpose and activities?

(a) UNDP is primarily funded by private corporations worldwide to promote industrial growth.

(b) It conducts surveys with a view to assisting countries in increasing their agricultural output.

(c) The focus of UNDP's projects is mainly within developed countries in Europe and North America.

(d) Both (b) and c)

Question 2

The United Nations' various agencies have distinct mandates. Which of the following statements accurately describe the functions of the United Nations Children's Emergency Fund (UNICEF) and the World Health Organization (WHO)?

(a) UNICEF's mandate includes providing instant help to children and women when disasters such as earthquakes or epidemics occur.

(b) WHO is primarily responsible for the international regulation of maritime laws and sea navigation.

(c) UNICEF works extensively to provide education on HIV/AIDS as part of its emergency programs.

(d) Both (a) and (c)

Question 3

Which of the following statements correctly describes UNESCO's efforts in cultural preservation?

(a) UNESCO focuses on the translation of ancient manuscripts but not on their preservation.

(b) It encourages cultural interchange by providing travel grants to artists.

(c) It has a direct role in the conservation and repair of ancient monuments.

(d) Both (b) and (c)

TYPE 2

Question 4

What was the primary reason for establishing UNICEF immediately after the Second World War?

A. To provide long-term economic support to war-torn countries

B. To deliver immediate relief to children and their mothers

C. To coordinate international health initiatives

D. To promote educational programs in developing countries

(a) A and D

(b) B and C

(c) B and D

(d) A and B

Question 5

According to the information provided, which statement correctly reflects the relationship between UNICEF and WHO in their global health initiatives?

A. UNICEF focused on child immunization while WHO set health standards.

B. WHO led efforts in eradicating diseases while UNICEF focused on children's rights.

C. Both agencies worked independently without any collaboration.

D. UNICEF and WHO collaborated on the immunization program against six killer diseases.

(a) A and B

(b) B and C

(c) A and D

(d) C and D

Question 6

How does UNESCO contribute to the preservation of cultural heritage?

A. By preventing member states from translating rare manuscripts

B. Encouraging member states to protect historic and artistic monuments

C. Providing grants to writers and artists for domestic travel only

D. Collaborating with international companies for the restoration of monuments

(a) A and B

(b) B and C

(c) B and D

(d) C and D

TYPE 3

Question 7

United Nations Development Programme (UNDP) : Funding source for assistance to developing countries ::

United Nations Educational, Scientific and Cultural Organization (UNESCO) : _____

(a) Coordinating emergency relief operations

(b) Promoting education, science, and culture

(c) Providing financial aid to developed countries

(d) Supervising global health initiatives

Question 8

UNESCO : Preservation of Cultural Heritage : : International Labour Organization (ILO) : _____

(a) Cultural Exchanges

(b) Educational Programs

(c) Industrial Harmony

(d) Scientific Advancements

Question 9

UNESCO's Mutual project : Cultural Interchange : : ILO Conventions : _____

(a) Economic Stability

(b) Labour Standards

(c) International Peace

(d) Educational Reforms

TYPE 4

Question 10

Read the two statements given below about the World Health Organization (WHO) and select the option that shows the correct relationship between (A) and (B).

(A) The WHO was founded with the goal of achieving "Health for All by the Year 2000."

(B) The WHO sets international standards with respect to food, biological and pharmaceutical products.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Read the two statements given below about UNESCO's efforts to preserve cultural heritage and select the option that shows the correct relationship between (A) and (B).

(A) UNESCO played a significant role in the preservation of the Simbel Temple in Egypt.

(B) UNESCO's involvement in cultural heritage does not include the preservation of ancient monuments.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below about the United Nations Development Programme (UNDP) and select the option that shows the correct relationship between (A) and (B).

(A) The UNDP aims to help developing countries in areas such as agriculture and industrial output.

(B) The UNDP conducts surveys to utilize a country's natural resources for increasing their agricultural and industrial output.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

UNICEF was awarded the Nobel Peace Prize in the year 1965. What aspect of UNICEF's work most likely contributed to it receiving this honour?

(a) Its role in financing government infrastructure projects

(b) Its efforts to protect and improve the lives of children around the world

(c) The sales of greeting cards to raise funds for the organization

(d) The establishment of the International Year of the Child

Question 14

The World Health Organization (WHO) focuses on international public health. Considering its objectives and functions,

which of the following initiatives would WHO be most likely to support?

(a) A global campaign to increase the production of commercial soft drinks

(b) A local business's plan to expand fast food chains in a region with high obesity rates

(c) A government's effort to improve clean water access and sanitation facilities

(d) A corporation's strategy to patent a traditional medicine, making it expensive and less accessible

Question 15

UNESCO encourages cultural interchange and has provided travel grants to artists and writers under a project named Mutual Understanding. What is a potential cultural impact of this initiative?

(a) It could increase cultural appropriation due to exposure to different cultures.

(b) It might lead to a homogenization of cultures, reducing diversity.

(c) It may enhance cross-cultural appreciation and the sharing of ideas.

(d) It could result in decreased cultural exchanges due to the complexity of travel.

TYPE 6

Question 16

Identify the odd one out of the following functions of the World Health Organization (WHO):

(a) It promotes and coordinates research in communicable diseases, maternal and child health, and diseases like cancer.

(b) It sets international standards with respect to food, biological and pharmaceutical products.

(c) It assists projects to provide water which is safe to drink, designated as 'International Drinking Water Supply and Sanitation Decade' by WHO.

(d) It conducts annual peacekeeping missions in regions affected by war.

Question 17

Which of the following is not a focus or objective of the United Nations Development Programme (UNDP)?

(a) To help developing countries mainly in Asia, Africa, and Latin America.

(b) To conduct surveys with a view to assisting countries' natural resources for increasing their agricultural and industrial output.

(c) To support programs on HIV/AIDS Education in various fields, including the power sector and road development.

(d) To directly intervene in the political affairs of member countries to resolve conflicts.

Question 18

Which of the following is NOT an area of focus for UNESCO?

(a) Preservation of cultural heritage.

(b) Encouragement of artistic creations in literature and fine arts.

(c) Ensuring social justice and better jobs through labour conventions.

(d) Development of science and technology through funding and conferences.

16 The Non- Aligned Movement

TYPE 1

Question 1

What does "non-alignment" signify according to the Non-Aligned Movement?

(a) Complete isolation from international politics and refusal to participate in global issues.

(b) Passive resistance to the policies of superpowers.

(c) An active approach to resolve international crises without joining military alliances.

(d) Both (b) and (c)

Question 2

What was a fundamental principle of the Non-Aligned Movement (NAM) as discussed in the provided context?

(a) It was a forum strictly opposing the United Nations.

(b) It focused solely on economic development and disregarded political issues.

(c) It emphasised the importance of neutrality and not joining any major power blocs.

(d) Both (a) and (b)

Question 3

Which of the following statements best reflects Nehru's role in the Non-Aligned Movement?

(a) Nehru was a peripheral figure who had little impact on the movement's direction.

(b) Nehru's leadership was central to the movement, focusing on peace and cooperation without alignment with power blocs.

(c) Nehru advocated for the NAM to become a military alliance to counter superpowers.

(d) Both (a) and (b)

TYPE 2

Question 4

What was the primary aim of the countries participating in the Non-Aligned Movement as stated during the Bandung Conference?

A. To establish a new form of colonialism

B. To ensure mutual respect for sovereignty and territorial integrity

C. To align with stronger nations for protection

D. To form a collective military front against the East and West power blocs

(a) A and C

(b) B and D

(c) B only

(d) C and D

Question 5

What was the fundamental principle behind the Non-Aligned Movement as initiated by leaders like Jawaharlal Nehru, Josip Tito, and Gamal Abdel Nasser?

A. To create an alternative bloc to the existing NATO and Warsaw Pact alliances

B. To pursue a policy of strict neutrality in the Cold War

C. To support colonial powers in maintaining their influence

D. To foster economic ties with the leading superpowers

(a) A and B

(b) B and C

(c) A and D

(d) C and D

Question 6

What role did the Non-Aligned Movement play in the context of global governance?

A. It sought to replace the United Nations

B. It advocated for the reform of international institutions like the IMF and World Bank

C. It pushed for an increase in nuclear arms as a means of deterrence

D. It aimed to support the policies of the superpowers indirectly

(a) A and C

(b) B and D

(c) B and C

(d) A and D

TYPE 3

Question 7

Non-Alignment : Cold War Neutrality : : _____ : European Common Market

(a) Protectionism

(b) Marshall Plan

(c) Free Trade Agreement

(d) Eurozone Membership

Question 8

Belgrade Conference : First NAM Summit : : Bandung Conference : _____

(a) Establishment of ASEAN

(b) First Afro-Asian Conference

(c) Creation of the United Nations

(d) Launch of the European Union

Question 9

Non-Aligned Movement: Avoiding Alliance with Power Blocs : : United Nations Security Council : _____

(a) Promoting Economic Alliances

(b) Maintaining International Peace and Security

(c) Encouraging Bilateral Trade Agreements

(d) Fostering Global Cultural Exchange

TYPE 4

Question 10

Read the two statements given below about the principles of the Non-Aligned Movement and select the option that shows the correct relationship between (A) and (B).

(A) The Non-Aligned Movement was based on the principle of neutrality in war.

(B) The Non-Aligned Movement intervened in conflicts to resolve crises.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 11

Read the two statements given below about Nehru's role in the Non-Aligned Movement and select the option that shows the correct relationship between (A) and (B).

(A) Nehru was a firm believer that nations of Asia and Africa should not become pawns in the superpowers' playthings.

(B) Nehru's policy of non-alignment was instrumental in convening the Asian Relations Conference in New Delhi in 1947.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

Question 12

Read the two statements given below about the evolution of the Non-Aligned Movement and select the option that shows the correct relationship between (A) and (B).

(A) The Non-Aligned Movement focused solely on political and military non-alignment during the Cold War.

(B) The Non-Aligned Movement shifted its focus to economic matters and development issues after the Cold War.

(a) (B) contradicts (A).

(b) (B) is the reason for (A).

(c) (A) is true but (B) is false.

(d) (A) and (B) are independent of each other.

TYPE 5

Question 13

The Non-Aligned Movement was founded as a response to the Cold War. Based on the principles of the movement, which of the following actions would a Non-Aligned nation be most likely to take in a conflict between two larger powers aligned with different military blocs?

(a) Provide military support to the power whose ideology they secretly favour.

(b) Remain neutral and offer to mediate between the conflicting powers.

(c) Join a military alliance to gain protection against any potential threat.

(d) Seek financial aid from one of the powers in exchange for political support.

