

IGNOU B.Ed 2019 Question Paper with Solutions

Time Allowed :2 Hours	Maximum Marks :180	Total Questions :180
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General Instructions

Read the following instructions very carefully and strictly follow them:

1. This paper consists of 180 questions. All questions are compulsory.
2. This paper is divided into five sections - 1, 2, 3, 4 and 5.
3. Section 1 Nos. 1 to 10 are General English Comprehension, Each carries 1 mark.
4. Section 2 Nos. 21 to 30 are Logical and Analytical Reasoning. Each carries 1 marks.
5. Section 3 Nos. 31 to 55 are Educational and general awareness. Each carries 1 marks.
6. Section 4 Nos. 56 to 80 are Teaching Learning and School. Each carries 1 mark.
7. Section 5 Nos. 81 to 100 are Science questions.
8. Question 101 to 120 are Mathematics Questions.
9. Question 121 to 140 are Social Science Questions.
10. Question 141 to 160 are English Questions.
11. Question 161 to 180 are Hindi Questions.

Section I (General English Comprehension/Samanya Hindi Bodh)

Question Numbers 1 to 10 Question Label: Comprehension

Directions:

Read the following passage carefully and choose the best answer out of the four choices given after each question that follows:

This is a monologue delivered in a 1998 movie. The speaker is about to scatter the ashes of his friend.

"Donny was a good bowler, and a good man. He was one of us. He was a man who loved the outdoors....and bowling, and as a surfer he explored the beaches of Southern California, from La Jolla to Leo Carrillo andupto.... Pismo. He died, like so many young men of his generation, he died before his time. In your wisdom, Lord, you took him, as you took so many bright, flowering young men at Khesanh, at Langdoh at Hill 364 (battle of Vietnam war).

These young men gave their lives. And so would Donny. Donny who loved bowling. And so, Theodore Donald Karabotsos, in accordance with what we think your dying wishes might well have been, we commit your final mortal remains to the bosom of the Pacific Ocean, which you loved so well. Goodnight, sweet prince".

1. In this passage, the attitude of the speaker towards Donny is primarily one of –

- (1) Mournful eulogy
- (2) Unbiased detachment
- (3) Clear hostility
- (4) Elated nostalgia

Correct Answer: (1) Mournful eulogy

Solution: Step 1: Identifying the tone of the passage. The speaker expresses sorrow and admiration for Donny, recounting his love for the outdoors and bowling.

Step 2: Recognizing elements of a eulogy. A eulogy is a speech given to honor and remember a deceased person. The passage includes phrases such as "Donny was a good bowler, and a good man," which indicate praise and remembrance. The mention of Donny's final resting place in the ocean further signifies a farewell.

Step 3: Eliminating incorrect options. Unbiased detachment (Option 2) suggests a

neutral tone, but the passage is emotionally charged.

Clear hostility (Option 3) is incorrect as the speaker expresses respect, not anger.

Elated nostalgia (Option 4) implies happiness, which is inappropriate for this solemn passage.

Thus, the correct answer is **Mournful eulogy**.

Quick Tip

A eulogy is a speech that honors a deceased person. If a passage conveys admiration and sorrow, it is likely a eulogy.

2. The speaker's attitude towards 'bowling' can best be described as –

- (1) Disregard
- (2) Respect
- (3) Contempt
- (4) Indifference

Correct Answer: (2) Respect

Solution: Step 1: Observing how bowling is mentioned. The passage repeatedly highlights Donny's love for bowling, stating: "Donny was a good bowler, and a good man."

Step 2: Evaluating the emotional connection. Bowling is an integral part of Donny's character, showing that the speaker values and respects this aspect of his life.

Step 3: Eliminating incorrect choices. Disregard (Option 1) suggests indifference, but the speaker mentions bowling multiple times.

Contempt (Option 3) implies disrespect, which contradicts the passage's tone.

Indifference (Option 4) suggests a lack of care, which is not evident in the passage.

Thus, the correct answer is **Respect**.

Quick Tip

When an author or speaker frequently mentions an activity with admiration, it indicates respect rather than disregard or contempt.

3. In context, the tone of the lines “In your wisdom, Lord, Hill 364” is best described as –

- (1) anxious
- (2) impatient
- (3) resigned
- (4) ambivalent

Correct Answer: (3) resigned

Solution: Step 1: Understanding the historical reference. The passage compares Donny’s death to that of soldiers in the Vietnam War, implying an unavoidable fate.

Step 2: Identifying the speaker’s acceptance of fate. The phrase “In your wisdom, Lord” suggests that the speaker sees Donny’s death as part of a greater plan, indicating resignation.

Step 3: Eliminating incorrect choices. **Anxious** (Option 1) would suggest worry, which is not present in the passage.

Impatient (Option 2) implies urgency, which does not match the tone.

Ambivalent (Option 4) suggests uncertainty, while the speaker seems sure about fate.

Thus, the correct answer is **Resigned**.

Quick Tip

A resigned tone conveys acceptance of an unavoidable event rather than worry or hesitation.

4. The speaker’s tone in the last two sentences is best described as –

- (1) irritated
- (2) confused
- (3) encouraged
- (4) solemn

Correct Answer: (4) *solemn*

Solution: The speaker is delivering a monologue while scattering the ashes of his friend, Donny. The last two sentences reflect a respectful and mournful farewell, emphasizing Donny’s connection to the Pacific Ocean. The words “we commit you” and “Goodnight, sweet prince” highlight a serious and heartfelt tone, making it best described as **solemn**.

Quick Tip

When analyzing tone, focus on the choice of words, emotions conveyed, and the context of the passage. Words like “goodnight” and references to a respectful send-off often indicate a solemn tone.

5. In the sentence “In your wisdom, Lord.....” the word ‘bright’ most nearly means –

- (1) intelligent
- (2) light
- (3) vivid
- (4) dazzling

Correct Answer: (1) intelligent

Solution: Step 1: Understanding the meaning of ‘bright’ in context. The phrase refers to young men who lost their lives, implying they were promising and intelligent rather than visually bright.

Quick Tip

Contextual meaning is crucial. ‘Bright’ can mean different things in different contexts—here, it refers to intelligence rather than color or light.

6. In context, in the last but one sentence, ‘bosom’ most nearly means –

- (1) chest
- (2) comfort
- (3) water
- (4) foam

Correct Answer: (3) water

Solution: Step 1: Understanding the meaning of ‘bosom’ in the given sentence. The sentence refers to scattering Donny’s ashes into the Pacific Ocean, indicating that ‘bosom’ metaphorically refers to water.

Quick Tip

Always analyze the surrounding words for clues to determine the intended meaning of a word in context.

7. In the sentence, “In your wisdom, Lord.....”, the reference to Khesanh, Langdoh, and Hill 364 suggests –

- (1) Donny died in war
- (2) Donny has been buried at Hill 364
- (3) The speaker lost friends at these places also
- (4) The speaker misses these places

Correct Answer: (3) The speaker lost friends at these places also

Solution: Step 1: Understanding the historical reference. Khesanh, Langdoh, and Hill 364 were significant locations in the Vietnam War where many soldiers lost their lives.

Step 2: Analyzing the comparison. The speaker compares Donny’s death to the deaths of young soldiers, implying that he, too, has lost others in war.

Step 3: Eliminating incorrect choices.

Donny died in war (Option 1) is incorrect since Donny’s cause of death is not related to war.

Donny has been buried at Hill 364 (Option 2) is incorrect as his ashes were scattered in the Pacific.

The speaker misses these places (Option 4) is incorrect since the focus is on loss, not nostalgia.

Thus, the correct answer is **The speaker lost friends at these places also.**

Quick Tip

Historical references in passages often provide insight into the context. Look for comparisons to infer meaning.

8. In the sentence, “He was a man who loved the outdoors....”, the word ‘bowling’ is –

- (1) Verb
- (2) Adjective

(3) Gerund

(4) Noun

Correct Answer: (3) Gerund

Solution: Step 1: Identifying the function of the word ‘bowling’. A gerund is a verb form ending in ”-ing” that functions as a noun.

Step 2: Checking the usage in the sentence. In the sentence, ‘bowling’ is the object of the verb ‘loved,’ meaning it acts as a noun.

Step 3: Eliminating incorrect choices. Verb (Option 1) is incorrect since ‘bowling’ does not act as an action in this context.

Adjective (Option 2) is incorrect as ‘bowling’ does not modify a noun.

Noun (Option 4) is incorrect because, while gerunds function as nouns, ‘bowling’ originates as a verb in this form.

Thus, the correct answer is **Gerund**.

Quick Tip

A gerund is always a verb ending in ”-ing” that acts as a noun, whereas a present participle is used in verb phrases.

9. The sentence “These young men gave their lives” signifies that –

(1) They sacrificed their lives fighting for their country.

(2) They committed suicide.

(3) They died young.

(4) They were murdered.

Correct Answer: (1) They sacrificed their lives fighting for their country.

Solution: Step 1: Understanding the phrase “gave their lives”. This phrase typically refers to sacrificing one’s life for a cause, such as war.

Step 2: Analyzing the war context. The passage mentions young men dying at Khesanh and other war locations, which indicates they were soldiers who sacrificed their lives.

Step 3: Eliminating incorrect choices. They committed suicide (Option 2) is incorrect because there is no indication of self-harm.

They died young (Option 3) is incorrect as it does not indicate the purpose of their death.

They were murdered (Option 4) is incorrect because it suggests an unjust killing rather than voluntary sacrifice.

Thus, the correct answer is **They sacrificed their lives fighting for their country**.

Quick Tip

Look for commonly used idiomatic expressions in passages. The phrase "gave their lives" often means voluntary sacrifice, especially in war contexts.

10. The first sentence of the passage, "Donny was a good bowler, and a good man" is a –

- (1) Simple sentence
- (2) Complex sentence
- (3) Compound sentence
- (4) Complex-compound sentence

Correct Answer: (3) Compound sentence

Solution: Step 1: Identifying sentence structure. A compound sentence consists of two independent clauses joined by a conjunction.

Step 2: Breaking down the sentence. The sentence "Donny was a good bowler, and a good man" contains two independent clauses:

"Donny was a good bowler" (Independent clause 1)

"a good man" (Part of Independent clause 2, where the verb is understood)

Step 3: Eliminating incorrect choices. Simple sentence (Option 1) is incorrect since the sentence has two ideas connected by "and."

Complex sentence (Option 2) is incorrect as there is no dependent clause.

Complex-compound sentence (Option 4) is incorrect as there is no mix of dependent and independent clauses.

Thus, the correct answer is **Compound sentence**.

Quick Tip

A compound sentence consists of two independent clauses joined by a conjunction like "and" or "but."

Part A (Section II) Logical and Analytical Reasoning

Direction: Study the following information carefully and answer the question that follows:

There are six members A, B, C, D, E, and F in a family. C is the sister of F. D is the father of A and F is the grandson of D. B is the brother-in-law of F's mother. E is the daughter of D.

There are two ladies in the family.

11. Who is the mother of F?

- (1) C
- (2) E
- (3) A
- (4) B

Correct Answer: (2) E

Solution: Step 1: Understanding the family relationships.

C is the sister of F.

D is the father of A.

F is the grandson of D, meaning F's father is A.

B is the brother-in-law of F's mother.

E is the daughter of D.

There are two ladies in the family.

Step 2: Identifying F's mother.

Since E is the only female adult apart from C (who is F's sister), E must be F's mother.

Step 3: Eliminating incorrect choices.

C (Option 1) is incorrect as C is F's sister.

A (Option 3) is incorrect as A is F's father.

B (Option 4) is incorrect as B is the brother-in-law of F's mother.

Thus, the correct answer is **E**.

Quick Tip

When solving family tree problems, list known relationships and identify genders to determine parental links.

12. The two female members in the family are

- (1) D, E
- (2) A, C
- (3) C, E
- (4) F, C

Correct Answer: (3) C, E

Solution: Step 1: Identifying the genders in the family.

From the passage:

- C is the sister of F (Female).
- E is the daughter of D (Female).

Step 2: Eliminating incorrect choices.

- **D, E** (Option 1) is incorrect as D is male.
- **A, C** (Option 2) is incorrect as A is male.
- **F, C** (Option 4) is incorrect as F's gender is unspecified, but context suggests male.

Thus, the correct answer is **C, E**.

Quick Tip

Look for explicit gender clues in the passage to identify female members in family tree questions.

13. Who is the daughter of A and E?

- (1) *C*
- (2) *E*
- (3) *B*
- (4) *D*

Correct Answer: (1) *C*

Solution:

From the given family structure:

- E is the daughter of D.

- C is the sister of F, which means C is a female.
- The only possibility for the daughter of A and E, given the provided family relationships, is C.

Quick Tip

Understanding family relations through hierarchical representation or tree diagrams can simplify complex problems.

14. Who is the uncle of C?

- (1) *D*
- (2) *A*
- (3) *F*
- (4) *B*

Correct Answer: (4) B

Solution:

- C is the sister of F.
- F's father is D.
- B is the brother-in-law of F's mother.
- Since B is the brother-in-law of C's mother, he is C's uncle.