Question 14

The Bandung Conference played a pivotal role in the development of the Non-Aligned Movement. Which of the following best reflects the spirit of the 'Panchsheel', or Five Principles of Peaceful Co-existence, that were endorsed at this conference?

(a) Each nation should strive to maximize its own power and influence in the world.

(b) Nations should respect each other's sovereignty and territorial integrity.

(c) Strong nations have a right to intervene in the affairs of weaker nations for the greater good.

(d) Alliances and pacts between nations are the best way to ensure peace and security.

Question 15

Considering the shift in focus of the NAM post the Cold War, which of the following actions would best represent the evolved objectives of the movement?

(a) Forming a new military alliance to counterbalance existing ones

(b) Establishing economic policies that favour only the member nations

(c) Addressing issues of international terrorism and economic inequality

(d) Aligning with a superpower for security assurances

TYPE 6

Question 16

Which of the following does not represent the core ideas of the Bandung Conference that contributed to the formation of the Non-Aligned Movement?

(a) Upholding the Five Principles of Peaceful Co-existence.

(b) Ensuring mutual non-aggression among nations.

(c) Promoting neutrality and non-interference in other countries' affairs.

(d) Encouraging the spread of communism as a global ideology.

Question 17

Identify the odd one out of the following roles played by India in the Non-Aligned Movement:

(a) India refused to be drawn into military blocs and refrained from acts of aggression.

(b) India condemned North Korean aggression against South Korea.

(c) India pursued a policy of non-alignment during the Korean crisis.

(d) India aimed to gain advantage by playing one power bloc against another.

Question 18

Which of the following is not a focus of the Non-Aligned Movement as it adapted to a changing world?

(a) Tackling the issue of state-sponsored terrorism.

(b) Encouraging the adherence to the IMF and World Bank policies.

(c) Promoting disarmament.

(d) Addressing economic and social issues in a global context.

ANSWERS

Chapter 1: The First War of Independence (1857)

1. (d)	4. (b)	7. (b)	10. (a)	13. (c)	16. (c)
2. (a)	5. (d)	8. (b)	11. (a)	14. (b)	17. (d)
3. (b)	6. (c)	9. (c)	12. (a)	15. (c)	18. (b)

Chapter 2: Factors Leading to the Growth of Nationalism and Foundation of the Indian National Congress

1. (d)	4. (c)	7. (b)	10. (c)	13. (b)	16. (c)
2. (b)	5. (c)	8. (c)	11. (b)	14. (d)	17. (d)
3. (b)	6. (b)	9. (b)	12. (a)	15. (a)	18. (d)

Chapter 3: Objectives and Methods of Struggle of the Early Nationalists

1. (b)	4. (c)	7. (b)	10. (b)	13. (d)	16. (c)
2. (c)	5. (a)	8. (c)	11. (a)	14. (d)	17. (d)
3. (b)	6. (b)	9. (c)	12. (a)	15. (b)	18. (d)

Chapter 4: Second Phase of the Indian National Movement: Partition of Bengal and Other Developments

1. (b)	4. (c)	7. (a)	10. (a)	13. (a)	16. (d)
2. (a)	5. (d)	8. (b)	11. (a)	14. (c)	17. (c)
3. (a)	6. (a)	9. (c)	12. (d)	15. (b)	18. (c)

Chapter 5: Muslim League and its Objectives

1. (a)	4. (b)	7. (d)	10. (d)	13. (c)	16. (c)
2. (d)	5. (a)	8. (a)	11. (a)	14. (b)	17. (d)
3. (d)	6. (a)	9. (c)	12. (a)	15. (c)	18. (b)

Chapter 6: National Movement during the First World War: Lucknow Pact and Other Developments

1. (d)	4. (c)	7. (c)	10. (d)	13. (a)	16. (b)
2. (d)	5. (a)	8. (d)	11. (c)	14. (c)	17. (d)
3. (b)	6. (c)	9. (c)	12. (c)	15. (b)	18. (d)

Chapter 7: National Movement 1919 – 1934

1. (d)	4. (a)	7. (a)	10. (d)	13. (a)	16. (d)
2. (c)	5. (c)	8. (b)	11. (c)	14. (c)	17. (b)
3. (d)	6. (a)	9. (c)	12. (a)	15. (b)	18. (c)

Chapter 8: The Cripps Mission and the Quit India Movement

1. (d)	4. (d)	7. (a)	10. (c)	13. (c)	16. (b)
2. (b)	5. (a)	8. (b)	11. (d)	14. (b)	17. (b)
3. (d)	6. (c)	9. (c)	12. (d)	15. (b)	18. (c)

Chapter 9: Subhas Chandra Bose, Forward Bloc, and the Indian National Army (INA)

1. (b)	4. (a)	7. (c)	10. (c)	13. (c)	16. (c)
2. (c)	5. (a)	8. (a)	11. (d)	14. (b)	17. (d)
3. (d)	6. (c)	9. (b)	12. (b)	15. (c)	18. (b)

Chapter 10: Independence and the Partition of India

1. (b)	4. (b)	7. (b)	10. (a)	13. (b)	16. (d)
2. (b)	5. (c)	8. (c)	11. (c)	14. (a)	17. (d)
3. (d)	6. (c)	9. (b)	12. (d)	15. (b)	18. (d)

Chapter 11: The First World War (1914 –1918)

1. (c)	4. (b)	7. (b)	10. (a)	13. (c)	16. (b)
2. (d)	5. (b)	8. (d)	11. (d)	14. (b)	17. (d)
3. (b)	6. (a)	9. (b)	12. (c)	15. (b)	18. (d)

Chapter 12: Rise of Dictatorships: Fascism in Italy and Nazism in Germany

1. (d)	4. (a)	7. (a)	10. (c)	13. (c)	16. (c)
2. (b)	5. (a)	8. (c)	11. (c)	14. (d)	17. (c)
3. (b)	6. (b)	9. (a)	12. (a)	15. (c)	18. (d)

Chapter 13: The Second World War (1939 – 1945)

1. (b)	2. (d)	3. (c)	4. (c)	5. (a)	6. (b)

7. (c)	9. (b)	11. (b)	13. (c)	15. (c)	17. (c)
8. (c)	10. (b)	12. (c)	14. (c)	16. (c)	18. (b)

Chapter 14: United Nations Organisations: Origin, Objectives, and the Principal Organs

1. (c)	4. (a)	7. (b)	10. (b)	13. (b)	16. (d)
2. (b)	5. (b)	8. (b)	11. (c)	14. (a)	17. (d)
3. (d)	6. (a)	9. (b)	12. (c)	15. (c)	18. (c)

Chapter 15: Major Agencies of the United Nations

1. (b)	4. (b)	7. (b)	10. (d)	13. (b)	16. (d)
2. (d)	5. (c)	8. (c)	11. (c)	14. (c)	17. (d)
3. (d)	6. (c)	9. (b)	12. (b)	15. (c)	18. (c)

Chapter 16: The Non– Aligned Movement

1. (c)	4. (c)	7. (c)	10. (a)	13. (b)	16. (d)
2. (c)	5. (a)	8. (b)	11. (b)	14. (b)	17. (d)
3. (b)	6. (b)	9. (b)	12. (a)	15. (c)	18. (b)

Computer Applications

1 Revision Of Class IX

TYPE 1

Question 1

Assertion (A): In Java, a class is a blueprint for objects.

Reason (R): A class defines the properties and behaviours for objects, but does not allocate memory space for them.

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is a correct explanation of Assertion (A)
(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not a correct explanation of Assertion (A)
(c) Assertion (A) is true and Reason (R) is false
(d) Assertion (A) is false and Reason (R) is true

Question 2

Assertion (A): In Java, the '+' operator can be used to concatenate two strings.

Reason (R): Java treats the '+' operator as a mathematical addition operator only.

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is a correct explanation of Assertion (A)
(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not a correct explanation of Assertion (A)
(c) Assertion (A) is true and Reason (R) is false
(d) Assertion (A) is false and Reason (R) is true

Question 3

Assertion (A): In Java, a variable of a primitive data type directly contains the value of that type.

Reason (R): Primitive data types in Java are non-objects and include types such as int, float, and boolean.

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is a correct explanation of Assertion (A)
(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not a correct explanation of Assertion (A)
(c) Assertion (A) is true and Reason (R) is false
(d) Assertion (A) is false and Reason (R) is true

Question 4

Assertion (A): The 'for' loop in Java is an example of an iterative construct.

Reason (R): Iterative constructs in Java are used to repeatedly execute a block of statements as long as a condition is true.

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is a correct explanation of Assertion (A)
(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not a correct explanation of Assertion (A)
(c) Assertion (A) is true and Reason (R) is false
(d) Assertion (A) is false and Reason (R) is true

Question 5

Assertion (A): In Java, the 'if-else' construct is used for making decisions.

Reason (R): The 'if-else' construct executes a block of code only if a specified condition is false.

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is a correct explanation of Assertion (A)
(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not a correct explanation of Assertion (A)
(c) Assertion (A) is true and Reason (R) is false
(d) Assertion (A) is false and Reason (R) is true

Question 6

Assertion (A): Nested for loops in Java are used to implement multi-level iteration.

Reason (R): A nested for loop is a for loop within another for loop, allowing for more complex data manipulations and iterations.

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is a correct explanation of Assertion (A)
(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not a correct explanation of Assertion (A)
(c) Assertion (A) is true and Reason (R) is false
(d) Assertion (A) is false and Reason (R) is true

TYPE 2

Question 7

Which of the following statements correctly describe the concept of Classes and Objects in Object-Oriented Programming?

A. A class is a blueprint for creating objects, providing initial values for state and implementations of behavior.
B. Objects are templates from which classes are created.
C. A class is a specific instance of an object.
D. Objects are created independently of classes.
(a) Only A
(b) A and C
(c) B and D
(d) A and B

Question 8

What will be the result of the following Java code snippet?

```
int x = 5;
int y = 10;
System.out.println(x * y);
```

A. 15
B. 50
C. 5
D. Syntax Error
(a) Only A
(b) A and C
(c) B and D
(d) Only B

Question 9

In Java, which of the following statements are true regarding the use of conditional constructs like if-else?

A. The if-else construct can only evaluate boolean expressions.
B. The else clause is optional in an if-else construct.
C. An if-else construct can contain multiple else statements for a single if.
D. The if-else construct is used for iterating over a collection of items.
(a) Only A and B

(b) B and C
(c) A, B, and D
(d) A and D

Question 10

Which of the following is a correct way to read input from the user in Java?

A. Scanner input = new Scanner(System.in); int number = input.nextInt();
B. int number = System.in.readInt();
C. BufferedReader br = new BufferedReader(new InputStreamReader(System.in)); int number = br.read();
D. Console con = System.console(); int number = Integer.parseInt(con.readLine());

(a) Only A
(b) A and C
(c) A, C, and D
(d) All of the above

Question 11

What is the output of the following Java code snippet using nested for loops?

```
for(int i = 1; i <= 2; i++) {
  for(int j = 1; j <= 2; j++) {
    System.out.print(i*j + " ");
  }
  System.out.println();
}
```

A. 1 2 2 4
B. 1 1 2 2
C. 1 2 3 4
D. 2 4 6 8

(a) Only A
(b) A and B
(c) B and D
(d) Only C

2 Class as the Basis of all Computation

TYPE 1

Question 1

Assertion (A): A class in programming can be thought of as a blueprint for creating objects.

Reason (R): Objects are unique instances of a class, each with their own state defined by member variables.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 2

Assertion (A): Member methods in a class define the behavior of objects created from the class.

Reason (R): The behavior of an object cannot be modified after the object is created.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 3

Assertion (A): Primitive data types in programming are classes that encapsulate simple values.

Reason (R): Composite data types are made up of multiple primitive data types or other composite types.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 4

Assertion (A): In object-oriented programming, an object's state is defined exclusively by its member methods.

Reason (R): Member methods in a class define how an object of that class behaves and interacts with other objects.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 5

Assertion (A): A variable declaration in a class is necessary to use that variable in object instances of the class.

Reason (R): Variables in a class are used to define the state of the object and must be declared before use.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 6

Assertion (A): Every object in a program is an instance of some class.

Reason (R): Classes act as templates which dictate the structure and behavior of objects.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

TYPE 2

Question 7

What best describes the relationship between a class and an object in computer programming?

A. A class is a blueprint from which objects are created.
B. An object is a more general concept than a class.
C. A class and an object are always identical.
D. An object can exist without a class.
(a) Only A
(b) B and C
(c) C and D
(d) A and B

Question 8

In the context of object-oriented programming, what does encapsulation primarily refer to?

A. The process of inheriting properties from another class.
B. Grouping of data with methods that operate on that data.
C. The conversion of data types from one form to another.
D. The ability of a program to run in various operating systems.

(a) Only B
(b) A and C
(c) B and D
(d) C and D

Question 9

Which of the following best illustrates the difference between primitive and composite data types?

A. Primitive data types are built into the programming language, while composite data types are user-defined.
B. Composite data types can store multiple values, whereas primitive data types cannot.
C. Primitive data types require more memory than composite data types.
D. Composite data types are not supported in object-oriented programming.

(a) Only A
(b) A and B
(c) B and D
(d) A, B, and C

Question 10

In object-oriented programming, which of the following statements is true about member methods?

A. They are variables that store the state of an object.
B. They define the behaviour of an object.
C. They cannot be modified once defined.
D. They only exist outside of classes.

(a) Only B
(b) A and C
(c) B and D
(d) C and D

Question 11

Consider a real-world example of a 'Car' as a class. Which of the following would be an appropriate member variable and a member method for this class?

A. Member Variable: Color, Member Method: Drive()
B. Member Variable: Drive(), Member Method: Color
C. Member Variable: NumberOfWheels, Member Method: SquareRoot()
D. Member Variable: Accelerate, Member Method: Model

(a) Only A
(b) B and C
(c) A and C
(d) C and D

3 User Defined Methods

TYPE 1

Question 1

Assertion (A): In Java, method overloading is not possible within the same class.

Reason (R): Method overloading requires the method name to be the same but with different parameters.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 2

Assertion (A): Static methods in Java can only call other static methods directly.

Reason (R): Static methods belong to the class, not instances of the class, and therefore cannot access instance methods which require an object instance.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 3

Assertion (A): In Java, 'pass by reference' means that a copy of the object reference is passed to the method.

Reason (R): When 'pass by reference' is used, any changes made to the object inside the method affect the original object.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 4

Assertion (A): A method in Java can return only one value at a time.

Reason (R): Java supports returning multiple values from a method using collections like arrays or lists.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 5

Assertion (A): Pure methods in Java are those that do not make any changes to the object's state.

Reason (R): Impure methods, unlike pure methods, can modify the fields of the object or interact with other objects.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

TYPE 2

Question 6

What is the correct definition of method overloading in the context of the syllabus?

A. Using the same method name with different return types in the same class.
B. Using different method names to perform similar tasks in a class.
C. Using the same method name with different parameter lists in the same class.
D. Changing the access level of methods in a class.

(a) Only C
(b) A and B
(c) B and D
(d) A and D

Question 7

In the context of method invocation, what does 'call by value' mean?

A. The method receives a reference to the actual parameter.
B. The method receives a copy of the actual parameter.
C. The method can modify the actual parameter.
D. The method shares the same memory location as the actual parameter.

(a) Only B
(b) A and C
(c) B and D
(d) A and D

Question 8

Which statement is true about static and non-static methods as per the syllabus?

A. Static methods can access instance variables directly.
B. Non-static methods can be called without creating an object of the class.
C. Static methods belong to the class rather than any particular object.
D. Non-static methods cannot access static variables of the class.

(a) Only C
(b) A and B
(c) C and D
(d) B and D

Question 9

What does the term 'pure method' refer to in the syllabus?

A. A method that changes the state of an object.
B. A method that does not change any state and returns a value based only on its inputs.
C. A method that does not return any value.
D. A method that is declared but not implemented.

(a) Only B
(b) A and C
(c) B and D
(d) C and D

Question 10

In the context of object-oriented programming, what is the significance of using multiple methods with the same name (polymorphism) in a class?

A. It helps in creating methods with unique names.
B. It facilitates method overloading, allowing different implementations based on parameter types or numbers.
C. It is used to override methods of the superclass.
D. It improves security by hiding the implementation details.

(a) Only B
(b) B and C
(c) A and D

(d) C and D

4 Constructors

TYPE 1

Question 1

Assertion (A): A constructor in Java is a special method that is called automatically when an object is created.

Reason (R): Constructors are used to initialize the state of an object and they have the same name as the class.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 2

Assertion (A): Constructor overloading in Java is the process of having more than one constructor with different parameter lists.

Reason (R): Overloaded constructors give flexibility to create objects in different ways, but they must have different return types.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 3

Assertion (A): In Java, every class has at least one constructor.

Reason (R): If a class does not explicitly define a constructor, the Java compiler automatically provides a default constructor.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 4

Assertion (A): A parameterized constructor in Java is used to provide different values to distinct objects.

Reason (R): Parameterized constructors are mandatory for all Java classes to ensure unique object creation.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 5

Assertion (A): The main difference between a constructor and a method in Java is that a constructor cannot return a value.

Reason (R): Methods in Java always return a value, which can be of any data type or void.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

TYPE 2

Question 6

What is the primary purpose of a constructor in a class?

A. To initialize an object's state
B. To perform data processing
C. To return values
D. To terminate an object
(a) Only A
(b) A and C
(c) B and D
(d) A and B

Question 7

Which statement best describes a default constructor?

A. It takes specific parameters.
B. It is defined by the user.
C. It is automatically provided by the compiler if no constructor is defined.
D. It can be used to perform complex initializations.
(a) Only C
(b) B and D
(c) A and C
(d) A, B, and D

Question 8

In the context of constructor overloading, which of the following is true?

A. Constructors cannot be overloaded.
B. Overloaded constructors have different number or type of parameters.
C. Overloaded constructors perform different tasks.
D. Overloading affects the performance of the program.
(a) Only B
(b) B and C
(c) A and D
(d) All of the above

Question 9

Select the scenario that appropriately uses a parameterized constructor.

A. Initializing an object with default values.
B. Creating an object with specific initial values provided at the time of object creation.
C. Creating a method to calculate values.
D. Deleting an object from memory.
(a) Only B
(b) A and D
(c) B and C
(d) Only C

Question 10

Which of the following distinguishes a constructor from a method?

A. Constructors can return values.
B. Methods can have the same name as the class.
C. Constructors are called automatically when an object is created.
D. Methods are used to initialize objects.
(a) Only C
(b) B and D
(c) A and B
(d) All of the above

5 Library Classes

TYPE 1

Question 1

Assertion (A): In Java, the process of converting a primitive data type into its corresponding wrapper class is called autoboxing.

Reason (R): Autoboxing is necessary because Java does not support operations on primitive data types directly.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 2

Assertion (A): The parseInt(String s) method can convert a string representing a hexadecimal number into an integer.

Reason (R): Java's wrapper classes include methods for parsing strings into their corresponding primitive types, including hexadecimal representations.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 3

Assertion (A): Autoboxing and unboxing allow for seamless conversion between wrapper classes and their corresponding primitive types in Java.

Reason (R): Without autoboxing, developers would need to manually convert between primitive types and their wrapper classes, leading to more complex and error-prone code.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 4

Assertion (A): A class in Java can be considered as a new data type defined by the user.

Reason (R): Classes in Java are composite types that encapsulate both data and methods, distinguishing them from primitive data types.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 5

Assertion (A): The isDigit(char ch) method returns true for any numeric character.

Reason (R): The method isDigit(char ch) is a static method in the Character wrapper class that checks if a character is one of the ten digits '0' through '9'.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

TYPE 2

Question 6

Which of the following statements correctly describe the process of autoboxing in Java?

A. Autoboxing automatically converts a primitive data type into its corresponding wrapper class object.
B. It requires explicit constructor calls to convert primitive types into wrapper objects.
C. Autoboxing can be used to convert composite data types into primitive types.
D. It occurs when a wrapper class object is converted back into a primitive type.

(a) Only A
(b) A and C
(c) B and D
(d) A and D

Question 7

What is the output of the following code snippet in Java?

Character ch = 'a';

System.out.println(Character.isUpperCase (ch));

A. true
B. false
C. An error will occur because 'ch' is not a primitive data type.
D. None of the above

(a) Only A
(b) A and C
(c) Only B
(d) D and C

Question 8

Which method is used to parse a String into a float in Java?

A. float parseDouble(String s)
B. float parseInt(String s)
C. float parseFloat(String s)
D. float parseString(Float s)

(a) Only A
(b) Only C
(c) A and B
(d) B and D

Question 9

In Java, what distinguishes a primitive data type from a composite data type or class type?

A. Primitive types are always larger in memory than composite types.
B. Composite types can contain methods and multiple values, whereas primitives cannot.
C. Primitive types can be null, while composite types cannot.
D. There is no significant difference; they are used interchangeably.

(a) Only A
(b) Only B
(c) B and C
(d) A and D

Question 10

Considering wrapper classes in Java, which of the following are correct regarding the Character class methods?