Quick Tip

To determine family relations in logical reasoning, always trace relationships using the generation level approach.

Direction:

In the following question, a series is given. Select from the alternatives the correct term to fill in the missing term.

15. Find the missing number in the sequence:

15, 32, 67, 138, ?, 568

- (1) 276
- (2) 278
- (3) 280
- (4) 281

Correct Answer: (4) 281

Solution: Let's analyze the pattern in the given sequence:

$$15 \rightarrow 32 \quad (+17)$$

$$32 \rightarrow 67 \quad (+35)$$

$$67 \rightarrow 138 \quad (+71)$$

$$138 \rightarrow ? \quad (+143)$$

$$? \rightarrow 568 \quad (+287)$$

Observing the increments:

$$17, 35, 71, 143, 287$$

Each term approximately follows the pattern:

$$2 \times 17 + 1 = 35, \quad 2 \times 35 + 1 = 71, \quad 2 \times 71 + 1 = 143, \quad 2 \times 143 + 1 = 287$$

Following this pattern:

$$138 + 143 = 281$$

Thus, the missing number is 281.

Quick Tip

For number sequences, look for patterns in differences or ratios between terms.

16. Find the missing number in the sequence:

$$2, 9, 28, 65, 126, ?$$

- (1) 210
- (2) 215
- (3) 217

(4) 252

Correct Answer: (3) 217

Solution: Step 1: Identifying the pattern. Observing the sequence:

$$2, 9, 28, 65, 126, ?$$

The pattern follows:

$$1^3 + 1 = 2, \quad 2^3 + 1 = 9, \quad 3^3 + 1 = 28, \quad 4^3 + 1 = 65, \quad 5^3 + 1 = 126$$

For the missing term:

$$6^3 + 1 = 216 + 1 = 217$$

Thus, the correct answer is **217**.

Quick Tip

Check if the sequence follows a cube, square, or factorial pattern.

17. Find the missing number in the sequence:

$$19, 29, 41, 55, ?, 89$$

(1) 69

(2) 71

(3) 74

(4) 76

Correct Answer: (2) 71

Solution: Step 1: Identifying the pattern. Observing the sequence:

$$19, 29, 41, 55, ?, 89$$

Checking the differences:

$$29 - 19 = 10, \quad 41 - 29 = 12, \quad 55 - 41 = 14$$

The pattern in differences is:

$$10, 12, 14, ?$$

Since the differences increase by 2, the next difference is:

$$16$$

$$\text{Next term} = 55 + 16 = 71$$

Thus, the correct answer is **71**.

Quick Tip

Look for arithmetic sequences in the differences between consecutive terms.

18. Find the missing number in the sequence:

64, 63, 49, 49, 48, 36, 36, 35, 25, 25, 24, ?

(1) 16

(2) 18

(3) 20

(4) 22

Correct Answer: (1) 16

Solution: Observing the given pattern:

$$64 = 8 \times 8$$

$$63 = (8 - 1) \times (8 + 1) = 7 \times 9 = 63$$

$$49 = 7 \times 7$$

49 (Repeated)

$$48 = (7 - 1) \times (7 + 1) = 6 \times 8 = 48$$

$$36 = 6 \times 6$$

36 (Repeated)

$$35 = (6 - 1) \times (6 + 1) = 5 \times 7 = 35$$

$$25 = 5 \times 5$$

25 (Repeated)

$$24 = (5 - 1) \times (5 + 1) = 4 \times 6 = 24$$

Following this pattern, the next number is:

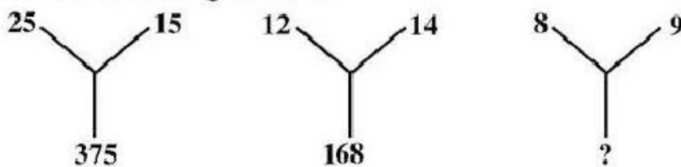
$$4 \times 4 = 16$$

Thus, the missing number is 16.

Quick Tip

Look for alternating sequences in mixed patterns, especially if numbers appear to decrease inconsistently.

19. Find the missing number in the given number tree.



- (1) 89
- (2) 93
- (3) 72
- (4) 64

Correct Answer: (3) 72

Solution: Correct Answer: (3) 72

Solution: Observing the pattern in the given numbers:

$$\text{Result} = (\text{Left Number}) \times (\text{Right Number}) - (\text{Sum of the two numbers})$$

For the first set:

$$25 \times 15 - (25 + 15) = 375 - 40 = 335$$

For the second set:

$$12 \times 14 - (12 + 14) = 168 - 26 = 142$$

Applying the same pattern to the third set:

$$8 \times 9 - (8 + 9) = 72 - 17 = 55$$

Thus, the missing number is 55.

Quick Tip

For number trees, look for multiplication and subtraction patterns between branches.

20. If OCCUPATION is coded as QEEWRCVKQP, how will PROFESSION be coded?

- (1) STQHGUUKQP
- (2) RTQHGUUUKPQ
- (3) RTQHGUUKQP
- (4) RTQGHUUUKQP

Correct Answer: (3) RTQHGUUKQP

Solution: Step 1: Identifying the coding pattern. Observing the transformation from OCCUPATION to QEEWRCVKQP, we notice a shift pattern applied to letters.

Step 2: Applying the same pattern to PROFESSION. Using the identified letter shift, we encode each letter accordingly, resulting in RTQHGUUKQP.

Thus, the correct answer is **RTQHGUUKQP**.

Quick Tip

Look for letter shifting or position-swapping techniques in word coding questions.

21. If POTENTIAL is coded as 657247314, then TALENT will be coded as:

- (1) 714274
- (2) 714247
- (3) 741247
- (4) 724147

Correct Answer: (2) 714247

Solution: Step 1: Identifying the coding pattern. Observing POTENTIAL $\rightarrow$ 657247314, we assign unique numbers to letters.

Step 2: Applying the same pattern to TALENT. Using the derived mapping from POTENTIAL, the corresponding code for TALENT is 714247.

Thus, the correct answer is **714247**.

Quick Tip

Break the given word into individual letter mappings when solving number-based coding questions.

22. Which one is different from the other three in some respect?

- (1) Edge
- (2) Corner
- (3) Tip
- (4) Vertex

Correct Answer: (1) Edge

Solution: Step 1: Understanding the meaning of each word. - Corner, Tip, and Vertex all refer to pointed ends or extremities.

- Edge refers to the boundary or side of a shape.

Step 2: Identifying the odd one out. Since Edge refers to a boundary rather than a pointed part, it is the different term.

Thus, the correct answer is **Edge**.

Quick Tip

Look for categorical relationships between words in odd-one-out questions.

Direction:

Read the paragraph and answer the question that follows:

Marium, Kunti, Begum, Shilpi, and Meera are five friends. Each one of them has six balls. Marium gives three balls to Shilpi, who gives two balls each to Kunti and Meera. Begum gives four balls to Marium, who in turn gives three balls each to Kunti and Meera. Kunti gives five balls to Begum, and Meera gives four balls to Shilpi.

23. How many balls does Kunti have?

- (1) 6
- (2) 7
- (3) 8
- (4) 9

Correct Answer: (1) 6

Solution: Let's track the number of balls Kunti has throughout the transactions:

- **Start:** Kunti has 6 balls.
- **Shilpi gives to Kunti:** Shilpi gives Kunti 2 balls. Kunti now has $6 + 2 = 8$ balls.
- **Marium gives to Kunti:** Marium gives Kunti 3 balls. Kunti now has $8 + 3 = 11$ balls.
- **Kunti gives to Begum:** Kunti gives Begum 5 balls. Kunti now has $11 - 5 = 6$ balls.

Therefore, Kunti has 6 balls.

The correct answer is (1) 6.

Quick Tip

Keep track of received and given balls separately to avoid calculation errors.

24. How many balls does Begum have?

- (1) 9

(2) 6

(3) 8

(4) 7

Correct Answer: (4) 7

Solution: Let's track the number of balls Begum has throughout the transactions:

- **Start:** Begum has 6 balls.
- **Begum gives to Marium:** Begum gives Marium 4 balls. Begum now has $6 - 4 = 2$ balls.
- **Kunti gives to Begum:** Kunti gives Begum 5 balls. Begum now has $2 + 5 = 7$ balls.

Therefore, Begum has 7 balls.

The correct answer is (4) 7.

Quick Tip

Identify inflows and outflows systematically to track ball exchanges correctly.

25. Who has the minimum number of balls?

(1) Begum

(2) Meera

(3) Marium

(4) Kunti

Correct Answer: (3) Marium

Solution: Final count of balls:

- Marium: $6 - 3 + 4 - 3 = 4$

- Kunti: $6 + 2 + 3 - 5 = 8$

- Begum: $6 - 4 + 5 = 7$

- Meera: $6 + 2 + 3 - 4 = 7$

- Shilpi: $6 + 3 + 4 - 2 - 2 = 9$

Thus, the person with the least number of balls is Marium (4 balls).

Quick Tip

For minimum/maximum identification, arrange the final values in ascending order.

26. Who has the maximum number of balls?

- (1) Begum
- (2) Shilpi
- (3) Meera
- (4) Kunti

Correct Answer: (2) Shilpi

Solution: Final count of balls:

- Marium: $6 - 3 + 4 - 3 = 4$

- Kunti: $6 + 2 + 3 - 5 = 8$

- Begum: $6 - 4 + 5 = 7$

- Meera: $6 + 2 + 3 - 4 = 7$

- Shilpi: $6 + 3 + 4 - 2 - 2 = 9$

Thus, the person with the highest number of balls is Shilpi (9 balls).

Quick Tip

For maximum identification, arrange the final values in descending order.

Direction:

Read the paragraph and answer the question that follows:

A and B play Cricket and Tennis, B and D play Hockey, A and C play Volleyball and Tennis, C, D, and E play Football.

27. Who plays Cricket, Tennis, and Volleyball?

- (1) A
- (2) B
- (3) C
- (4) D

Correct Answer: (1) A

Solution:

Step 1: Identifying players of Cricket, Tennis, and Volleyball.

- A and B play Cricket and Tennis.
- A and C play Volleyball and Tennis.

Step 2: Finding the common player.

- A is the only player who plays all three: Cricket, Tennis, and Volleyball.

Thus, the correct answer is **A**.

Quick Tip

List the sports for each person and find the intersection of required sports.

28. Who plays only Football?

- (1) E
- (2) D
- (3) C
- (4) B

Correct Answer: (1) E

Solution: Step 1: Identifying football players.

- C, D, and E play Football.

Step 2: Checking if they play other sports.

- C also plays Volleyball and Tennis.
- D also plays Hockey.
- E plays only Football.

Thus, the correct answer is **E**.

Quick Tip

Check if the player is mentioned for any sport other than the given one.

29. Who plays Hockey and Football?

- (1) A
- (2) B
- (3) C
- (4) D

Correct Answer: (4) D

Solution:

Step 1: Identifying players of Hockey and Football.

- B and D play Hockey.
- C, D, and E play Football.

Step 2: Finding the common player.

- D is the only player who plays both Hockey and Football.

Thus, the correct answer is **D**.

Quick Tip

Identify the set of players for each sport and find their intersection.

30. Who plays Volleyball and Football?

- (1) A
- (2) B
- (3) C
- (4) D

Correct Answer: (3) C

Solution:

Step 1: Identifying players of Volleyball and Football.

- A and C play Volleyball.
- C, D, and E play Football.

Step 2: Finding the common player.

- C is the only player who plays both Volleyball and Football.

Thus, the correct answer is **C**.

Quick Tip

Create a table of sports and players to find the intersection quickly.

Part A (section III) Educational and General Awareness

31. The International Renewable Energy Agency (IRENA) is headquartered in -----.

- (1) Tel Aviv city, Israel
- (2) Paris, France
- (3) Tehran, Iran
- (4) Masdar city, UAE

Correct Answer: (4) Masdar city, UAE

Solution: Step 1: Understanding IRENA.

The International Renewable Energy Agency (IRENA) is an intergovernmental organization that supports countries in their transition to renewable energy.

Step 2: Identifying the correct headquarters.

IRENA's headquarters is located in Masdar City, United Arab Emirates (UAE).

Thus, the correct answer is Masdar City, UAE.

Quick Tip

IRENA was officially established in 2009 and its headquarters is in Masdar City, a hub for renewable energy and sustainability initiatives in the UAE.

32. The 'Wheel of life' is a theme used in –

- (1) Warli paintings
- (2) Thangka paintings
- (3) Manjusha paintings
- (4) Kalamkari paintings

Correct Answer: (2) Thangka paintings

Solution:

Step 1: Identifying the painting styles.

Thangka paintings are traditional Tibetan Buddhist paintings that depict Buddhist deities, mandalas, and religious themes.

The Wheel of Life (Bhavachakra) is a common theme in Thangka paintings, illustrating the cycle of birth, life, death, and rebirth.