A. isDigit(char ch) determines if the specified char is a digit.
B. toUpperCase(char ch) converts the given character to its lowercase equivalent.
C. isWhitespace(char ch) checks if the given character is a whitespace character.
D. isLetter(char ch) verifies if the character is a number.

(a) A and C
(b) A, C, and D
(c) Only A
(d) A, B, and C

6 Encapsulation

TYPE 1

Question 1

Assertion (A): In Java, a class variable is another term for a static variable.

Reason (R): Class variables are associated with the class itself rather than any particular instance of the class.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 2

Assertion (A): A private access specifier in Java allows a member to be accessed from any class in the same package.

Reason (R): The private access specifier is the most restrictive and only permits access within its own class.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 3

Assertion (A): Protected access specifier allows access to a member from within its own package and subclasses.

Reason (R): The protected access specifier is less restrictive than the default access specifier in Java.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 4

Assertion (A): Local variables in Java can be accessed from anywhere within the class in which they are declared.

Reason (R): Local variables are declared within methods and are only accessible within the scope of that method.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A

(c) A is true and R is false
(d) A is false and R is true

Question 5

Assertion (A): The public access specifier in Java allows a member to be accessed from any other class.

Reason (R): Public access specifier is used to indicate that a member is available to all classes, regardless of the package they belong to.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

TYPE 2

Question 6

'In which of the following scenarios can a private access specifier be appropriately used?'

A. For methods that are intended to be accessed from anywhere in the application.
B. For variables that should only be accessed within the class they are declared.
C. For variables that need to be inherited by subclass.
D. For methods that should be accessible from any class in the same package.

(a) Only B
(b) A and C
(c) C and D
(d) B and D

Question 7

'Which statement is true about a protected access specifier?'

A. It allows access to the member from any class in any package.
B. It restricts access to the member strictly within the same class.
C. It allows access within the same package and through inheritance in other packages.
D. It behaves exactly the same as the default access specifier.

(a) Only A
(b) B and D
(c) Only C
(d) C and D

Question 8

'What is the scope of a local variable?'

A. Throughout the class in which it is declared.
B. Only within the block of code where it is declared.
C. Throughout the package where its class resides.
D. Globally, across the entire application.

(a) Only A
(b) Only B
(c) B and C
(d) A and D

Question 9

'In a class, what is the difference between a class variable and an instance variable?'

A. Class variables are specific to instances, whereas instance variables are shared among all instances.
B. Instance variables are specific to instances, whereas class variables are shared among all instances.
C. There is no difference; both are the same.
D. Instance variables are declared static, whereas class variables are not.

(a) Only A
(b) Only B

(c) B and D
(d) C and D

Question 10

If a method is declared as public, where is it accessible?

A. Only within the class it is declared.
B. Anywhere in the application.
C. Only within the package where the class resides.
D. Only by classes that inherit from the class where the method is declared.

(a) Only A
(b) Only B
(c) C and D
(d) A and D

7 Arrays – One Dimension, Sort & Search, Double Dimension

TYPE 1

Question 1

Assertion (A): In Java, the length of an array can be changed after it has been initialized.

Reason (R): Arrays in Java are dynamic data structures that can adjust their size during runtime.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 2

Assertion (A): A two-dimensional array in Java is essentially an array of arrays.

Reason (R): The first dimension represents rows and the second dimension represents the columns in a matrix format.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 3

Assertion (A): In a selection sort algorithm, the array is divided into a sorted and an unsorted region.

Reason (R): The smallest element from the unsorted region is always selected and swapped with the leftmost unsorted element.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 4

Assertion (A): In Java, the 'length' property of an array returns the number of dimensions of the array.

Reason (R): The 'length' property is used to determine the size of each dimension in a multi-dimensional array.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 5

Assertion (A): Binary search is more efficient than linear search in a sorted array.

Reason (R): Binary search divides the array into halves with each iteration, reducing the search time significantly.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

TYPE 2

Question 6

Which of the following statements are correct about initializing a single-dimensional array in Java?

A. The size of the array must be declared at the time of initialization.
B. An array can be initialized with specific values using curly braces {}.
C. Single-dimensional arrays cannot store more than 10 elements.
D. Arrays are always initialized with zero in all their elements.

(a) A and B
(b) Only B
(c) B and D
(d) A, B, and C

Question 7

In the context of arrays, what does the 'length' statement generally return?

A. The number of bytes the array occupies in memory.
B. The total number of elements that the array can store.
C. The first element of the array.
D. The value of the last element of the array.

(a) Only A
(b) Only B
(c) A and C
(d) B and D

Question 8

Which of the following is true when performing a linear search on a single-dimensional array?

A. It's necessary to sort the array before performing the search.
B. It examines each element of the array sequentially.
C. It is faster than binary search on sorted arrays.
D. It requires dividing the array into two halves in each step.

(a) Only B
(b) A and D
(c) B and C
(d) C and D

Question 9

When implementing a bubble sort on a single-dimensional array, what does the algorithm repeatedly do?

A. Selects the minimum element and places it at the beginning.
B. Splits the array into smaller arrays to perform sorting.
C. Swaps adjacent elements if they are in the wrong order.
D. Uses a pivot element to partition the array.

(a) Only C
(b) A and D
(c) B and C
(d) C and D

Question 10

In a double-dimensional array representing a matrix, how can you calculate the sum of elements in the left diagonal?

A. By adding elements where the row index is equal to the column index.
B. By summing elements where the row index and column index sum to the size of the matrix minus one.
C. By adding elements of the first row and first column only.
D. By summing the elements in the last row and last column.

(a) Only A
(b) A and B
(c) Only B
(d) B and D

8 String Handling

TYPE 1

Question 1

Assertion (A): The method String.trim() in Java is used to remove both leading and trailing spaces from a string.

Reason (R): The trim() method modifies the original string by removing spaces.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 2

Assertion (A): Using String.compareTo(String str) in Java returns 0 if the strings are lexicographically equal.

Reason (R): compareTo() performs a case-sensitive comparison of two strings.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 3

Assertion (A): The String.indexOf(char ch) method returns the index of the first occurrence of the specified character in a string.

Reason (R): If the character does not occur in the string, indexOf() will return -1.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 4

Assertion (A): The method String.valueOf(all types) is used to convert different types of values into a string.

Reason (R): valueOf() is an overloaded method that can take any primitive data type as an argument.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

Question 5

Assertion (A): In Java, String.equalsIgnoreCase(String str) compares two strings, ignoring case considerations.

Reason (R): equalsIgnoreCase() compares the ASCII values of each character in the strings.

(a) Both A and R are true and R is a correct explanation of A
(b) Both A and R are true and R is not a correct explanation of A
(c) A is true and R is false
(d) A is false and R is true

TYPE 2

Question 6

Which of the following statements are true regarding the indexOf(char ch) and lastIndexOf(char ch) methods in the String class?

A. indexOf(char ch) returns the index of the first occurrence of the specified character.
B. lastIndexOf(char ch) returns the index of the last occurrence of the specified character.
C. Both methods return -1 if the specified character is not found in the string.
D. indexOf(char ch) returns the length of the string if the character is not found.

(a) Only A
(b) A and B
(c) B and C
(d) A, B, and C

Question 7

What will be the output of the following code snippet?

String str = "Hello World";

System.out.println(str.substring(6));

A. "World"
B. "Hello"
C. "lo World"
D. An error occurs

(a) Only A
(b) A and C
(c) Only C
(d) Only D

Question 8

Which of the following is the correct way to compare two strings str1 and str2 in Java, ignoring their case sensitivity?

A. str1.equals(str2)
B. str1 == str2
C. str1.equalsIgnoreCase(str2)
D. str1.compareToIgnoreCase(str2) == 0

(a) Only C
(b) C and D
(c) A and B
(d) B and D

Question 9

Considering the String method trim(), which of the following is true?

A. It removes all whitespace characters from both ends of a string.

B. It also removes non-visible characters like tabs and newline.
C. It modifies the original string.
D. It creates a new string with the changes.

(a) Only A and B
(b) A, B, and D
(c) A and C
(d) B and C

Question 10

In Java, using bubble sort to arrange an array of strings in alphabetical order, which of the following is a key aspect of the algorithm?

A. Comparing adjacent elements and swapping them if they are in the wrong order.
B. Selecting the smallest string and moving it to the start of the array.
C. Using the compareTo() method to compare strings.
D. Searching each element of the array linearly to find the correct position.

(a) Only A and C
(b) A, C, and D
(c) B and D
(d) Only A

ANSWERS

Chapter 1: Revision Of Class IX

1. (a)	4. (a)	7. (a)	10. (c)
2. (c)	5. (c)	8. (d)	11. (a)
3. (a)	6. (a)	9. (a)	

Chapter 2: Class as the Basis of all Computation

1. (a)	4. (d)	7. (a)	10. (a)
2. (c)	5. (a)	8. (a)	11. (a)
3. (d)	6. (a)	9. (b)	

Chapter 3: User Defined Methods

1. (d)	4. (b)	7. (a)	10. (a)
2. (a)	5. (a)	8. (a)	
3. (b)	6. (a)	9. (a)	

Chapter 4: Constructors

1. (a)	4. (c)	7. (a)	10. (a)
2. (c)	5. (b)	8. (a)	
3. (a)	6. (a)	9. (a)	

Chapter 5: Library Classes

1. (c)	4. (a)	7. (c)	10. (a)
2. (c)	5. (a)	8. (b)	
3. (a)	6. (a)	9. (b)	

Chapter 6: Encapsulation

1. (a)	4. (d)	7. (c)	10. (b)
2. (d)	5. (a)	8. (b)	
3. (b)	6. (a)	9. (b)	

Chapter 7: Arrays - One Dimension, Sort & Search, Double Dimension

1. (d)	4. (d)	7. (b)	10. (a)
2. (a)	5. (a)	8. (a)	
3. (a)	6. (b)	9. (a)	

Chapter 8: String Handling

1. (c)	4. (a)	7. (a)	10. (a)
2. (b)	5. (c)	8. (a)	
3. (a)	6. (d)	9. (a)	

HOME SCIENCE

1 Budgeting and Saving

TYPE 1

Question 1

Which of the following best defines a balanced family budget?

(A) Income is more than the expenditure.

(B) Income and expenditure are almost the same.

(C) Expenditure exceeds the income.

(D) No savings are made.

(a) Only B

(b) A and D

(c) B and C

(d) C and D

Question 2

What is the primary purpose of a family budget?

(A) To ensure expenditures exceed income.

(B) To plan spending and saving based on income.

(C) To avoid any kind of spending.

(D) To invest all income in stocks.

(a) Only B

(b) B and D

(c) A and C

(d) Only D

Question 3

Which step is crucial when preparing a realistic budget?

(A) Ignoring past expenditure.

(B) Planning for unexpected emergencies.

(C) Focusing solely on current expenses.

(D) Prioritising luxury spending.

(a) Only B

(b) A and C

(c) B and D

(d) C and D

Question 4

Which of the following is a consequence of not following a budget?

(A) Increased savings.

(B) Better investment decisions.

(C) Falling into debt.

(D) Optimal use of resources.

(a) Only C

(b) A and B

(c) C and D

(d) B and D

Question 5

How does saving impact a family's financial health?

(A) It leads to immediate gratification.

(B) Provides security against financial emergencies.

(C) Decreases the overall income.

(D) Encourages impulsive spending.

(a) Only B

(b) A and D

(c) B and C

(d) C and D

TYPE 2

Question 6

Assertion (A): Effective budgeting involves planning income and expenditures to ensure a balance between them.

Reason (R): A well-planned budget ensures that expenditures never exceed income.

Identify the correct statement:

(a) A is true, but R is false.

(b) A is false, but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true, but R is not the correct explanation of A.

Question 7

Assertion (A): Saving is deferred consumption.

Reason (R): The primary purpose of saving is to allow for immediate purchases.

Identify the correct statement:

(a) A is true, but R is false.

(b) A is false, but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true, but R is not the correct explanation of A.

Question 8

Assertion (A): Investing surplus funds in various financial instruments can provide future economic security.

Reason (R): Investments always guarantee higher returns than the initial capital.

Identify the correct statement:

(a) A is true, but R is false.

(b) A is false, but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true, but R is not the correct explanation of A.

Question 9

Assertion (A): A surplus budget indicates that a family's income exceeds its expenditures.

Reason (R): Surplus budgets always lead to significant financial savings.

Identify the correct statement:

(a) A is true, but R is false.

(b) A is false, but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true, but R is not the correct explanation of A.

Question 10

Assertion (A): The socio-economic status of a family significantly affects its budgeting process.

Reason (R): Higher income families tend to allocate more budget towards luxury and leisure activities compared to lower-income families.

Identify the correct statement:

(a) A is true, but R is false.

(b) A is false, but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true, but R is not the correct explanation of A.

2 Space Organization in The Kitchen

TYPE 1

Question 1

What is the ideal arrangement of the three major units (refrigerator, sink, and cooking stove) in a kitchen?

(A) In a straight line

(B) In a triangular layout

(C) In separate corners

(D) Next to each other

(a) Only A

(b) B and C

(c) Only B

(d) C and D

Question 2

Which of the following is NOT a characteristic of a good kitchen?

(A) Bright and well-ventilated

(B) Durable, non-absorbent surfaces

(C) Limited storage space

(D) Heat-resistant countertops

(a) Only C

(b) A and B

(c) B and D

(d) Only D

Question 3

For effective kitchen planning, what is the recommended total length of the work triangle (distance between refrigerator, sink, and stove)?

(A) 5-10 feet

(B) 13-22 feet

(C) 25-30 feet

(D) 8-12 feet

(a) Only A,

(b) Only B,

(c) B and D

(d) Only D

Question 4

In a well-planned kitchen, where should the storage center ideally be located?

(A) Near the cooking stove

(B) Close to the refrigerator

(C) Away from the work centres

(D) Adjacent to the preparation and mixing center

(a) A and B

(b) Only D

(c) B and C

(d) Only A

Question 5

Which type of kitchen layout is most efficient in terms of the work triangle?

(A) One Walled or Pullman Kitchen

(B) U-Shaped Kitchen

(C) Corridor Kitchen

(D) Island Shaped Kitchen

(a) Only A

(b) B and D

(c) Only B

(d) A and C

TYPE 2

Question 6

Assertion (A): A well-designed kitchen should have a work triangle between the refrigerator, sink, and stove.

Reason (R): The work triangle reduces unnecessary movement, saving time and energy in the kitchen.

(a) A is true, but R is false.

(b) A is false, but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true, but R is not the correct explanation of A.

Question 7

Assertion (A): In a modular kitchen, the repair of a single damaged unit requires the replacement of the entire kitchen.

Reason (R): Modular kitchens consist of several interconnected units.

(a) A is true, but R is false.

(b) A is false, but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true, but R is not the correct explanation of A.

Question 8

Assertion (A): The ceiling of the kitchen should ideally be painted in a pastel shade or white.

Reason (R): Lighter ceiling colours enhance the brightness and spaciousness of the kitchen.

(a) A is true, but R is false.

(b) A is false, but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true, but R is not the correct explanation of A.

Question 9

Assertion (A): A U-shaped kitchen layout is less efficient than a corridor kitchen in terms of the work triangle.

Reason (R): A U-shaped kitchen allows for continuous counter space and prevents the kitchen from being a thoroughfare.

(a) A is true, but R is false.

(b) A is false, but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true, but R is not the correct explanation of A.

Question 10

Assertion (A): The ideal kitchen layout should allow for natural ventilation and daylight.

Reason (R): Natural ventilation and daylight help in reducing the growth of bacteria and micro-organisms.

(a) A is true, but R is false.

(b) A is false, but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true, but R is not the correct explanation of A.

3 Home Furnishing

TYPE 1

Question 1

What is the primary objective of home furnishing according to the text?

(A) To create a functional space

(B) To reflect the personality of the occupants

(C) To follow the latest fashion trends

(D) To utilize the most expensive materials

(a) Only A

(b) B and C

(c) A and B

(d) Only D

Question 2

When selecting fabrics for home furnishings, which of the following factors should be considered?

(A) The cost of the fabric

(B) The durability and thread count

(C) The style and colour that matches the room's decor

(D) The fabric's resistance to sunlight and stains

(a) A, B, and C

(b) B, C, and D

(c) All of the above

(d) Only A and D

Question 3

For a room with low ceilings, which curtain design strategy is recommended to create an impression of height?

(A) Using bright coloured curtains

(B) Utilising curtains with diagonal lines

(C) Choosing curtains with large patterns

(D) Installing curtains with heavy materials

(a) Only A

(b) B and C

(c) Only B

(d) C and D

Question 4

Which type of carpet is known for its durability and colourfast properties, making it a preferred choice for carpets according to the text?

(A) Cotton

(B) Silk

(C) Wool

(D) Nylon

(a) Only A

(b) Only B

(c) Only C

(d) A and D

Question 5

When choosing upholstery fabric, what is a crucial factor to consider for ensuring comfort and suitability?

(A) The prestige of the fabric brand

(B) The colour coordination with walls

(C) The weaving and texture of the fabric

(D) The latest trends in interior design

(a) Only A

(b) B and D

(c) Only C

(d) A and D

TYPE 2

Question 6

Assertion (A): The choice of fabric for home furnishings should primarily be guided by aesthetic preferences.

Reason (R): The fabric's durability, thread count, and resistance to fading are crucial for maintaining the fabric's appearance over time.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 7

Assertion (A): Carpets with higher thread counts are generally more durable.

Reason (R): Thread count refers to the number of threads per square inch of fabric and influences the texture and longevity of the carpet.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 8

Assertion (A): Wool is an ideal fabric for upholstery due to its aesthetic appeal.

Reason (R): Wool is resistant to wear, easy to clean, and maintains its colour well, making it practical for upholstery use.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 9

Assertion (A): Upholstery fabric should be chosen solely based on personal taste.

Reason (R): Factors such as the fabric's durability, comfort, and suitability for family use are crucial in selecting upholstery fabric.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 10

Assertion (A): Light-coloured fabrics are preferable for high-traffic areas in a home.

Reason (R): Light colours show stains more easily and require more frequent cleaning, which is practical for areas with high usage.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

4 Milestones of Development

TYPE 1

Question 1

Which of the following is a characteristic of physical development in middle childhood?

(A) Rapid increase in fat tissue compared to muscle tissue.

(B) Significant increase in head size proportionate to the body.

(C) Growth of 2-3 inches in height annually.

(D) Development of a full set of permanent teeth by age 10.

(a) Only C

(b) A and D

(c) B and C

(d) C and D

Question 2

During middle childhood, social development involves:

(A) Developing a sense of independence from peer influence.

(B) Learning to share and cooperate in group settings.

(C) Shifting focus from friends back to family.

(D) Preferring solitary activities over group play.

(a) Only B

(b) A and C

(c) B and D

(d) All of the above

Question 3

Which of the following is an example of a cognitive development task for children aged 6-12 years?

(A) Forming basic concepts of social and physical reality.

(B) Learning to express emotions appropriately.

(C) Achieving complete physical growth.

(D) Developing a personal value system.

(a) Only A

(b) B and C

(c) C and D

(d) A and D

Question 4

What does emotional development in middle childhood primarily focus on?

(A) Mastering advanced emotional expressions.

(B) Learning to control and appropriately express emotions.

(C) Completely understanding adult emotions.

(D) Focusing on self-centred emotional experiences.

(a) Only B

(b) A and D

(c) B and C

(d) All of the above

Question 5

In terms of language development in middle childhood, which of the following statements is true?

(A) Vocabulary growth becomes stagnant.

(B) Children begin using complex sentences.

(C) Language skills regress to simpler forms.

(D) Understanding of grammar rules diminishes.

(a) Only B

(b) A and C

(c) C and D

(d) B and D

TYPE 2

Question 6

Assertion (A): By the age of 12, children have developed most of their adult teeth, excluding wisdom teeth.

Reason (R): The replacement of milk teeth with permanent teeth begins in middle childhood and is mostly complete by the age of 12.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 7

Assertion (A): During middle childhood, the head grows in proportion to the rest of the body.

Reason (R): This proportional growth of body parts is part of the overall physical development that occurs during middle childhood.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 8

Assertion (A): Emotional development in middle childhood involves a child's ability to understand and manage their emotions.

Reason (R): Emotional development is solely dependent on a child's interactions with their peers.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 9

Assertion (A): Language development in middle childhood is influenced by a child's economic background.

Reason (R): Children from higher socio-economic backgrounds typically use more complex language due to greater exposure to literature and language.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 10

Assertion (A): In middle childhood, children's social development involves building friendships that are less influenced by adults.

Reason (R): The shift from family-centred to peer-oriented relationships is a hallmark of social development at this stage.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

5 Role of Family Peer Group and School

TYPE 1

Question 1

Which parenting style is characterised by high demandingness and high responsiveness?