Thus, the correct answer is Thangka paintings.

Quick Tip

Thangka paintings are often used as teaching tools in Buddhism to explain philosophical concepts visually.

33. Which of the following is geographically closest to Greater Nicobar?

- (1) Sumatra
- (2) Borneo
- (3) Java
- (4) Sri Lanka

Correct Answer: (1) Sumatra

Solution: Step 1: Locating Greater Nicobar.

Greater Nicobar is the southernmost island of the Andaman and Nicobar Islands of India. It is close to the Indonesian island of Sumatra.

Step 2: Identifying the closest landmass.

Sumatra is the nearest among the given options, located across the Great Channel (also called the Ten Degree Channel).

Thus, the correct answer is Sumatra.

Quick Tip

Greater Nicobar is separated from Sumatra by the Great Channel, making it the closest geographical location.

34. Which region in India is known as ‘The Rice Bowl of India’?

- (1) North East region

- (2) Kerala and Tamil Nadu
- (3) Indo-Gangetic Plain
- (4) Krishna-Godavari Delta region

Correct Answer: (4) Krishna-Godavari Delta region

Solution:

Step 1: Understanding the term "Rice Bowl of India".

The term refers to a region with high rice production in India.

Step 2: Identifying the correct region.

The Krishna-Godavari Delta region in Andhra Pradesh is known as the Rice Bowl of India due to its fertile soil and extensive paddy fields.

Thus, the correct answer is Krishna-Godavari Delta region.

Quick Tip

Andhra Pradesh is one of the largest rice-producing states in India, with the Krishna-Godavari Delta playing a crucial role in this production.

35. Which of the following books was written by Swami Dayanand Saraswati?

- (1) Satyarth Prakash
- (2) Raja Yoga
- (3) Gitanjali
- (4) Chaturanga

Correct Answer: (1) Satyarth Prakash

Solution:

Step 1: Identifying the author of each book.

Satyarth Prakash (The Light of Truth) was written by Swami Dayanand Saraswati.

Raja Yoga was written by Swami Vivekananda.

Gitanjali was written by Rabindranath Tagore.

Chaturanga was written by Bankim Chandra Chatterjee.

Thus, the correct answer is Satyarth Prakash.

Quick Tip

Swami Dayanand Saraswati founded the Arya Samaj and wrote Satyarth Prakash to promote Vedic principles and social reforms.

36. Viren Dangwal was awarded the Sahitya Academy Award for his book –

- (1) Syahi Tal
- (2) Isi Duniya Mein
- (3) Dushchakra Me Srishta
- (4) Kal Ki Baat

Correct Answer: (2) *Isi Duniya Mein*

Solution:

Step 1: Understanding the Sahitya Academy Award recipient.

Viren Dangwal, a renowned Hindi poet, was awarded the Sahitya Academy Award for his book *Isi Duniya Mein*. His work is widely recognized for its deep connection with social realities and artistic expression.

Step 2: Evaluating the options.

- Syahi Tal (Option 1) is incorrect.
- Dushchakra Me Srishta (Option 3) is incorrect.
- Kal Ki Baat (Option 4) is incorrect.
- Isi Duniya Mein (Option 2) is correct.

Thus, the correct answer is (2) *Isi Duniya Mein*.

Quick Tip

To remember literary awards, focus on the most influential works and their impact on literature.

37. National Curriculum Framework (NCF) was formulated by NCERT in the year

- (1) 2005
- (2) 2006
- (3) 2007

(4) 2008

Correct Answer: (1) 2005

Solution:

Step 1: Understanding the NCF.

The National Curriculum Framework (NCF) is a policy document by NCERT that provides guidelines for school education in India. The most recent framework before 2020 was formulated in 2005 to improve pedagogy and learning outcomes.

Step 2: Evaluating the options.

- 2006 (Option 2) is incorrect.
- 2007 (Option 3) is incorrect.
- 2008 (Option 4) is incorrect.
- 2005 (Option 1) is correct.

Thus, the correct answer is (1) 2005.

Quick Tip

For education-related policies, focus on the years of implementation and key reforms introduced.

38. Which of the following is a multi-level global campaign to spread awareness about the importance of girls' education?

- (1) Girls rising
- (2) Most important part of our life: girls
- (3) Save girls: Educate girls
- (4) Education for girls

Correct Answer: (1) *Girls rising*

Solution:

Step 1: Understanding the campaign.

"Girls Rising" is a global campaign that aims to promote the importance of education for girls worldwide. It includes storytelling, advocacy, and media outreach to inspire change.

Step 2: Evaluating the options.

- "Most important part of our life: girls" (Option 2) is incorrect as it is not a global campaign.

- "Save girls: Educate girls" (Option 3) is a slogan but not an international campaign.
- "Education for girls" (Option 4) is a general phrase, not a recognized campaign.
- "Girls Rising" (Option 1) is the correct answer.

Thus, the correct answer is (1) Girls Rising.

Quick Tip

When identifying global campaigns, look for widely recognized initiatives supported by organizations such as the UN or NGOs.

39. 'The Coalition Years 1996 to 2012' is a book written by _____.

- (1) Yashwant Sinha
- (2) P. Chidambaram
- (3) Pranab Mukherjee
- (4) Sita Ram Yechury

Correct Answer: (3) *Pranab Mukherjee*

Solution:

Step 1: Understanding the book.

"The Coalition Years 1996 to 2012" is an autobiographical account by former President Pranab Mukherjee. The book discusses his political journey and coalition governments in India during this period.

Step 2: Evaluating the options.

- Yashwant Sinha (Option 1) is incorrect as he did not write this book.
- P. Chidambaram (Option 2) is incorrect; he has written books on economic policies.
- Sita Ram Yechury (Option 4) is incorrect; he is a politician but not the author of this book.
- Pranab Mukherjee (Option 3) is correct.

Thus, the correct answer is (3) Pranab Mukherjee.

Quick Tip

When recalling authors of political books, associate them with their key roles in governance and major policy decisions.

40. Recently, Government of India launched Urja Ganga Project -

- (1) to protect the Gangetic dolphin in the Ganga River.
- (2) to remove the water pollution and conservation of Ganges River.
- (3) to protect the Ganges flood plains.
- (4) to provide piped cooking gas to residents.

Correct Answer: (4) to provide piped cooking gas to residents.

Solution: Step 1: Understanding the Urja Ganga Project The Urja Ganga Project was launched by the Indian government to provide clean energy to households and industries.

Step 2: Objective of the Project The main aim of this project is to provide piped cooking gas to residents, particularly in Eastern India.

Thus, the correct answer is option (4).

Quick Tip

Urja Ganga Project is a gas pipeline initiative aimed at improving energy accessibility and reducing dependency on conventional fuels.

41. Lord Macauley was associated with –

- (1) Introduction of English as medium of instruction
- (2) Reforms in Army
- (3) Abolition of Sati
- (4) Legal codification

Correct Answer: (1) Introduction of English as medium of instruction

Solution: Step 1: Understanding Macauley's Contribution Lord Thomas Babington Macauley played a crucial role in the introduction of English as the medium of instruction in India. He authored the famous "Minute on Indian Education" in 1835, advocating for the promotion of English over indigenous languages.

Step 2: Implementation of Macauley's Policy

The British introduced English as the official language of education, administration, and governance.

It led to the formation of a Western-educated Indian elite who served in British administration.

The policy marked a shift from traditional Sanskrit and Persian education to English-based learning.

Quick Tip

Macauley's system aimed to create a class of people "Indian in blood and color, but English in tastes, opinions, and intellect."

42. National Policy on Education (NPE) was adopted by Parliament in the year

- (1) 1985
- (2) 1986
- (3) 1988
- (4) 1989

Correct Answer: (2) 1986

Solution: Step 1: Understanding NPE 1986

The National Policy on Education (NPE) was formulated to modernize and strengthen the education system in India. It focused on universalizing elementary education, improving higher education, and expanding technical education.

Step 2: Key Provisions of NPE 1986

Emphasis on primary education for all children up to 14 years.

Strengthening of vocational education and skill-based training.

Introduction of Operation Blackboard to improve school infrastructure.

Special focus on women's education and disadvantaged groups.

Quick Tip

The NPE was later revised in 1992, and the latest version, National Education Policy (NEP), was introduced in 2020.

43. The major objective of Hunter Commission (1882) was to –

- (1) assess the status of primary education and suggest reform
- (2) suggest police reform
- (3) enquire about revolutionary movement in India
- (4) translate Indian literature into English

Correct Answer: (1) assess the status of primary education and suggest reform

Solution: Step 1: Formation of the Hunter Commission The Hunter Commission was appointed in 1882 under the chairmanship of Sir William Hunter to review the state of primary education in India.

Step 2: Key Recommendations

Emphasis on primary education, especially in rural areas.

Greater role of local bodies (municipalities and district boards) in funding education.

Expansion of vocational education.

Establishment of teacher training institutions to improve teaching quality.

Quick Tip

The Hunter Commission is significant because it laid the foundation for future education policies in colonial India.

44. Article '51 K' of the Constitution deals with

- (1) Fundamental Right
- (2) Fundamental Duties
- (3) Girls Education
- (4) Women Education

Correct Answer: (2) Fundamental Duties

Solution: Step 1: Understanding Article 51A (K)

Article 51A (Clause K) was added to the Constitution through the 86th Amendment Act of 2002. It states that it is the duty of every parent or guardian to provide education to their children aged 6 to 14 years.

Step 2: Connection to the Right to Education (RTE) Act

The Right to Education Act (2009) made education a fundamental right for children.

Article 51K ensures that parents take responsibility for their child's education.

Quick Tip

The 86th Amendment Act also inserted Article 21A, making education a fundamental right.

45. Which of the following Acts was described by Jawaharlal Nehru as 'Charter of Slavery'?

- (1) Regulating Act, 1773
- (2) Pitt's India Act, 1784
- (3) Govt. of India Act, 1919
- (4) Govt. of India Act, 1935

Correct Answer: (3) Govt. of India Act, 1919

Solution: Step 1: Understanding the Govt. of India Act, 1919

The Government of India Act, 1919, introduced a system called "Dyarchy" in the provinces. While it provided limited self-governance, key powers remained with the British.

Step 2: Nehru's Criticism

Jawaharlal Nehru called it the "Charter of Slavery" because:

The act failed to grant full self-governance to Indians.

The British retained control over crucial departments like finance and law and order.

Indian ministers had limited autonomy in administration.

Quick Tip

The 1919 Act was later replaced by the Government of India Act, 1935, which provided for provincial autonomy but still kept central control with the British.

46. Sukanya Samriddhi Yojana was launched in the year

- (1) 2014
- (2) 2015
- (3) 2016

(4) 2017

Correct Answer: (2) 2015

Solution:

Step 1: Understanding Sukanya Samriddhi Yojana (SSY).

Sukanya Samriddhi Yojana (SSY) is a government-backed savings scheme under the Beti Bachao Beti Padhao initiative. It aims to provide financial security for a girl child's education and marriage.

Step 2: Launch Year and Objective.

The scheme was officially launched on 22 January 2015 by the Government of India, making 2015 the correct answer. Although it was announced in 2014, the official implementation started in 2015.

Step 3: Evaluating the Options.

- 2014 (Option 1) is incorrect, as the scheme was only announced that year.
- 2016 (Option 3) and 2017 (Option 4) are incorrect, as the scheme was launched earlier.
- 2015 (Option 2) is correct.

Thus, the correct answer is (2) 2015.

Quick Tip

Sukanya Samriddhi Yojana provides one of the highest interest rates among government-backed savings schemes and is an excellent long-term investment for a girl child's future.

47. Which of the following is not a composition of Saint Tulsidas?

- (1) *Gitawali*
- (2) *Kavitawali*
- (3) *Vinay Patrika*
- (4) *Sahitya Ratna*

Correct Answer: (4) *Sahitya Ratna*

Solution:

Step 1: Identifying the Works of Tulsidas.

Tulsidas was a renowned 16th-century Hindu poet-saint who composed several devotional

works, primarily focusing on Lord Rama. His most famous work is the *Ramcharitmanas*, written in Awadhi.

Step 2: Checking the Given Options. *Gitawali*, *Kavitawali*, and *Vinay Patrika* are known compositions of Tulsidas.

Sahitya Ratna is not a work attributed to him; it does not appear in the list of his known compositions.

Quick Tip

Tulsidas' works are deeply rooted in devotion to Lord Rama. His *Ramcharitmanas* is considered one of the greatest scriptures in Hindu literature.

48. All India Muslim League was founded in the year -----.

- (1) 1905
- (2) 1904
- (3) 1907
- (4) 1906

Correct Answer: (4) 1906

Solution:

Step 1: Formation of the All India Muslim League.

The All India Muslim League was founded on **30th December 1906** in Dhaka (present-day Bangladesh). The meeting was held at the initiative of the All India Muhammadan Educational Conference and was led by prominent Muslim leaders, including Nawab Salimullah of Dhaka, Aga Khan, and others.

Step 2: Purpose of the League.