(A) Authoritarian

(B) Authoritative

(C) Permissive

(D) Rejecting/Neglecting

(a) Only B

(b) A and C

(c) C and D

(d) Only A

Question 2

What is a key role of peer groups in a child's development?

(A) Providing academic support

(B) Influencing social and cognitive development

(C) Setting disciplinary rules

(D) Teaching professional skills

(a) Only B

(b) B and D

(c) A and C

(d) All of the above

Question 3

How should parents ideally respond to wrong behaviour in children?

(A) With immediate punishment

(B) By ignoring the behavior

(C) Using meaningful consequences

(D) By comparing them with other children

(a) Only C

(b) A and B

(c) C and D

(d) B and D

Question 4

What is an effective strategy for adults to improve communication with children?

(A) Asking open-ended questions

(B) Limiting conversation time

(C) Encouraging children to talk less

(D) Avoiding non-verbal communication

(a) Only A

(b) B and C

(c) A and D

(d) C and D

Question 5

In the context of school's role in child development, what is a significant benefit of extracurricular activities?

(A) Improving academic grades

(B) Replacing formal education

(C) Building self-esteem and shaping interests

(D) Teaching specific professional skills

(a) Only A

(b) B and D

(c) Only C

(d) All of the above

TYPE 2

Question 6

Assertion (A): Authoritative parents, who are high in both demandingness and responsiveness, encourage balanced independence in their children.

Reason (R): Authoritative parenting involves establishing rules but also showing a great deal of interest and responsiveness to the children.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 7

Assertion (A): Permissive parents set no rules or standards for their children.

Reason (R): Permissive parenting leads to children developing a strong sense of responsibility and self-discipline.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 8

Assertion (A): Children with authoritarian parents often display negativism and frustration.

Reason (R): Authoritarian parenting is characterised by high demandingness and low responsiveness, focusing on obedience and adherence to rules.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 9

Assertion (A): Peer groups play a significant role in a child's social, cognitive, and psychological development.

Reason (R): Peer interactions usually begin in school or neighbourhood settings and are characterised by shared interests and common age groups.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 10

Assertion (A): Rejecting/Neglecting parents show emotional withdrawal from their children and lack warmth.

Reason (R): This parenting style is characterised by high demandingness and low responsiveness.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

6 Learning Disabilities in Children

TYPE 1

Question 1

Which of the following is a characteristic sign of Dyslexia in children?

(A) Difficulty in processing and retaining information

(B) Trouble with the physical act of writing

(C) Difficulty understanding mathematical concepts

(D) Trouble with paying attention and hyperactivity

(a) Only A

(b) A and C

(c) B and D

(d) Only D

Question 2

Which of the following interventions is most appropriate for a child with Dysgraphia?

(A) Multisensory learning approaches

(B) Use of a calculator during tests

(C) Repetitive practices in areas of difficulty

(D) Medications and behavioural therapies

(a) A and C

(b) B and D

(c) Only D

(d) A and D

Question 3

How can schools best support students with Dyscalculia?

(A) Providing reading assistance

(B) Allowing use of calculators and modified teaching methods

(C) Prioritising physical activities

(D) Implementing strict time management techniques

(a) Only B

(b) A and D

(c) B and C

(d) All of the above

Question 4

In the context of ADHD, which of the following strategies can be effective in a classroom setting?

(A) Regular breaks and a structured environment

(B) Strict discipline and reduced interaction

(C) Focusing solely on academic performance

(D) Limiting physical activities during the day

(a) Only A

(b) B and C

(c) C and D

(d) All of the above

Question 5

What role can parents play in supporting a child with a learning disability?

(A) Setting high academic expectations

(B) Understanding the child's strengths and weaknesses

(C) Encouraging independence in learning

(D) Reducing social interactions to focus on academics

(a) Only B

(b) B and C

(c) A, C, and D

(d) All of the above

TYPE 2

Question 6

Assertion (A): Dyslexia primarily affects a person's reading and writing skills.

Reason (R): Dyslexia is a learning disability that impairs the brain's ability to process language.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 7

Assertion (A): ADHD is a type of learning disability.

Reason (R): ADHD causes difficulties with focus and attention, which can impede learning.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 8

Assertion (A): Dyscalculia affects a person's ability to understand and work with numbers.

Reason (R): Dyscalculia is a neurological condition that impacts language processing.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 9

Assertion (A): Early intervention is crucial for children with learning disabilities.

Reason (R): Early intervention can significantly improve reading skills in children at risk for dyslexia.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 10

Assertion (A): Dysgraphia affects a person's motor skills, specifically in writing.

Reason (R): Dysgraphia is a learning disability that impacts a person's reading and comprehension.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

7 Balanced Diet

TYPE 1

Question 1

What is a key characteristic of a balanced diet?

(A) High in fats and sugars

(B) Includes only protein and carbohydrates

(C) Consists of carbohydrates, fats, proteins, vitamins, minerals, water, and fibre in correct proportions

(D) Primarily focuses on vitamin supplements

(a) Only C

(b) A and B

(c) C and D

(d) Only D

Question 2

Which food group combination is recommended for higher quality protein?

(A) Fruits and Vegetables

(B) Cereals and Pulses

(C) Milk and Meat Products

(D) Fats and Sugars

(a) Only B

(b) A and C

(c) B and D

(d) Only D

Question 3

For maintaining healthy bones and teeth, which mineral is essential?

(A) Iron

(B) Calcium

(C) Zinc

(D) Magnesium

(a) Only B

(b) A and D

(c) B and C

(d) Only A

Question 4

Which practice is recommended to maximize nutrient retention in vegetables?

(A) Deep frying

(B) Steaming

(C) Long boiling

(D) Eating raw only

(a) Only B

(b) A and C

(c) B and D

(d) Only D

Question 5

Which nutrient class is primarily responsible for supplying food energy in a balanced diet?

(A) Vitamins

(B) Water

(C) Carbohydrates

(D) Dietary Fibre

(a) Only C

(b) A and D

(c) B and C

(d) Only B

TYPE 2

Question 6

Assertion (A): A balanced diet is essential for maintaining a healthy body weight and controlling blood pressure.

Reason (R): A balanced diet provides the necessary nutrients in correct proportions to support physical and mental health.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 7

Assertion (A): Excessive consumption of certain foods can lead to chronic diseases and obesity.

Reason (R): All food groups contribute equally to the risk of developing chronic diseases and obesity.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 8

Assertion (A): Vitamins play a crucial role in body immunity and bone health.

Reason (R): Vitamins are only required in minimal quantities and do not significantly impact overall health.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 9

Assertion (A): Carbohydrates are primarily found in cereals, fruits, and sugars.

Reason (R): Carbohydrates are important for providing energy and aiding in the oxidation of other nutrients.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 10

Assertion (A): Dietary fibre is crucial for preventing digestive tract diseases.

Reason (R): Dietary fibre is primarily found in animal-based products like meat and dairy.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

8 Meal Planning for The Family

TYPE 1

Question 1

Which of the following is a primary consideration in meal planning for a family?

(A) The latest culinary trends

(B) Nutritional needs of family members

(C) Following a strictly vegetarian diet

(D) Cooking only traditional dishes

(a) Only B

(b) B and D

(c) A and C

(d) All of the above

Question 2

How can meal planning contribute to budget management in a household?

(A) By always choosing organic foods

(B) Using seasonal and economical food sources

(C) Purchasing only branded food items

(D) Avoiding use of any leftovers

(a) Only A

(b) A and C

(c) B and D

(d) Only B

Question 3

In the meal planning, what is the significance of incorporating a variety of dishes?

(A) To make cooking more time-consuming

(B) To cater to the different tastes and preferences of family members

(C) To use up all ingredients before they expire

(D) To focus solely on presentation

(a) Only B

(b) B and C

(c) A and D

(d) All of the above

Question 4

For a balanced diet, which of the following food groups should be included in meal planning?

(A) Only fruits and vegetables

(B) A mix of cereals, pulses, fruits, vegetables, and dairy

(C) Exclusively high-protein foods

(D) Only fast foods for convenience

(a) Only A

(b) Only B

(c) A and C

(d) All of the above

Question 5

When planning meals for children, what should be the primary focus?

(A) High sugar content for energy

(B) Foods that are easy and quick to prepare

(C) Adequate protein, minerals, and vitamins

(D) Serving only their favourite foods

(a) Only C

(b) B and D

(c) A and B

(d) All of the above

TYPE 2

Question 6

Assertion (A): A balanced diet for adults should include a reasonable amount of complex carbohydrates with high fibre content.

Reason (R): Fibre aids in digestion and helps in the easy elimination of body wastes.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 7

Assertion (A): During pregnancy, a woman's nutrient intake does not need to be increased in the first trimester.

Reason (R): In the first trimester, the foetal development is minimal and does not significantly increase nutritional requirements.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 8

Assertion (A): Breast milk is the only food to be given to an infant at least up to 4-6 months.

Reason (R): Breast milk has all the essential nutrients and antibodies which increase the baby's immunity.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 9

Assertion (A): Meal planning should consider the dietary habits of family members.

Reason (R): Dietary habits do not significantly affect the nutritional value of the food.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 10

Assertion (A): Adolescents have higher nutritional requirements due to growth spurts and increased activity levels.

Reason (R): The diet of adolescents should primarily focus on high carbohydrate intake for energy.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

9 Storage and Preservation of Food

TYPE 1

Question 1

When purchasing fruits and vegetables, what indicators should be considered to ensure their freshness?

(A) Bright colour and pleasant flavour

(B) Presence of scalds or mechanical injuries

(C) Heavy moisture or signs of mould

(D) Shrunken or shrivelled appearance

(a) Only A

(b) B and C

(c) A, B, and C

(d) All the above

Question 2

Which of the following practices is recommended for preserving perishable foods like meat, fish, and poultry?

(A) Storing at room temperature for a few hours

(B) Freezing at or below 4°C (or 40°F)

(C) Keeping in a dry place

(D) Wrapping in aluminium foil and keeping in sunlight

(a) Only A

(b) Only B

(c) B and D

(d) All of the above

Question 3

What is an effective method to increase the shelf life of semi-perishable foods like onions, garlic, and potatoes?

(A) Refrigeration

(B) Storing in a cool, dry, dark, and airy place

(C) Keeping in a humid environment

(D) Exposing to direct sunlight for long periods

(a) Only A

(b) Only B

(c) A and C

(d) B and D

Question 4

What is the primary reason for not washing fruits before storing them?

(A) To retain natural sugars

(B) To maintain their colour

(C) To prevent moisture loss

(D) To avoid microbial growth on the surface

(a) Only A

(b) Only D

(c) B and C

(d) All of the above

Question 5

In home food preservation, why is sugar used as a preservative in jams and jellies?