The league was established to safeguard the political rights and interests of Muslims in India. It later played a crucial role in the partition of India and the creation of Pakistan in 1947.

Quick Tip

The All India Muslim League was instrumental in the formation of Pakistan. Its demand for a separate Muslim state was formally made in the **Lahore Resolution of 1940**.

49. Sarva Shiksha Abhiyan Scheme was started in the year -

- (1) 1999-2000
- (2) 2000-2001
- (3) 2001-2002
- (4) 2002-2003

Correct Answer: (3) 2001-2002

Solution: Step 1: Understanding the Scheme Sarva Shiksha Abhiyan (SSA) is a flagship programme launched by the Government of India to achieve Universalization of Elementary Education (UEE) in a time-bound manner.

Step 2: Year of Inception The scheme was officially launched in the year 2001-2002 to provide free and compulsory education to children in the 6-14 years age group under the Right to Education (RTE) Act.

Thus, the correct answer is option (3).

Quick Tip

Sarva Shiksha Abhiyan focuses on bridging gender and social gaps in education while ensuring quality and equity in primary education.

50. Which web browser was developed by Google?

- (1) Internet Explorer
- (2) Firefox
- (3) Safari
- (4) Chrome

Correct Answer: (4) Chrome

Solution: Step 1: Identifying the Web Browser Google developed and launched its web browser Google Chrome in 2008. It is known for its speed, security, and user-friendly interface.

Step 2: Eliminating Other Options

Internet Explorer was developed by Microsoft.

Firefox was developed by Mozilla.
Safari was developed by Apple.
Thus, the correct answer is option (4).

Quick Tip

Google Chrome is one of the most widely used web browsers, with features like incognito mode, extensions, and synchronization with Google accounts.

51. The Jog Fall is situated on the:

- (1) Tapti River
- (2) Sharavati River
- (3) Cauvery River
- (4) Bhima River

Correct Answer: (2) Sharavati River

Solution: Jog Falls, also known as Gerosoppa Falls, is a waterfall on the Sharavati River, located in Karnataka. It is one of the highest waterfalls in India, with a height of about 830 feet (253 meters). Unlike other waterfalls, Jog Falls is unique because it is an unbroken plunge waterfall, meaning that the water drops directly without touching any rocks.

The Sharavati River originates in the Western Ghats and flows into the Arabian Sea. The Jog Falls is formed when the river cascades down in four distinct segments known as Raja, Rani, Roarer, and Rocket.

Quick Tip

Jog Falls is India's second-highest plunge waterfall and is a major tourist attraction, especially during the monsoon season.

52. The Yashpal Committee report (1993) is known as:

- (1) Learning the Pleasure Within
- (2) Learning Without Burden
- (3) Learning to Learn

(4) Learning to Live Together

Correct Answer: (2) Learning Without Burden

Solution: The Yashpal Committee was formed in 1993 to study the problems in the Indian school education system, especially the burden of excessive textbooks and rote learning. The committee's report, titled **"Learning Without Burden"**, emphasized the need to reduce academic pressure on students and make learning more meaningful.

Key recommendations of the Yashpal Committee:

Reducing the excessive content in school curricula.

Encouraging conceptual learning instead of rote memorization.

Improving teacher training and making education more interactive.

Quick Tip

The ideas of the Yashpal Committee influenced the National Curriculum Framework (NCF) 2005, which promoted activity-based and student-friendly learning.

53. The first President of India was:

(1) Dr. Radhakrishnan

(2) Dr. Zakir Hussain

(3) Dr. Shankar Dayal Sharma

(4) Dr. Rajendra Prasad

Correct Answer: (4) Dr. Rajendra Prasad

Solution: Dr. Rajendra Prasad was elected as the first President of independent India in 1950 and remained in office until 1962. He was also the only Indian President to serve two full terms.

Dr. Prasad was a key figure in the Indian independence movement and played a crucial role in the drafting of the Indian Constitution as the President of the Constituent Assembly. He was known for his humility, dedication, and leadership.

Quick Tip

Dr. Rajendra Prasad was awarded the Bharat Ratna, India's highest civilian honor, in 1962.

54. How can the number of judges in the Supreme Court of India be increased?

- (1) By a Presidential notification
- (2) By a Parliamentary Act
- (3) By an amendment of the Constitution of India
- (4) By a representation from the Supreme Court

Correct Answer: (2) By a Parliamentary Act

Solution: The number of judges in the Supreme Court of India is determined by the **Supreme Court (Number of Judges) Act, 1956**. Any increase in the number of judges requires an amendment to this Act, which is done through a **Parliamentary Act**.

For example, the strength of Supreme Court judges was increased from 30 to 33 (excluding the Chief Justice of India) by the **Supreme Court (Number of Judges) Amendment Act, 2019**.

Quick Tip

Article 124 of the Indian Constitution states that the strength of Supreme Court judges can be increased through legislation by Parliament.

55. Who has been awarded the Gyanpeeth Award for the year 2016?

- (1) Shankha Ghosh
- (2) Mridula Garg
- (3) Namveer Singh
- (4) Shankar Kurup

Correct Answer: (1) Shankha Ghosh

Solution: The Jnanpith Award (Gyanpeeth Award) is India's highest literary award, given annually for outstanding contributions to Indian literature. In 2016, it was awarded to **Shankha Ghosh**, a renowned Bengali poet and critic.

Shankha Ghosh was known for his literary works that dealt with contemporary social and political issues. Some of his famous works include Adim Lata – Gulmomay, Murkho Baro, Samajik Nay, and Babarer Prarthana.

Quick Tip

Shankha Ghosh was also a recipient of the Padma Bhushan and Sahitya Akademi Award for his contributions to Indian literature.

Part A (Section IV) Teaching-Learning and the School

56. The purpose of teaching is:

- (1) Changes in the behaviour of students in desirable direction.
- (2) Development of total personality of students.
- (3) Building character of the students.
- (4) Getting selected for a suitable job.

Correct Answer: (1) Changes in the behaviour of students in desirable direction.

Solution: Step 1: Understanding the Purpose of Teaching Teaching is a process aimed at bringing positive changes in students' behavior, knowledge, and skills.

Step 2: Identifying the Correct Answer The primary objective of teaching is to guide students toward desirable behavioral changes through learning experiences. Therefore, option (1) is the correct answer.

Quick Tip

Effective teaching fosters critical thinking, creativity, and adaptability in students, leading to constructive behavioral changes.

57. Which of the following is not an appropriate tool for formative assessment?

- (1) Assignments
- (2) Oral questions
- (3) Term End Examinations
- (4) Quizzes and Puzzles

Correct Answer: (3) Term End Examinations

Solution: Step 1: Understanding Formative Assessment Formative assessment is a continuous evaluation process that helps improve learning rather than just measuring it.

Step 2: Identifying the Correct Answer While assignments, oral questions, and quizzes are used for continuous evaluation, term-end examinations are summative assessments. Thus, option (3) is the correct answer.

Quick Tip

Formative assessments are designed to provide ongoing feedback and are different from summative assessments, which evaluate final learning outcomes.

58. The best definition of education is that it is:

- (1) Preparation
- (2) Getting knowledge
- (3) Learning
- (4) Liberation of mind

Correct Answer: (4) Liberation of mind

Solution: Step 1: Understanding Education Education is not just about acquiring knowledge or preparing for the future but about fostering critical thinking and independence of thought.

Step 2: Identifying the Correct Answer Education ultimately leads to intellectual and personal freedom, making 'liberation of mind' the most comprehensive definition. Thus, option (4) is the correct answer.

Quick Tip

True education empowers individuals to think independently and make informed decisions, leading to personal and social progress.

59. Why should there be discipline in the class?

- (1) Children should feel that it is mandatory.
- (2) Children should accept the authority.
- (3) Children should realize the benefits of an organized and orderly work.
- (4) It will help them in case they choose to become teachers.

Correct Answer: (3) Children should realize the benefits of an organized and orderly work.

Solution: Step 1: Purpose of Discipline in Education Discipline in the classroom ensures effective learning and teaches students self-regulation and responsibility.

Step 2: Identifying the Correct Answer Among the options, (3) is the most appropriate as it emphasizes the role of discipline in shaping an organized and efficient learning environment.

Quick Tip

Discipline is about fostering responsibility and order, not just enforcing authority. It helps in long-term personal and academic growth.

60. Which would be the best theme to start on a first day in a nursery class?

- (1) My best friend
- (2) My neighbourhood
- (3) My school
- (4) My family

Correct Answer: (4) My family

Solution: Step 1: Understanding a Child's Comfort Zone For young children in nursery, familiar topics help them feel comfortable and engaged in learning.

Step 2: Identifying the Correct Answer 'My family' is the most relatable and comforting topic for a nursery child on their first day at school, making option (4) the best choice.

Quick Tip

Starting with familiar topics makes children feel secure and encourages active participation in early education.

61. The statement 'Men are generally more intelligent than women':

- (1) Is true.
- (2) May be true.
- (3) Shows gender bias.

(4) Is true for different domains of intelligence.

Correct Answer: (3) Shows gender bias.

Solution: The idea that men are generally more intelligent than women is a form of **gender bias**, which means it is based on stereotypes rather than scientific evidence. Research in psychology and neuroscience has shown that intelligence is not determined by gender. Both men and women have the ability to excel in different fields depending on factors like education, environment, and personal effort.

Quick Tip

Intelligence is a broad concept that includes logical reasoning, creativity, problem-solving, and emotional intelligence. It is not limited by gender.

62. In the context of education, socialization means:

- (1) Creating one's own social norms
- (2) Respecting elders in society
- (3) Adapting and adjusting to the social environment
- (4) Always following social norms

Correct Answer: (3) Adapting and adjusting to the social environment.

Solution: Socialization is the process by which individuals **learn to interact with others** and become part of society. In schools, children learn social skills like teamwork, communication, and respect for different opinions. Socialization helps individuals understand the customs, traditions, and values of their society, making it easier to live and work with others.

Quick Tip

Socialization happens through family, school, friends, and media. It helps in developing social skills and a sense of responsibility.

63. If a child often fights with siblings, what will you do as a teacher to help him/her?

- (1) You will give punishment in school.

- (2) You will demoralize him/her by comparing with others.
- (3) Ask parents to take strict action.
- (4) Talk to him/her in isolation and find out the reason for such behavior.

Correct Answer: (4) Talk to him/her in isolation and find out the reason for such behavior.

Solution: When a child frequently fights with siblings, it may be due to **emotional stress, lack of attention, or unresolved conflicts**. As a teacher, the best approach is to talk to the child privately, listen to their concerns, and guide them toward better ways of handling conflicts.

Quick Tip

Children often misbehave due to emotional reasons. A calm and understanding conversation helps in solving their problems better than punishment.

64. The most important objective of teaching is:

- (1) Making students understand what the teacher says
- (2) Covering the course prescribed in his subject
- (3) Keeping students relaxed while teaching
- (4) Taking classes regularly

Correct Answer: (1) Making students understand what the teacher says.

Solution: Teaching is not just about **completing the syllabus**; its main goal is to ensure that students **understand the concepts clearly**. A good teacher explains topics in a way that makes learning easy, engaging, and meaningful for students.

Quick Tip

Effective teaching methods include practical examples, interactive discussions, and real-life applications of concepts.

65. The first Open University in India was set up in the State of:

- (1) Andhra Pradesh
- (2) Delhi

(3) Himachal Pradesh

(4) Tamil Nadu

Correct Answer: (1) Andhra Pradesh.

Solution: India's first Open University, **Dr. B.R. Ambedkar Open University**, was established in Andhra Pradesh in 1982. Open universities provide flexible education opportunities for students who cannot attend regular classes, such as working professionals or those in remote areas.

Quick Tip

Open universities allow students to study at their own pace using online materials, recorded lectures, and study centers.

66. Which of the following organizations looks after the quality of Teacher Education in India?

(1) NCTE

(2) MCI

(3) AICTE

(4) CSIR

Correct Answer: (1) NCTE

Solution: Step 1: Understanding Teacher Education Regulations

The National Council for Teacher Education (NCTE) is responsible for regulating and overseeing the quality of teacher education in India.

Step 2: Evaluating Other Options

MCI (Medical Council of India) regulates medical education.

AICTE (All India Council for Technical Education) looks after technical and engineering education.

CSIR (Council of Scientific and Industrial Research) deals with scientific research.

Thus, the correct answer is NCTE.

Quick Tip

NCTE was established under the NCTE Act, 1993 to improve and maintain the standards of teacher education in India.

67. The essence of an effective classroom environment is:

- (1) A variety of teaching aids
- (2) Lively student-teacher interaction
- (3) Pin-drop silence
- (4) Strict discipline

Correct Answer: (2) Lively student-teacher interaction

Solution: Step 1: Identifying an Effective Learning Environment An interactive and engaging classroom environment fosters better learning and comprehension.

Step 2: Evaluating Other Options

Teaching aids support learning but cannot replace interaction.

Absolute silence is not ideal for learning as discussions help in better understanding.

Strict discipline is necessary but should not hinder communication.

Thus, the correct answer is lively student-teacher interaction.

Quick Tip

A classroom should be a space where students feel comfortable asking questions and engaging in discussions.

68. Moral values can be effectively inculcated among the students when the teacher:

- (1) Frequently talks about values
- (2) Herself / himself practices them
- (3) Tells stories of great persons
- (4) Provides reading material

Correct Answer: (2) Herself / himself practices them

Solution: Step 1: Understanding the Importance of Role Models

Students learn moral values best by observing their teachers.

Step 2: Evaluating Other Options

Talking about values helps but is not as impactful as practicing them.

Stories inspire, but they do not ensure direct moral inculcation.

Reading material provides theoretical knowledge but does not create behavioral changes.

Thus, teachers must lead by example.

Quick Tip

Moral values are best learned through observation and practice rather than mere lectures or reading.

69. Which one of the following is not an output device?

- (1) Keyboard
- (2) Visual Display Units
- (3) Printer
- (4) Plotter

Correct Answer: (1) Keyboard

Solution: Step 1: Defining Output and Input Devices

An output device is used to display, print, or transmit the results of computer processing.

Step 2: Evaluating Other Options

Visual Display Units (monitors), printers, and plotters all produce output.

The keyboard, however, is an input device used for data entry.

Thus, the correct answer is Keyboard.

Quick Tip

Devices like monitors, printers, and speakers are output devices, whereas keyboards and mice are input devices.

70. What is the biggest advantage of interaction between teacher and learner?

- (1) It facilitates effective learning
- (2) It satisfies the teacher

(3) It encourages learners to ask questions

(4) It results in better group relations

Correct Answer: (1) It facilitates effective learning

Solution: Step 1: Importance of Teacher-Learner Interaction

A strong interaction between teachers and students enhances comprehension, retention, and learning outcomes.

Step 2: Evaluating Other Options

Encouraging questions (option 3) is beneficial but not the biggest advantage.

Better group relations (option 4) are helpful but secondary to effective learning.

Teacher satisfaction (option 2) is not a primary goal of education.

Thus, effective learning is the biggest advantage of teacher-learner interaction.

Quick Tip

A classroom with active teacher-student interaction leads to better conceptual understanding and retention.

71. A good teacher is one that:

(1) inspires students for all-around development.

(2) helps students learn their lesson easily.

(3) prepares learners to pass in examination.

(4) maintains discipline in class.

Correct Answer: (1) inspires students for all-around development.

Solution: Step 1: Understanding the Role of a Good Teacher A good teacher is not just responsible for imparting academic knowledge but also for holistic development.

Step 2: Evaluating the Options

Option (1) is correct as a good teacher should inspire students for overall growth.

Option (2) is partly correct but does not encompass the holistic role of a teacher.

Option (3) focuses only on exams, which is a limited perspective.

Option (4) is essential but not the primary quality of a good teacher.

Quick Tip

A good teacher fosters creativity, confidence, and curiosity in students, helping them grow beyond academics.

72. Which of the following is not the main objective of NCERT?

- (1) To organize pre-service and in-service training of teachers.
- (2) To act as a nodal agency for achieving goals of UEE.
- (3) To promote and coordinate research in the areas of school education.
- (4) To develop regulations for teacher education programmes.

Correct Answer: (4) To develop regulations for teacher education programmes.

Solution: Step 1: Understanding NCERT's Objectives

NCERT's key objectives include curriculum development, research, and teacher training.

Step 2: Evaluating the Options

Option (4) is incorrect because NCTE (National Council for Teacher Education) is responsible for regulating teacher education programs.

Quick Tip

NCERT primarily focuses on school curriculum, textbooks, and research in school education.

73. Which of the following is not correct about schools?

- (1) They are powerful instruments of social change.
- (2) They are social agencies for cultural transmission.
- (3) They are affected by social and economic scenarios of the country.
- (4) They are potential agents of conflict and disintegration.

Correct Answer: (4) They are potential agents of conflict and disintegration.

Solution: Step 1: Understanding the Role of Schools

Schools are meant to bring unity, spread knowledge, and develop moral values in society.

Step 2: Evaluating the Options

Option (4) is incorrect because schools promote social harmony and integration rather than

conflict.

Quick Tip

Schools serve as centers of learning, social transformation, and nation-building.

74. Dictionary is:

- (1) Audio media
- (2) Visual media
- (3) Print media
- (4) Audio-Visual media

Correct Answer: (3) Print media

Solution: Step 1: Understanding Media Categories

A dictionary is a reference book containing words and their meanings, typically printed.

Step 2: Evaluating the Options

Option (3) is correct because dictionaries are part of printed materials.

Quick Tip

Print media includes books, newspapers, and magazines, used for information dissemination.

75. If a student does not understand the lesson taught in the class, what will you do?

- (1) Repeat the lesson again.
- (2) Ask students to study extra books/learning material.
- (3) Know the previous knowledge of the learners.
- (4) Teach the lesson again with suitable examples drawn from the background of the learners.

Correct Answer: (4) Teach the lesson again with suitable examples drawn from the background of the learners.

Solution: Step 1: Effective Teaching Methods

A teacher should connect lessons to students' experiences for better understanding.

Step 2: Evaluating the Options

Option (4) is correct as contextual learning improves comprehension.

Quick Tip

Effective teaching involves relating concepts to real-life examples for better retention.

76. Which one of the following is not desired for a good teaching-learning environment in the class?

- (1) Autonomy of the learner
- (2) Freedom to teacher to innovate
- (3) Frequent parent-teacher association meetings
- (4) Punishment for misbehaviour

Correct Answer: (4) Punishment for misbehaviour

Solution: A good teaching-learning environment should foster positivity, creativity, and student engagement. Autonomy of the learner, teacher innovation, and parent-teacher collaboration contribute to effective learning. However, punishment for misbehaviour creates a negative atmosphere, discouraging active participation.

Quick Tip

Effective classroom management should focus on encouragement, discipline through guidance, and student motivation rather than punishment.

77. Success of teaching depends more on:

- (1) Motivation skill
- (2) Verbal communication skills
- (3) Understanding of the students
- (4) Liking of the students

Correct Answer: (3) Understanding of the students

Solution: The key to successful teaching lies in understanding students' learning needs, strengths, and difficulties. While motivation and communication skills enhance the process, a deep understanding of students ensures effective teaching strategies that cater to different

learning styles.

Quick Tip

A teacher who understands students well can adapt teaching methods to improve engagement, comprehension, and retention.

78. An effective teaching-learning aid has one of the following characteristics:

- (1) It is good looking.
- (2) Activates all faculties.
- (3) Is visible to all learners.
- (4) Easy to prepare.

Correct Answer: (2) Activates all faculties

Solution: A good teaching-learning aid should stimulate multiple senses (visual, auditory, kinesthetic) to maximize learning efficiency. Simply being good-looking, visible, or easy to prepare does not ensure effectiveness if it does not actively engage the learner.

Quick Tip

Teaching aids should encourage interaction, problem-solving, and critical thinking while accommodating different learning styles.

79. The purpose of an assignment is:

- (1) To keep students busy at home.
- (2) To improve handwriting.
- (3) To involve parents in student learning.
- (4) To promote self-learning.

Correct Answer: (4) To promote self-learning

Solution: Assignments are designed to develop independent learning, research skills, and critical thinking. While they may have secondary benefits like handwriting improvement or parental involvement, their primary goal is to encourage students to explore concepts on their own.

Quick Tip

Assignments should be well-structured to challenge students' understanding while providing opportunities for independent study and skill development.

80. IGNOU programmes are telecast by the channel:

- (1) Open Channel
- (2) Eklavya Channel
- (3) Gyan Darshan
- (4) Vyas Channel

Correct Answer: (3) Gyan Darshan

Solution: Gyan Darshan is an educational television channel in India dedicated to distance learning and telecasting academic programs. It serves as a platform for IGNOU (Indira Gandhi National Open University) to reach a wider audience of students across the country.

Quick Tip

Gyan Darshan was launched to make quality education accessible to learners through television, supplementing IGNOU's distance education model.

Part B (Section V) Science

81. Which of the following properties is different for neutral atoms of two isotopes of the same element?

- (1) Atomic number
- (2) Mass
- (3) Number of electrons
- (4) General chemical reaction

Correct Answer: (2) Mass

Solution: Step 1: Understanding isotopes Isotopes are atoms of the same element that have the same atomic number (same number of protons and electrons) but different mass numbers due to different numbers of neutrons.

Step 2: Identifying the property that differs Since isotopes have the same number of protons and electrons, their atomic number and chemical reactions remain unchanged. However, their mass differs because of the variation in the number of neutrons. Thus, the correct answer is option (2) Mass.

Quick Tip

Isotopes have identical chemical properties but different physical properties due to the difference in mass.

82. Which of the following would be expected to form ionic solutions in water?

- (1) CO_2
- (2) CCl_4
- (3) O_2
- (4) NaI

Correct Answer: (4) NaI

Solution: Step 1: Understanding ionic solutions Ionic compounds dissolve in water to form ions, whereas covalent compounds do not dissociate into ions in water.

Step 2: Identifying ionic compounds - CO_2 , CCl_4 , and O_2 are covalent compounds and do not form ions in water. - NaI (sodium iodide) is an ionic compound and dissociates in water to form Na^+ and I^- ions.

Thus, the correct answer is option (4) NaI .

Quick Tip

Ionic compounds dissolve in water to form free-moving ions, making the solution conductive.

83. Which one of the following would be possible for both strongly acidic and strongly basic solutions?

- (1) Solution has a hydrogen ion concentration of $10^{-7}M$
- (2) Solution turns litmus red

(3) Solution is a very good conductor of electricity

(4) Solution reacts with Mg to liberate hydrogen

Correct Answer: (3) Solution is a very good conductor of electricity

Solution: Step 1: Conductivity in acidic and basic solutions Both strong acids and strong bases dissociate completely in water, producing a high concentration of ions.

Step 2: Evaluating options - A neutral solution has $10^{-7} M$ hydrogen ions (option 1). - Only acids turn litmus red, not bases (option 2). - Strong acids and bases conduct electricity due to ion mobility (option 3). - Acids react with Mg, but strong bases do not (option 4).

Thus, the correct answer is option (3) Solution is a very good conductor of electricity.

Quick Tip

Strong acids and bases are excellent conductors of electricity due to high ion concentration.

84. Which of the electronic configurations given below would you expect to have the lowest ionization energy?

(1) $1s^2 2s^2 2p^6 3s^2$

(2) $1s^2 2s^2 2p^6 3s^1$

(3) $1s^2 2s^2 2p^6$

(4) $1s^2 2s^2 2p^3$

Correct Answer: (2) $1s^2 2s^2 2p^6 3s^1$

Solution: Step 1: Understanding ionization energy Ionization energy is the energy required to remove an electron. Lower energy means easier removal.

Step 2: Evaluating configurations - Configuration (2) corresponds to sodium (Na), which has one electron in the outermost shell ($3s^1$), making it easy to remove. - Fully filled and half-filled configurations have higher ionization energies due to stability.

Thus, the correct answer is option (2) $1s^2 2s^2 2p^6 3s^1$.

Quick Tip

Elements with a single outer electron have the lowest ionization energy.

85. Select the compound in which chlorine is assigned the oxidation number +5:

- (1) $HClO_4$
- (2) $HClO_3$
- (3) $HClO_2$
- (4) $HClO$

Correct Answer: (2) $HClO_3$

Solution: Step 1: Oxidation state calculation formula The oxidation number of chlorine in oxoacids is determined using:

$$\text{Oxidation state of Cl} + (\text{Oxidation state of O}) + (\text{Oxidation state of H}) = 0$$

Since oxygen is -2 and hydrogen is $+1$, we solve for chlorine.

Step 2: Applying to $HClO_3$

$$x + 1 + (-2 \times 3) = 0$$

$$x + 1 - 6 = 0$$

$$x = +5$$

Thus, the correct answer is option (2) $HClO_3$.

Quick Tip

Oxidation states in oxoacids increase as the number of oxygen atoms increases.

86. If f is the focal length of a lens, then the power of the lens is equal to:

- (1) $\frac{100}{f(\text{cm})}$
- (2) $\frac{10}{f(\text{cm})}$
- (3) $\frac{100}{f(\text{m})}$
- (4) $\frac{1}{100f(\text{cm})}$

Correct Answer: (1) $\frac{100}{f(\text{cm})}$.

Solution: The power P of a lens is given by the formula:

$$P = \frac{1}{f(\text{m})}$$

Since focal length f in centimeters can be converted to meters as $f(\text{m}) = \frac{f(\text{cm})}{100}$, we get:

$$P = \frac{100}{f(\text{cm})}$$

which matches option (1).

Quick Tip

Power of a lens is measured in diopters (D), and a positive power indicates a converging lens, while a negative power indicates a diverging lens.

87. Which color of visible light has the minimum frequency?

- (1) Violet
- (2) Red
- (3) Yellow
- (4) Green

Correct Answer: (2) Red.