(A) To enhance flavour only

(B) To absorb excess water, preventing microbial growth

(C) To improve texture

(D) To change the food's colour

(a) Only A

(b) Only B

(c) A and C

(d) All of the above

TYPE 2

Question 6

Assertion (A): Proper storage methods enhance the shelf life of food products.

Reason (R): Storage methods, such as refrigeration, prevent biological and chemical changes in food.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 7

Assertion (A): It's not necessary to wash hands before handling food if the food will be cooked.

Reason (R): Cooking at high temperatures kills most bacteria and viruses.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 8

Assertion (A): Fresh fruits and vegetables should be stored in refrigerators immediately after purchase.

Reason (R): Refrigeration slows down the spoilage process by reducing the growth rate of bacteria.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 9

Assertion (A): Sun drying is an ineffective method of food preservation.

Reason (R): Drying removes moisture, preventing the growth of microorganisms.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 10

Assertion (A): Food preserved with high salt content is safe for long-term consumption.

Reason (R): High salt concentration inhibits the growth of bacteria in food.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

10 Selection of Fabrics

TYPE 1

Question 1

Which of the following finishes enhances the lustre of cotton fabric?

(A) Sizing

(B) Mercerisation

(C) Weighting

(D) Sanforization

(a) Only B

(b) A and C

(c) B and D

(d) A and B

Question 2

In terms of fabric design, which choice is most suitable for a slim person to appear broader?

(A) Vertical stripes

(B) Horizontal lines

(C) Small floral designs

(D) Geometrical patterns

(a) Only B

(b) A and C

(c) B and D

(d) C and D

Question 3

Which of the following fabric characteristics is NOT directly influenced by the finish applied?

(A) Colour

(B) Texture

(C) Durability

(D) Crease resistance

(a) Only A

(b) B and C

(c) A and D

(d) C and D

Question 4

For a fabric to be considered of good quality, it must conform to which of the following?

(A) Attractiveness

(B) Serviceability

(C) Suitability for the purpose

(D) Presence of an authorization stamp or label

(a) A, B, and C

(b) B, C, and D

(c) A, B, and D

(d) All of the above

Question 5

When selecting fabrics, which factor is most influenced by the season?

(A) Colour

(B) Texture

(C) Design

(D) Weave

(a) Only A

(b) B and D

(c) A and B

(d) C and D

TYPE 2

Question 6

Assertion (A): Cotton and synthetic fabrics are easier to care for and store compared to silk, wool, and zari.

Reason (R): Cotton and synthetic materials are less prone to damage and do not require special storage conditions.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 7

Assertion (A): Mercerisation improves the lustre of cotton fabrics.

Reason (R): Mercerisation involves treating cotton with sodium hydroxide to increase its strength and dye affinity.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 8

Assertion (A): Warm colours should be used in winter clothing as they can make a person feel warmer.

Reason (R): The colour of clothing can influence a person's mood and perception of temperature.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 9

Assertion (A): Laundering requirements vary significantly between different types of fabrics.

Reason (R): The type of fibre, weave, and finishes applied to a fabric determine its specific laundering needs.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 10

Assertion (A): Crease-resistant finishes improve the durability of a fabric.

Reason (R): Durability in fabrics is influenced by the quality of fibres, yarn, and finishes applied.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

11 Selection of Readymade Garments

TYPE 1

Question 1

What should be the primary consideration while selecting readymade garments for purchase?

(A) Fashion trends

(B) Brand popularity

(C) Personal fit and comfort

(D) Price and affordability

(a) Only A

(b) A and C

(c) B and D

(d) C and D

Question 2

When assessing the workmanship of a readymade garment, which of the following is crucial to check?

(A) Colour fastness

(B) Stitching quality

(C) Brand label

(D) Price tag

(a) Only A

(b) A and B

(c) B and C

(d) Only B

Question 3

Which of the following factors do not directly impact the selection of readymade garments?

(A) Personal fashion preference

(B) Availability of sizes

(C) Current weather conditions

(D) The store's interior design

(a) Only D

(b) C and D

(c) A, B, and C

(d) All of the above

Question 4

The buying readymade garments, why is it important to check the garment's care label?

(A) To understand the fabric composition

(B) To know the washing and care instructions

(C) To determine the country of manufacture

(D) To check the price

(a) Only B

(b) A and B

(c) B and C

(d) A, B, and C

Question 5

What is a practical tip for purchasing readymade garments during sales?

(A) Always buy the most expensive item

(B) Focus on the latest fashion trends

(C) Look for versatile pieces that complement existing wardrobe

(D) Ignore the fit and focus on the brand

(a) Only C

(b) A and D

(c) B and C

(d) Only A

TYPE 2

Question 6

Assertion (A): Ready-made garments often require alterations for a personalised fit.

Reason (R): The production of ready-made garments is based on average body dimensions rather than individual measurements.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 7

Assertion (A): Checking the workmanship of ready-made garments is crucial for assessing their quality.

Reason (R): Workmanship includes aspects like the quality of the fabric weave, seam durability, and finish.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 8

Assertion (A): The size labels on ready-made garments like XS, S, M, L, XL, etc., are universally standard.

Reason (R): These sizes are determined based on the average dimensions of people in different age groups and genders.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 9

Assertion (A): Ready-made garments often come with care instructions on their labels.

Reason (R): Care instructions are important to maintain the garment's appearance and durability.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 10

Assertion (A): Purchasing power affects the selection of ready-made garments.

Reason (R): As income increases, individuals tend to buy more expensive and higher-quality garments.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

12 Laundering

TYPE 1

Question 1

When laundering cotton and linen garments, which of the following methods is most suitable for heavily soiled items?

(A) Soaking in cold water.

(B) Washing with gentle kneading and squeezing.

(C) Scrubbing on a board or using a washing machine.

(D) Drying in shade to prevent colour fading.

(a) Only C

(b) A and D

(c) B and D

(d) Only B

Question 2

For woollen garments, which method is recommended to retain their shape during the drying process?

(A) Drying in direct sunlight.

(B) Rolling tightly in a towel to remove excess water.

(C) Hanging on a clothesline.

(D) Using a high heat setting in a dryer.

(a) Only B

(b) A and C

(c) C and D

(d) Only D

Question 3

When dealing with a grease stain on a fabric, which substance is an effective dry cleaning agent?

(A) Soapy water.

(B) Benzene.

(C) Bleach.

(D) Vinegar.

(a) Only B

(b) A and C

(c) B and D

(d) Only A

Question 4

What is the ideal ironing temperature for silk garments?

(A) 100°F.

(B) 275°F.

(C) 400°F.

(D) 450°F.

(a) Only A

(b) B and C

(c) C and D

(d) Only D

Question 5

Which of the following methods is not recommended for cleaning rayon fabrics?

(A) Kneading and squeezing with mild soap.

(B) Soaking in water before washing.

(C) Using harsh scrubbing techniques.

(D) Gentle rubbing for heavily soiled areas.

(a) Only B

(b) A and D

(c) Only C

(d) B and C

TYPE 2

Question 6

Assertion (A): Laundering clothes in hot water can shrink and damage certain types of fabrics.

Reason (R): Heat from hot water can break down the fibres in delicate fabrics like silk and wool.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 7

Assertion (A): Bleaching is an effective way to treat all kinds of stains on clothes.

Reason (R): Bleaching agents contain oxidising chemicals that can remove most types of stains.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 8

Assertion (A): Drying clothes in direct sunlight can lead to fading of colours.

Reason (R): Ultraviolet rays from the sun can break down the dye molecules in the fabric.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 9

Assertion (A): Synthetic fabrics like polyester and nylon do not need to be ironed.

Reason (R): These fabrics have a natural wrinkle-resistant property due to their polymer structure.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 10

Assertion (A): Stains from oily substances are best removed with hot water.

Reason (R): Hot water can dissolve oil more effectively than cold water.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

13 Laundry Material

TYPE 1

Question 1

What is the primary difference in the action of soaps and detergents when used in hard water?

(A) Soaps form scum, detergents do not.

(B) Detergents form scum, soaps do not.

(C) Both soaps and detergents form scum.

(D) Neither soaps nor detergents form scum.

(a) Only A

(b) B and C

(c) A and D

(d) Only B

Question 2

Why is it advisable to use optical brighteners on white fabrics?

(A) To strengthen the fabric

(B) To reflect light and counteract yellowness

(C) To stiffen the fabric

(D) To remove stains more effectively

(a) Only B

(b) A and C

(c) B and D

(d) Only D

Question 3

What is the function of fabric softeners in laundry?

(A) To bleach the fabric

(B) To remove stains

(C) To add fragrance and softness

(D) To restore the original fabric colour

(a) Only C

(b) B and D

(c) A and B

(d) C and D

Question 4

Which type of water is preferred for laundering when using soaps?

(A) Hard water

(B) Saline water

(C) Soft water

(D) Any type of water

(a) Only A

(b) Only B

(c) Only C

(d) B and D

Question 5

What is the purpose of adding bleach in laundry?

(A) To soften water

(B) To add fragrance

(C) To make white fabrics whiter or remove stains

(D) To increase the effectiveness of detergents

(a) Only A

(b) B and D

(c) Only C

(d) A, C, and D

TYPE 2

Question 6

Assertion (A): Soft water is preferred for laundry over hard water because it does not contain dissolved impurities of calcium and magnesium.

Reason (R): The absence of calcium and magnesium in soft water prevents the formation of scum with soap, leading to more effective cleaning.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 7

Assertion (A): Detergents are more effective in hard water compared to soaps.

Reason (R): Detergents are made from alkali and sulphuric acid, which do not form scum in hard water.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 8

Assertion (A): Starch is used as a stiffening agent to provide crispness to fabrics like cotton and linen.

Reason (R): Starch works by sealing the individual fibres of the fabric, making it more difficult for stains to penetrate.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 9

Assertion (A): Optical brighteners are used in laundry to counteract the dullness and yellowness of fabrics that come with age.

Reason (R): These agents work by reflecting light, which makes the fabric appear whiter and brighter without any chemical action.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 10

Assertion (A): Bleaches should be selected according to the type of fabric and intensity of the stain.

Reason (R): Improper use of bleach can damage fabrics by weakening the fibres and altering their colour.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

14 Social and Economic Issues in India

TYPE 1

Question 1

Gender Discrimination in India

(E) Gender discrimination does not impact educational opportunities.

(F) Gender disparity exists mostly in lower social strata.

(G) The constitution grants equal rights to men and women.

(H) Gender discrimination is limited to workplace pay disparity.