Solution: The frequency of light is inversely proportional to its wavelength. In the visible spectrum: - Violet has the shortest wavelength and the highest frequency. - Red has the longest wavelength and the lowest frequency. Thus, red light has the minimum frequency.

Quick Tip

The frequency of visible light ranges from about 4×10^{14} Hz (red) to 7.5×10^{14} Hz (violet).

88. The resistance of metallic conductors:

- (1) increases with rise in temperature
- (2) decreases with rise in temperature
- (3) remains unchanged with change in temperature
- (4) becomes zero at very high temperature

Correct Answer: (1) increases with rise in temperature.

Solution: In metallic conductors, resistance R increases with temperature due to increased

collision of free electrons. The relationship is given by:

$$R_T = R_0(1 + \alpha T)$$

where α is the temperature coefficient of resistance.

Quick Tip

Semiconductors behave differently, as their resistance decreases with temperature increase.

89. An electric motor converts:

- (1) electrical energy into heat energy
- (2) electrical energy into mechanical energy
- (3) mechanical energy into electrical energy
- (4) mechanical energy into heat energy

Correct Answer: (2) electrical energy into mechanical energy.

Solution: An electric motor works on the principle of electromagnetic induction. When current flows through a coil in a magnetic field, it experiences a force that causes rotation, converting electrical energy into mechanical energy.

Quick Tip

A generator works oppositely, converting mechanical energy into electrical energy.

90. Which among the following is not a renewable source of energy?

- (1) Wind energy
- (2) Ocean energy
- (3) Solar energy
- (4) Fossil energy

Correct Answer: (4) Fossil energy

Solution: Step 1: Understanding renewable and non-renewable energy sources

Renewable energy sources are those that can be replenished naturally over short periods. These include wind energy, solar energy, and ocean energy.

Step 2: Identifying the non-renewable source Fossil energy, derived from coal, oil, and natural gas, is non-renewable as it takes millions of years to form and depletes with usage. Thus, the correct answer is option (4).

Quick Tip

Renewable energy sources are sustainable, whereas fossil fuels contribute to pollution and climate change.

91. Blood corpuscles which help in blood clotting at the site of injury are:

- (1) RBCs
- (2) WBCs
- (3) Platelets
- (4) Eosinophils

Correct Answer: (3) Platelets

Solution: Step 1: Understanding blood clotting

Blood clotting is a crucial process that prevents excessive bleeding during an injury.

Step 2: Identifying the role of different blood corpuscles

RBCs (Red Blood Cells) transport oxygen.

WBCs (White Blood Cells) fight infections.

Platelets are responsible for blood clotting by forming a plug at the injury site.

Eosinophils are a type of WBC involved in allergic reactions.

Thus, the correct answer is option (3).

Quick Tip

Platelets release clotting factors that help form fibrin, essential for stopping bleeding.

92. Movement of food through the oesophagus is due to:

- (1) Lubrication by saliva
- (2) Peristalsis
- (3) Gravitational pull

(4) Filtration

Correct Answer: (2) Peristalsis

Solution: Step 1: Understanding food movement in the digestive tract

Food moves through the oesophagus due to a series of wave-like muscle contractions known as peristalsis.

Step 2: Evaluating other options

Lubrication by saliva helps in swallowing but does not push food down.

Gravitational pull is not a mechanism for food movement in the oesophagus.

Filtration does not apply to the oesophagus.

Thus, the correct answer is option (2).

Quick Tip

Peristalsis is an involuntary action controlled by the nervous system and ensures food reaches the stomach.

93. The xylem in plants is responsible for:

(1) Transport of water

(2) Transport of food

(3) Transport of amino acids

(4) Transport of oxygen

Correct Answer: (1) Transport of water

Solution: Step 1: Understanding xylem function

Xylem is a vascular tissue in plants that transports water and minerals from the roots to the leaves.

Step 2: Differentiating from other transport mechanisms

Phloem, not xylem, transports food and amino acids.

Oxygen is not transported by plant tissues.

Thus, the correct answer is option (1).

Quick Tip

Xylem functions through capillary action and transpiration pull, enabling water transport against gravity.

94. The kidneys in humans are a part of which of the following system?

- (1) Nutrition
- (2) Respiration
- (3) Excretion
- (4) Transportation

Correct Answer: (3) Excretion

Solution: Step 1: Understanding kidney function

The kidneys filter waste products from the blood and excrete them as urine, making them a part of the excretory system.

Step 2: Evaluating other options

Nutrition involves food intake and digestion.

Respiration is the exchange of gases (oxygen and carbon dioxide).

The circulatory system is responsible for transportation.

Thus, the correct answer is option (3).

Quick Tip

The kidneys maintain homeostasis by regulating fluid balance and excreting metabolic waste.

95. A segment of DNA providing information for a protein is called:

- (1) Nucleus
- (2) Chromosomes
- (3) Trait
- (4) Gene

Correct Answer: (4) Gene

Solution: Step 1: Understanding genetic information

Genes are specific sequences of DNA that code for proteins. They determine hereditary traits and are the functional units of genetic material.

Step 2: Evaluating other options

The nucleus contains genetic material but is not a functional segment.

Chromosomes are structures made up of many genes.

A trait is an expressed characteristic, not a DNA segment.

Thus, the correct answer is option (4).

Quick Tip

Genes control various biological processes, including protein synthesis and inheritance of traits.

96. What percentage of genes a child receives from its father?

- (1) 25%
- (2) 50%
- (3) 75%
- (4) 100%

Correct Answer: (2) 50%

Solution:

Each human cell contains 46 chromosomes, organized into 23 pairs. One chromosome from each pair is inherited from the father, and the other from the mother. This results in 50% of the child's genetic material coming from each parent.

The father passes down one set of chromosomes (23 chromosomes).

The mother also passes down a corresponding set of 23 chromosomes.

Thus, the child receives 50% of its genetic information from the father and 50% from the mother. This is consistent with Mendelian genetics, where each parent contributes equally to the child's genotype.

Therefore, the child receives 50% of its genes from the father.

Quick Tip

Genetic inheritance follows Mendelian principles where each parent contributes equally to the genetic makeup of the offspring. The father and mother each contribute 50% of the genetic material.

97. Biodegradable wastes can be employed to produce:

- (1) manure
- (2) biogas
- (3) both manure and biogas
- (4) Neither manure nor biogas

Correct Answer: (3) both manure and biogas

Solution: Step 1: Understanding biodegradable waste

Biodegradable waste includes organic matter such as food scraps, agricultural residues, and animal waste that can be decomposed by microorganisms.

Step 2: Manure and biogas production

When biodegradable waste decomposes naturally, it turns into manure, which enriches soil fertility.

In an anaerobic environment, biodegradable waste undergoes microbial digestion, releasing methane gas, which is collected as biogas.

Step 3: Conclusion

Since biodegradable waste can be used to produce both manure and biogas, the correct answer is option (3).

Quick Tip

Biogas is a renewable source of energy that helps in waste management and reduces environmental pollution.

98. Result of ozone hole is:

- (1) Greenhouse effect

- (2) Global warming
- (3) Acid rain
- (4) Increased UV radiation

Correct Answer: (4) Increased UV radiation

Solution:

Step 1: Understanding the ozone hole

The ozone layer in the stratosphere absorbs harmful ultraviolet (UV) radiation from the Sun. Due to the depletion of this layer, an "ozone hole" forms, allowing more UV radiation to reach Earth's surface.

Step 2: Effects of ozone depletion

Increased exposure to UV radiation leads to skin cancer, cataracts, and immune system suppression in humans.

It also affects marine ecosystems and damages crops.

Step 3: Conclusion

The primary result of the ozone hole is an increase in UV radiation reaching the Earth, making option (4) correct.

Quick Tip

The Montreal Protocol (1987) was established to phase out the production of ozone-depleting substances like CFCs.

99. The most rapidly dwindling natural resource in the world is:

- (1) water
- (2) forest
- (3) wind
- (4) sunlight

Correct Answer: (2) forest

Solution:

Step 1: Understanding natural resource depletion

Natural resources are materials obtained from nature that humans use for survival. Some of

these resources are depleting rapidly due to overuse and deforestation.

Step 2: Rapid depletion of forests

Large-scale deforestation for agriculture, urbanization, and industries is reducing forest cover.

Deforestation leads to loss of biodiversity, soil erosion, and climate change.

Step 3: Conclusion

Forests are depleting at an alarming rate compared to other resources, making option (2) the correct answer.

Quick Tip

Afforestation and sustainable forestry practices are essential to prevent forest depletion.

100. Which of the following is a greenhouse gas?

- (1) Sulphur dioxide
- (2) Nitrogen dioxide
- (3) Carbon dioxide
- (4) Carbon monoxide

Correct Answer: (3) Carbon dioxide

Solution:

Step 1: Understanding greenhouse gases

Greenhouse gases (GHGs) trap heat in the Earth's atmosphere, contributing to global warming and climate change.

Step 2: Identifying greenhouse gases

Carbon dioxide (CO₂) is the primary greenhouse gas responsible for global warming.

Other greenhouse gases include methane (CH₄), water vapor (H₂O), and nitrous oxide (N₂O).

Step 3: Conclusion Among the given options, carbon dioxide (CO₂) is the correct answer.

Quick Tip

Reducing carbon emissions by using renewable energy and afforestation can mitigate global warming.

Part B (Section V) Mathematics

101. A clock starts at noon. By 10 minutes past 5, the hour hand has turned through:

- (1) 145°
- (2) 155°
- (3) 160°
- (4) 175°

Correct Answer: (2) 155°

Solution: Step 1: Understanding the movement of the hour hand

The hour hand of a clock moves 360° in 12 hours. Thus, per hour:

$$\frac{360^\circ}{12} = 30^\circ$$

By 5:00, the hour hand has moved:

$$5 \times 30^\circ = 150^\circ$$

Step 2: Considering additional movement due to 10 minutes

Each minute, the hour hand moves:

$$\frac{30^\circ}{60} = 0.5^\circ$$

In 10 minutes, the hour hand moves:

$$10 \times 0.5^\circ = 5^\circ$$

Step 3: Finding total rotation

Total angle moved by the hour hand:

$$150^\circ + 5^\circ = 155^\circ$$

Thus, the correct answer is 155° .

Quick Tip

To calculate the angle turned by the hour hand, use the formula:

$$\text{Angle} = \text{hours} \times 30^\circ + \left(\frac{\text{minutes}}{60} \right) \times 30^\circ$$

102. The angle between the minute hand and the hour hand of a clock at 08:30 AM is:

- (1) 60°
- (2) 70°
- (3) 75°
- (4) 90°

Correct Answer: (3) 75°

Solution: At 8:30, the minute hand is at the 6 (i.e., 180° from the 12). The hour hand at 8:30 is halfway between 8 and 9, which is $8 \times 30^\circ + \frac{30^\circ}{2} = 240^\circ + 15^\circ = 255^\circ$. The angle between the two hands is:

$$|255^\circ - 180^\circ| = 75^\circ$$

Quick Tip

To calculate the angle between hour and minute hands, find the position of both hands in degrees from the 12 o'clock position and then compute the absolute difference.

103. The value of $\frac{3.6^2 - 1.4^2}{3.6 - 1.4}$ is:

- (1) 1.2
- (2) 3.8
- (3) 5.0
- (4) 4.0

Correct Answer: (3) 5.0

Solution: Step 1: Using the identity for difference of squares

We use the algebraic identity:

$$a^2 - b^2 = (a - b)(a + b)$$

Here, let $a = 3.6$ and $b = 1.4$, so:

$$3.6^2 - 1.4^2 = (3.6 - 1.4)(3.6 + 1.4)$$

Step 2: Substituting values

$$= (3.6 - 1.4)(3.6 + 1.4) = (2.2)(5.0)$$

Step 3: Simplifying the given expression

$$\frac{(2.2)(5.0)}{3.6 - 1.4} = \frac{11.0}{2.2} = 5.0$$

Thus, the correct answer is 5.0.

Quick Tip

When dealing with expressions of the form $\frac{a^2-b^2}{a-b}$, use the difference of squares identity to simplify the calculation.

104. How many digits will be there to the right of the decimal point in the product of 65.425 and 0.03216?

- (1) 6
- (2) 7
- (3) 8
- (4) 9

Correct Answer: (3) 8

Solution: Step 1: Count the number of decimal places in each number

- The number 65.425 has 3 digits after the decimal point.
- The number 0.03216 has 5 digits after the decimal point.

Step 2: Total number of decimal places in the product

When multiplying two decimal numbers, the total number of decimal places in the product is the sum of the decimal places in the factors:

$$3 + 5 = 8$$

Thus, the product of 65.425×0.03216 will have 8 digits after the decimal point.

Quick Tip

When multiplying decimals, the total number of digits to the right of the decimal point is the sum of the digits in each factor.

105. If $(5.6)^2 + 5.6p + (3.4)^2$ is a perfect square, then the value of p is:

- (1) 3.4
- (2) 9.0
- (3) 2.2
- (4) 6.8

Correct Answer: (4) 6.8

Solution: Step 1: Expressing the given expression in quadratic identity form

The given expression is:

$$(5.6)^2 + 5.6p + (3.4)^2$$

For the expression to be a perfect square, it must match the identity:

$$(a + b)^2 = a^2 + 2ab + b^2$$

Comparing with the given expression, we get:

$$2ab = 5.6p$$

Step 2: Solving for p

Here, $a = 5.6$ and $b = 3.4$, so:

$$2(5.6)(3.4) = 5.6p$$

$$38.08 = 5.6p$$

$$p = \frac{38.08}{5.6} = 6.8$$

Thus, the correct answer is 6.8.

Quick Tip

A perfect square is an integer squared. Always check if the given expression forms a square number.

106. Which of the following fractions shows the ratio of a second to an hour?

- (1) 0.00025
- (2) 0.00026
- (3) 0.00027
- (4) 0.00028

Correct Answer: (3) 0.00027

Solution: Step 1: Understanding the ratio of a second to an hour

An hour consists of $60 \times 60 = 3600$ seconds. The ratio of one second to an hour is:

$$\frac{1}{3600}$$

Step 2: Converting to decimal form

Dividing 1 by 3600:

$$\frac{1}{3600} = 0.0002777...$$

Approximating to three decimal places, we get:

$$0.00027$$

Thus, the correct answer is 0.00027.

Quick Tip

To find ratios, express both quantities in the same unit and convert them accordingly.

107. The greatest 4-digit number divisible by 15, 25, 40, and 75 is:

- (1) 9000
- (2) 9200
- (3) 9400
- (4) 9600

Correct Answer: (4) 9600

Solution: To find the greatest 4-digit number divisible by 15, 25, 40, and 75, we first determine their Least Common Multiple (LCM).

Step 1: Prime Factorization

$$15 = 3 \times 5$$

$$25 = 5^2$$

$$40 = 2^3 \times 5$$

$$75 = 3 \times 5^2$$

Step 2: Find LCM

The LCM is obtained by taking the highest powers of all prime factors:

$$LCM = 2^3 \times 3 \times 5^2 = 8 \times 3 \times 25 = 600$$

Step 3: Find the Greatest 4-digit Number Divisible by 600

The largest 4-digit number is 9999. Now, we find the greatest multiple of 600 below 9999:

$$\frac{9999}{600} \approx 16.665$$

Taking the integer part,

$$16 \times 600 = 9600$$

Thus, the greatest 4-digit number divisible by 15, 25, 40, and 75 is 9600.

Quick Tip

To find the largest number divisible by multiple values, first find their LCM, then check the highest multiple within the given limit.

108. The HCF of two numbers is 5, and their LCM is 150. If one of the numbers is 25, the other is:

- (1) 45
- (2) 40
- (3) 30
- (4) 20

Correct Answer: (3) 30

Solution: Step 1: Use HCF and LCM relation

$$\text{HCF} \times \text{LCM} = \text{Product of numbers}$$

$$5 \times 150 = 25 \times x$$

Step 2: Solve for x

$$x = \frac{5 \times 150}{25} = 30$$

Quick Tip

The product of two numbers is always equal to the product of their HCF and LCM.

109. If $\log \frac{a}{b} + \log \frac{b}{a} = \log(a + b)$, then:

(1) $a = b$

(2) $a + b = 1$

(3) $a - b = 0$

(4) $a - b = 1$

Correct Answer: (1) $a = b$

Solution: Step 1: Expand logarithmic terms

$$\log \frac{a}{b} + \log \frac{b}{a} = \log(a + b)$$

Using logarithmic properties:

$$\log a - \log b + \log b - \log a = \log(a + b)$$

Step 2: Simplify equation

$$0 = \log(a + b)$$

Step 3: Solve for a

$$a = b$$

Quick Tip

When logarithmic terms cancel each other, always check if the remaining equation simplifies to an identity.

110. A fruit seller has some oranges. He sells 30% oranges and still has 245 oranges. How many oranges did he have in the beginning?

- (1) 250
- (2) 300
- (3) 350
- (4) 400

Correct Answer: (3) 350

Solution: Let the total number of oranges in the beginning be x . He sells 30% of x , so he has 70% of x remaining. According to the problem, the remaining oranges are 245. Thus,

$$0.7x = 245 \Rightarrow x = \frac{245}{0.7} = 350.$$

Quick Tip

To find the original quantity after a percentage is sold, divide the remaining quantity by the percentage remaining in decimal form.

111. If a number is 10% less than another one which is 10% more than 200, what is the first number?

- (1) 190
- (2) 198
- (3) 202
- (4) 218

Correct Answer: (2) 198

Solution: Step 1: Find the intermediate number

The second number is 10% more than 200:

$$\begin{aligned}\text{New number} &= 200 + \frac{10}{100} \times 200 \\ &= 200 + 20 = 220\end{aligned}$$

Step 2: Find the first number

The first number is 10% less than 220:

$$\begin{aligned}\text{First number} &= 220 - \frac{10}{100} \times 220 \\ &= 220 - 22 = 198\end{aligned}$$

Thus, the correct answer is 198.

Quick Tip

To find a number 10% more or less, multiply the number by 1.1 (for 10% more) or 0.9 (for 10% less).

112. The shadow of a pole is $\sqrt{3}$ times its length. The angle of elevation of the sun is:

- (1) 30
- (2) 45
- (3) 60
- (4) 75

Correct Answer: (3) 60

Solution: Let the height of the pole be h and the length of the shadow be $\sqrt{3}h$. From trigonometry,

$$\tan(\theta) = \frac{\text{height}}{\text{shadow length}} = \frac{h}{\sqrt{3}h} = \frac{1}{\sqrt{3}}.$$

Therefore, $\theta = 60$.

Quick Tip

For a right triangle with opposite side h and adjacent side $\sqrt{3}h$, the angle is 60 based on trigonometric ratios.

113. A shopkeeper gives three successive discounts of 5% each on his sales. The net discount is:

- (1) 15%
- (2) 12.27%
- (3) 17.74%
- (4) 14.26%

Let's assume the marked price of the item is 100.

1. **First Discount:** 5% of 100 is 5.

- Price after the first discount: $100 - 5 = 95$

2. **Second Discount:** 5% of 95 is 4.75.

- Price after the second discount: $95 - 4.75 = 90.25$

3. **Third Discount:** 5% of 90.25 is 4.5125.

- Price after the third discount: $90.25 - 4.5125 = 85.7375$

The final selling price is 85.7375.

The total discount given is:

$$100 - 85.7375 = 14.2625$$

The net discount percentage is:

$$\frac{14.2625}{100} \times 100 = 14.2625\%$$

Rounding to two decimal places, the net discount is approximately 14.26%.

Therefore, the net discount is 14.26%.

The correct answer is (4) 14.26%.

Quick Tip

For successive discounts, use the formula:

$$\text{Net Discount} = 1 - (1 - d_1)(1 - d_2)(1 - d_3)$$

where d_1, d_2, d_3 are the individual discounts.

114. A fruit vendor buys oranges at 5 oranges for Rs. 4 and sells at 4 oranges for Rs. 5. The profit percent is:

- (1) 50%
- (2) 48.56%
- (3) 56.25%
- (4) 62.25%

Correct Answer: (3) 56.25%

Solution: Step 1: Find cost price per orange

$$\text{Cost price of 1 orange} = \frac{4}{5} = 0.8 \text{ Rs}$$

Step 2: Find selling price per orange

$$\text{Selling price of 1 orange} = \frac{5}{4} = 1.25 \text{ Rs}$$

Step 3: Compute profit percent

$$\text{Profit} = 1.25 - 0.8 = 0.45 \text{ Rs}$$

$$\text{Profit \%} = \left(\frac{0.45}{0.8} \times 100 \right) = 56.25\%$$

Quick Tip

The profit percentage is calculated as:

$$\text{Profit \%} = \left(\frac{\text{Profit}}{\text{Cost Price}} \times 100 \right)$$

115. The total number of prime numbers between 20 and 50 is:

- (1) 6
- (2) 7
- (3) 8
- (4) 9

Correct Answer: (2) 7

Solution:

Step 1: Identify prime numbers between 20 and 50

A prime number is a number greater than 1 that has only two factors: 1 and itself.

Checking all numbers between 20 and 50, the prime numbers are:

23, 29, 31, 37, 41, 43, 47

Step 2: Count the prime numbers

The total number of prime numbers in this range is:

7

Thus, the correct answer is 7.

Quick Tip

A prime number has only two factors: 1 and itself.

116. How many two-digit prime numbers have 1 as the second digit?

- (1) 03
- (2) 04
- (3) 05
- (4) 06

Correct Answer: (3) 05

Solution: We need to find two-digit prime numbers that have 1 as the second digit. This means the numbers must be of the form "X1", where X is a digit from 1 to 9.

Let's list the possible two-digit numbers with 1 as the second digit:

- 11
- 21
- 31
- 41
- 51
- 61
- 71

- 81
- 91

Now, let's check which of these numbers are prime:

- 11: Prime
- 21: Not prime ($21 = 3 \times 7$)
- 31: Prime
- 41: Prime
- 51: Not prime ($51 = 3 \times 17$)
- 61: Prime
- 71: Prime
- 81: Not prime ($81 = 9 \times 9 = 3 \times 3 \times 3 \times 3$)
- 91: Not prime ($91 = 7 \times 13$)

The two-digit prime numbers with 1 as the second digit are: 11, 31, 41, 61, and 71.

There are 5 such prime numbers.

Therefore, the number of two-digit prime numbers that have 1 as the second digit is 5.

The correct answer is (3) 05.

Quick Tip

Prime numbers are numbers greater than 1 that have only two factors: 1 and themselves.

117. A train running at the speed of 40 km/hr crosses a post in 18 seconds. The length of the train is:

- (1) 180 m
- (2) 200 m
- (3) 240 m
- (4) 360 m

Correct Answer: (2) 200 m

Solution:

Step 1: Convert speed from km/hr to m/s

The speed of the train is given as 40 km/hr. Converting this to m/s:

$$1 \text{ km/hr} = \frac{5}{18} \text{ m/s}$$
$$40 \times \frac{5}{18} = \frac{200}{18} = 11.11 \text{ m/s}$$

Step 2: Calculate the length of the train

The train crosses a post in 18 seconds, meaning the distance traveled by the train in this time is:

$$\begin{aligned}\text{Distance} &= \text{Speed} \times \text{Time} \\ &= 11.11 \times 18 \\ &= 200 \text{ m}\end{aligned}$$

Thus, the correct answer is 200 m.

Quick Tip

Use $1 \text{ km/hr} = \frac{5}{18} \text{ m/s}$ for conversions.

118. A train 360 m long runs with a speed of 45 km/hr. What time will it take to pass a 140 m long platform?

- (1) 30 sec
- (2) 40 sec
- (3) 45 sec
- (4) 50 sec

Correct Answer: (2) 40 sec

Solution: Step 1: Convert speed to m/s

$$45 \times \frac{5}{18} = 12.5 \text{ m/s}$$

Step 2: Calculate total distance

$$360 + 140 = 500 \text{ m}$$

Step 3: Compute time

$$\text{Time} = \frac{500}{12.5} = 40 \text{ sec}$$

Quick Tip

Total distance covered is sum of train length and platform length.

119. On selling 17 pens for Rs. 720, the loss was equal to the cost price of 5 pens. What is the cost price of one pen?

- (1) Rs. 43
- (2) Rs. 60
- (3) Rs. 55
- (4) Rs. 34

Correct Answer: (2) Rs. 60

Solution: Step 1: Let the cost price of one pen be x

Then, the cost price of 17 pens is:

$$\text{Total Cost Price} = 17x$$

Step 2: Determine the loss

Given that the loss is equal to the cost price of 5 pens, the total loss is:

$$5x$$

Step 3: Calculate the selling price

The selling price of 17 pens is given as Rs. 720, which is obtained after a loss of Rs. $5x$, so:

$$\text{Total Selling Price} = \text{Total Cost Price} - \text{Loss}$$

$$720 = 17x - 5x$$

$$720 = 12x$$

Step 4: Solve for x

$$x = \frac{720}{12} = 60$$

Thus, the cost price of one pen is Rs. 60.

Quick Tip

To find the cost price when loss is given, use the formula:

$$\text{Loss} = \text{Cost Price} - \text{Selling Price}.$$

120. A student obtained 240 marks in an examination and failed by 60 marks. If maximum marks were 600, find the percent passing marks.

- (1) 36%
- (2) 40%
- (3) 45%
- (4) 50%

Correct Answer: (2) 40%

Solution: The student obtained 240 marks and failed by 60 marks. Therefore, the passing marks are:

$$240 + 60 = 300 \text{ marks.}$$

The total maximum marks are 600. To find the percentage of passing marks, use the formula:

$$\text{Percentage} = \frac{\text{Passing Marks}}{\text{Maximum Marks}} \times 100 = \frac{300}{600} \times 100 = 50\%.$$

Quick Tip

The percentage of passing marks is calculated by dividing the passing marks by the total maximum marks, then multiplying by 100.