(a) Only C

(b) A and B

(c) B and D

(d) C and D

Question 2

Women Empowerment Measures

(A) Emphasising only on women's education.

(B) Providing equal opportunities and resources to both genders.

(C) Encouraging leadership roles irrespective of gender.

(D) Limiting women's choices in personal relationships.

(a) Only B and C

(b) A, B, and C

(c) B, C, and D

(d) All of the above

Question 3

Consequences of Imbalanced Sex Ratio

(A) Increased participation of women in politics.

(B) Trafficking of women for forced marriages.

(C) Higher representation of women in the workforce.

(D) Social issues like domestic violence.

(a) Only B and D

(b) A, B, and C

(c) Only A and C

(d) B, C, and D

Question 4

Implications of Child Labour

(A) Children are denied education and healthy development.

(B) Child labour is beneficial for the economic growth of a country.

(C) Children's participation in labour supports family income.

(D) Leads to exploitation and physical harm of children.

(a) Only A and D

(b) A, C, and D

(c) B and C

(d) All of the above

Question 5

Effective Strategies for Reducing Carbon Footprint

(A) Increasing dependence on fossil fuels.

(B) Using renewable energy sources like solar and wind.

(C) Promoting reforestation and eco-friendly energy alternatives.

(D) Encouraging high consumption of red meat.

(a) Only B and C

(b) A and D

(c) B, C, and D

(d) All of the above

TYPE 2

Question 6

Assertion (A): Gender discrimination often leads to unequal opportunities in education and careers.

Reason (R): Gender roles traditionally dictate the division of labour, influencing educational and career choices.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 7

Assertion (A): The sex ratio imbalance in India is not significantly affected by gender discrimination.

Reason (R): Female foeticide and infanticide, driven by gender discrimination, contribute to an imbalanced sex ratio.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 8

Assertion (A): Women empowerment includes improving their financial independence.

Reason (R): Economic independence is a critical aspect of women's empowerment, enabling them to make strategic life choices.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 9

Assertion (A): Child labour in India is solely a result of poverty.

Reason (R): Other factors such as lack of education, societal norms, and ineffective implementation of laws also contribute to child labour.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 10

Assertion (A): Morbidity and mortality rates are unrelated in the context of public health.

Reason (R): While morbidity refers to the prevalence of diseases, mortality rates are concerned with the frequency of deaths.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

15 Role of Government Towards a Developed India

TYPE 1

Question 1

What is the primary objective of the DWCRA scheme?

(A) Providing educational opportunities for women and children

(B) Supplying healthcare facilities in rural areas

(C) Offering productive income-generating assets and skill enhancement to rural women

(D) Ensuring safe drinking water in rural communities

(a) Only A

(b) B and C

(c) Only C

(d) A and D

Question 2

The MNREGA scheme guarantees which of the following?

(A) 100 days of skilled employment per year

(B) 100 days of wage employment per year in unskilled manual work

(C) Permanent employment in urban areas

(D) Educational scholarships for rural citizens

(a) Only A

(b) Only B

(c) C and D

(d) A and C

Question 3

Ayushman Bharat scheme is primarily aimed at:

(A) Providing affordable housing to the urban poor

(B) Universal Health Coverage and comprehensive healthcare

(C) Financial assistance for starting small businesses

(D) Educational scholarships for underprivileged children

(a) Only B

(b) A and D

(c) B and C

(d) All of the above

Question 4

Pradhan Mantri Ujjwala Yojana (PMUY) aims to improve the health of women and children by:

(A) Providing clean cooking fuel

(B) Establishing healthcare centres

(C) Offering free education

(D) Building sanitary facilities

(a) Only A

(b) B and D

(c) A and C

(d) All of the above

Question 5

The Pradhan Mantri Jan Dhan Yojana (PMJDY) is focused on:

(A) Guaranteeing employment for the youth

(B) Expanding access to financial services like bank accounts

(C) Providing free healthcare services

(D) Ensuring food security for the poor

(a) Only B

(b) A and D

(c) B and C

(d) C and D

TYPE 2

Question 6

Assertion (A): DWCRA (Development of Women and Children in Rural Areas) focuses on providing financial and organizational support to rural women.

Reason (R): The main aim of DWCRA is to enhance the skills of rural women and provide them with productive income-generating assets.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 7

Assertion (A): Under MNREGA, employment is guaranteed for a minimum of 100 days per year to rural households.

Reason (R): MNREGA aims to improve urban infrastructure and provide skilled employment.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 8

Assertion (A): Ayushman Bharat is a health insurance scheme providing ₹5 lakhs cover per family per year.

Reason (R): The scheme is designed for urban middle-class families to improve their access to healthcare.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 9

Assertion (A): Pradhan Mantri Ujjwala Yojana aims to provide LPG connections to BPL families.

Reason (R): The scheme's main goal is to promote the use of renewable energy sources in rural areas.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 10

Assertion (A): Pradhan Mantri Jan Dhan Yojana (PMJDY) is primarily a scheme for providing educational scholarships.

Reason (R): PMJDY ensures financial inclusion by expanding access to banking services.

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

16 Communication Aids

TYPE 1

Question 1

What is the primary advantage of using flyers for communication?

(A) They can target a wide range of audiences.

(B) They are suitable for long-term promotion.

(C) They are effective for complex messages.

(D) They require a high budget for production.

(a) Only A

(b) B and C

(c) A and D

(d) Only B

Question 2

Which of the following are essential considerations when designing a brochure?

(A) Durability and moisture resistance

(B) Cost-effectiveness for mass distribution

(C) Complex language and detailed information

(D) Clear, concise content and appealing visual design

(a) A and D

(b) B and C

(c) Only D

(d) A, B, and D

Question 3

Puppet shows as a communication tool are particularly effective because they:

(A) Are low-cost and easy to produce.

(B) Utilize engaging scripts and voice modulation.

(C) Can be easily understood by literate audiences only.

(D) Rely solely on visual elements for communication.

(a) Only B

(b) A and C

(c) B and D

(d) A, B, and C

Question 4

Street plays (Nukkad Natak) are an effective medium for:

(A) High-budget advertising campaigns.

(B) Spreading social and educational messages.

(C) Targeting only urban populations.

(D) Detailed product demonstrations.

(a) Only B

(b) A and C

(c) B and D

(d) C and D

Question 5

Comparing flyers and brochures, flyers are more suited for:

(A) Short span promotions and easy distribution.

(B) Detailed explanation of organizational history and services.

(C) Repeated reference and handling over time.

(D) In-depth educational content on social issues.

(a) Only A

(b) B and C

(c) A and D

(d) C and D

TYPE 2

Question 6

Assertion (A): Flyers are mostly used for short-term promotions and are distributed freely.

Reason (R): They are typically a single unfolded sheet, printed on one or both sides, and easy to handle.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 7

Assertion (A): Brochures are not suitable for mass distribution due to their high printing costs.

Reason (R): They are usually designed in a threefold format and printed on thick, glossy finished paper.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 8

Assertion (A): Puppet shows are an effective medium for spreading social messages in rural areas.

Reason (R): They involve the manipulation of puppets, which often resemble human or animal figures.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 9

Assertion (A): Street plays are not an effective means of communication for social issues.

Reason (R): They are a form of theatrical performance presented in outdoor public spaces.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

Question 10

Assertion (A): Designing an effective flyer requires considering the target audience and main message.

Reason (R): Flyers are a form of visual communication aid that can be used for various purposes including promoting events and spreading awareness.

Identify the correct statement:

(a) A is true but R is false.

(b) A is false but R is true.

(c) Both A and R are true and R is the correct explanation of A.

(d) Both A and R are true and R is not the correct explanation of A.

ANSWERS

Chapter 1: Budgeting and Saving

1. (a)	3. (a)	5. (a)	7. (a)	9. (d)
2. (a)	4. (a)	6. (c)	8. (a)	10. (c)

Chapter 2: Space Organization in The Kitchen

1. (c)	3. (b)	5. (c)	7. (b)	9. (b)
2. (a)	4. (c)	6. (c)	8. (c)	10. (c)

Chapter 3: Home Furnishing

1. (c)	3. (c)	5. (c)	7. (c)	9. (b)
2. (c)	4. (c)	6. (b)	8. (d)	10. (b)

Chapter 4: Milestones of Development

1. (a)	3. (a)	5. (a)	7. (d)	9. (c)
2. (a)	4. (a)	6. (c)	8. (a)	10. (c)

Chapter 5: Role of Family Peer Group and School

1. (a)	3. (a)	5. (c)	7. (a)	9. (c)
2. (a)	4. (a)	6. (c)	8. (c)	10. (a)

Chapter 6: Learning Disabilities in Children

1. (a)	3. (a)	5. (b)	7. (b)	9. (c)
2. (a)	4. (a)	6. (c)	8. (a)	10. (a)

Chapter 7: Balanced Diet

1. (a)	3. (a)	5. (a)	7. (a)	9. (c)
2. (a)	4. (a)	6. (c)	8. (a)	10. (a)

Chapter 8: Meal Planning for The Family

1. (a)	3. (a)	5. (a)	7. (c)	9. (a)
2. (d)	4. (b)	6. (c)	8. (c)	10. (a)

Chapter 9: Storage and Preservation of Food

1. (d)
2. (b)
3. (b)
4. (b)
5. (b)
6. (c)
7. (b)
8. (c)
9. (b)
10. (d)

Chapter 10: Selection of Fabrics

1. (a)
2. (a)
3. (a)
4. (a)
5. (b)
6. (c)
7. (c)
8. (c)
9. (c)
10. (c)

Chapter 11: Selection of Readymade Garments

1. (d)
2. (b)
3. (a)
4. (b)
5. (a)
6. (c)
7. (c)
8. (d)
9. (c)
10. (c)

Chapter 12: Laundering

1. (a)
2. (a)
3. (a)
4. (a)
5. (c)
6. (c)
7. (b)
8. (c)
9. (c)
10. (b)

Chapter 13: Laundry Material

1. (a)
2. (a)
3. (a)
4. (c)
5. (c)
6. (c)
7. (c)
8. (d)
9. (c)
10. (c)

Chapter 14: Social and Economic Issues in India

1. (a)
2. (a)
3. (a)
4. (a)
5. (a)
6. (c)
7. (b)
8. (c)
9. (b)
10. (d)

Chapter 15: Role of Government Towards a Developed India

1. (c)
2. (b)
3. (a)
4. (a)
5. (a)
6. (c)
7. (a)
8. (a)
9. (a)
10. (b)

Chapter 16: Communication AIDS

1. (a)
2. (d)
3. (a)
4. (a)
5. (a)
6. (c)
7. (d)
8. (d)
9. (b)
10. (c)