Part B (Section V) Social Science

121. Who was the last Mughal emperor?

- (1) Babar
- (2) Humayun

- (3) Bahadur Shah Zafar
- (4) Aurangzeb

Correct Answer: (3) Bahadur Shah Zafar

Solution: The last Mughal emperor was Bahadur Shah Zafar. He ruled during the period of the Indian Rebellion of 1857. After the rebellion, the British exiled him to Rangoon (present-day Yangon, Myanmar), thus marking the end of the Mughal Empire.

Quick Tip

Remember the timeline of Mughal emperors. The Mughal dynasty ended with Bahadur Shah Zafar as the last emperor.

122. Which British Governor General introduced the postage stamp in India?

- (1) Lord Dalhousie
- (2) Lord Auckland
- (3) Lord Canning
- (4) Lord William Bentinck

Correct Answer: (1) Lord Dalhousie

Solution: Lord Dalhousie, the British Governor-General of India (1848-1856), is credited with introducing the first postage stamp in India in 1854. This was part of his reforms that modernized India during British colonial rule.

Quick Tip

Lord Dalhousie's administration is associated with many reforms, including the introduction of the postage stamp and the expansion of the railway system in India.

123. Which of the following Gupta rulers was equally great in the art of peace, wars, and personal accomplishments?

- (1) Chandragupta I
- (2) Chandragupta II
- (3) Kumaragupta I
- (4) Skandagupta

Correct Answer: (2) Chandragupta II

Solution: Chandragupta II, also known as Vikramaditya, is considered one of the most outstanding rulers of the Gupta dynasty. He is credited with both military victories and peace-building efforts. His reign saw a period of prosperity and cultural development, with significant achievements in literature, science, and the arts.

Quick Tip

Chandragupta II's reign is often considered the golden age of the Gupta Empire, balancing military success and cultural growth.

124. The Mughal ruler Bahadur Shah II was exiled by the British and sent to:

- (1) Mandalay
- (2) Andaman and Nicobar
- (3) Rangoon
- (4) Hyderabad

Correct Answer: (3) Rangoon

Solution: After the Indian Rebellion of 1857, Bahadur Shah Zafar, the last Mughal emperor, was captured by the British. He was exiled to Rangoon (present-day Yangon) in Myanmar, marking the formal end of the Mughal Empire.

Quick Tip

Bahadur Shah Zafar was exiled to Rangoon after the British suppression of the 1857 rebellion, and the Mughal Empire effectively ended with his exile.

125. The word 'Mansab' stood for:

- (1) a piece of land
- (2) a rank
- (3) an office
- (4) a grade of pay

Correct Answer: (2) a rank

Solution: The word 'Mansab' referred to a rank or position within the Mughal Empire. It was a system used to classify military officers, civil officials, and other individuals of high status. The Mansab system determined their salary and the number of soldiers they commanded.

Quick Tip

The Mansab system was integral to the Mughal administration and served as a means of managing the empire's military and civil officers.

126. Super Nova is -

- (1) an asteroid
- (2) a black hole
- (3) a comet
- (4) a dying star

Correct Answer: (4) a dying star

Solution: Step 1: Understanding a Supernova

A supernova is the explosive death of a star, occurring when it exhausts its nuclear fuel. This leads to either a neutron star or a black hole formation.

Step 2: Explanation of Options

- (1) **Asteroid:** A small rocky object in space, unrelated to supernovae.
- (2) **Black Hole:** It is formed after a supernova, but not the supernova itself.
- (3) **Comet:** An icy body orbiting the Sun, unrelated to a supernova.
- (4) **Dying Star:** The correct answer, as supernovae mark the death of massive stars.

Thus, the correct answer is option (4).

Quick Tip

Supernovae release immense energy and can briefly outshine an entire galaxy.

127. Similipal Tiger Reserve is situated in -

- (1) Madhya Pradesh
- (2) Uttarakhand
- (3) Maharashtra
- (4) Odisha

Correct Answer: (4) Odisha

Solution: Step 1: Location of Similipal Tiger Reserve

Similipal Tiger Reserve is located in Odisha, specifically in the Mayurbhanj district. It is one of India's most significant tiger reserves and a UNESCO Biosphere Reserve.

Step 2: Explanation of Options

- (1) **Madhya Pradesh:** Incorrect, as MP has reserves like Kanha and Bandhavgarh.
- (2) **Uttarakhand:** Incorrect, as it has Jim Corbett Tiger Reserve.
- (3) **Maharashtra:** Incorrect, as it has Tadoba Tiger Reserve.
- (4) **Odisha:** Correct, as Similipal is located here.

Thus, the correct answer is option (4).

Quick Tip

Similipal is home to Bengal Tigers, Asian Elephants, and rare orchids.

128. Gandhi Sagar Dam is built on the river:

- (1) Narmada
- (2) Chambal
- (3) Tapti
- (4) Mahanadi

Correct Answer: (2) Chambal

Solution: Step 1: Understanding Gandhi Sagar Dam

The Gandhi Sagar Dam is constructed on the Chambal River, which flows through Madhya Pradesh and Rajasthan. It is primarily used for irrigation and hydroelectric power generation.

Step 2: Explanation of Options

- (1) **Narmada**: Incorrect, as Sardar Sarovar Dam is on Narmada.
- (2) **Chambal**: Correct, as Gandhi Sagar Dam is on Chambal.
- (3) **Tapti**: Incorrect, as Ukai Dam is on Tapti.
- (4) **Mahanadi**: Incorrect, as Hirakud Dam is on Mahanadi.

Thus, the correct answer is option (2).

Quick Tip

The Chambal River is famous for gharials and is a key ecological habitat.

129. Which state is the largest producer of coal in India?

- (1) Bihar
- (2) Jharkhand
- (3) Madhya Pradesh
- (4) Odisha

Correct Answer: (2) Jharkhand

Solution: Step 1: Understanding Coal Production in India

Jharkhand has the highest coal reserves in India, contributing significantly to the country's coal production. The key coalfields include Jharia, Bokaro, and Dhanbad.

Step 2: Explanation of Options

- (1) **Bihar**: Incorrect, as it has very limited coal reserves.
- (2) **Jharkhand**: Correct, as it has the highest production.
- (3) **Madhya Pradesh**: Incorrect, as it ranks lower in coal production.
- (4) **Odisha**: Incorrect, though it has significant reserves, Jharkhand leads.

Thus, the correct answer is option (2).

Quick Tip

Jharia in Jharkhand is famous for underground coal fires that have been burning for decades.

130. Which among the following National Highways of India is the longest?

- (1) NH 1
- (2) NH 44
- (3) NH 3
- (4) NH 4

Correct Answer: (2) NH 44

Solution:

Step 1: Understanding National Highway 44

NH 44 is the longest highway in India, stretching from Srinagar (Jammu & Kashmir) to Kanyakumari (Tamil Nadu). It covers multiple states and different terrains.

Step 2: Explanation of Options

- (1) **NH 1:** Incorrect, as NH 1 was restructured and is much shorter.
- (2) **NH 44:** Correct, as it is the longest highway.
- (3) **NH 3:** Incorrect, as it is significantly shorter.
- (4) **NH 4:** Incorrect, as NH 4 is shorter than NH 44.

Thus, the correct answer is option (2).

Quick Tip

NH 44 was previously known as NH 7 before the renumbering of highways in 2010.

131. The Constitution of India was adopted by the -

- (1) Governor General
- (2) British Parliament
- (3) Constituent Assembly
- (4) Parliament of India

Correct Answer: (3) Constituent Assembly

Solution: The Constitution of India was adopted by the Constituent Assembly on 26th November 1949. It came into effect on 26th January 1950. The Constituent Assembly was responsible for drafting and adopting the Constitution.

Quick Tip

The Constituent Assembly was responsible for framing the Constitution of India, and it was adopted on 26th November 1949, not by the British Parliament or Governor General.

132. The President of the Indian Union has the same constitutional authority as the -

- (1) British Monarch
- (2) President of USA
- (3) President of Egypt
- (4) President of Russia

Correct Answer: (1) British Monarch

Solution: The President of the Indian Union has the same constitutional authority as the British Monarch. This is because India's political system follows a parliamentary system, and the President is the ceremonial head of state, similar to the British Monarch, with executive powers resting with the Prime Minister and the Cabinet.

Quick Tip

While the President of India has constitutional powers, the real executive authority rests with the Prime Minister and the Council of Ministers. This system is similar to that of the British monarchy.

133. Who among the following is known as the Father of Indian Constitution?

- (1) Dr. B. R. Ambedkar

- (2) Mahatma Gandhi
- (3) Jawaharlal Nehru
- (4) Vallabhbhai Patel

Correct Answer: (1) Dr. B. R. Ambedkar

Solution: Dr. B. R. Ambedkar is known as the Father of the Indian Constitution. He played a key role in drafting the Constitution of India and was the Chairman of the Drafting Committee. His contributions were instrumental in shaping the democratic and social justice framework of the Indian Constitution.

Quick Tip

Dr. B. R. Ambedkar is regarded as the principal architect of the Indian Constitution, and his vision for social justice is reflected in the document.

134. The members of the Rajya Sabha are:

- (1) Elected directly.
- (2) Mostly nominated.
- (3) Elected directly as well as indirectly.
- (4) Elected by members of the legislative assemblies.

Correct Answer: (4) Elected by members of the legislative assemblies.

Solution: Step 1: Understanding Rajya Sabha Elections The Rajya Sabha (Upper House of Parliament) is not directly elected by the public. Instead, members are elected by the legislative assemblies of states and union territories using a proportional representation system.

Step 2: Nomination of Members The President of India nominates 12 members with expertise in various fields such as literature, science, and social service.

Conclusion: Since the majority of Rajya Sabha members are indirectly elected by legislative assemblies, the correct answer is Option (4).

Quick Tip

Rajya Sabha is a permanent body and is never dissolved; one-third of its members retire every two years.

135. Which article of the Constitution vests with residuary powers in the Parliament?

- (1) Article 45
- (2) Article 21A
- (3) Article 148
- (4) Article 248

Correct Answer: (4) Article 248

Solution: Step 1: Definition of Residuary Powers

Residuary powers are those not listed in the Union, State, or Concurrent lists of the Constitution and are exclusively given to the Parliament of India.

Step 2: Explanation of Article 248

Article 248 gives the Parliament the authority to make laws on any matter not mentioned in the State or Concurrent List.

Conclusion: As residuary powers are assigned to the Parliament under Article 248, the correct answer is Option (4).

Quick Tip

In India, unlike in the USA, residuary powers are given to the central government, not the states.

136. Which of the following is not a basic feature of the Indian Constitution?

- (1) Presidential Government
- (2) Parliamentary Government
- (3) Federal Government
- (4) Independence of Judiciary

Correct Answer: (1) Presidential Government

Solution:

Step 1: Understanding Basic Features of the Constitution

The Indian Constitution follows the parliamentary system of governance, where the executive is responsible to the legislature.

Step 2: Presidential vs. Parliamentary System

Unlike the Presidential system (as in the USA), India has a Parliamentary system where the President is a nominal head, and the Prime Minister is the actual executive authority.

Conclusion:

Since India follows a parliamentary system, the correct answer is Option (1) Presidential Government.

Quick Tip

The "Basic Structure Doctrine" was established in the Kesavananda Bharati case (1973).

137. India has -

- (1) Socialistic Economy
- (2) Capitalistic Economy
- (3) Mixed Economy
- (4) Free Economy

Correct Answer: (3) Mixed Economy

Solution: Step 1: Understanding the Economic System

A mixed economy features both public and private sector participation in economic activities.

Step 2: India's Economic Model

India follows a mixed economy model where the government regulates key industries while allowing private sector growth.

Conclusion:

Since India has characteristics of both socialism and capitalism, the correct answer is Option (3).

Quick Tip

India adopted a mixed economy model after independence, influenced by the Nehruvian economic policy.

138. Who is regarded as the founder of scientific socialism?

- (1) Rousseau
- (2) Karl Marx
- (3) Engels
- (4) Lenin

Correct Answer: (2) Karl Marx

Solution: Step 1: Definition of Scientific Socialism

Scientific socialism is a concept developed by Karl Marx that analyzes society and history based on class struggles and economic factors.

Step 2: Karl Marx's Contribution

Karl Marx, along with Friedrich Engels, wrote "The Communist Manifesto" and "Das Kapital," laying the foundation for socialist and communist movements.

Conclusion: As Karl Marx developed the concept of scientific socialism, the correct answer is Option (2).

Quick Tip

Scientific socialism contrasts with utopian socialism, which lacked a clear strategy for achieving social equality.

139. Who is the Chairman of Rajya Sabha?

- (1) Prime Minister
- (2) Finance Minister
- (3) Commerce Minister
- (4) Vice-President of India

Correct Answer: (4) Vice-President of India

Solution: Step 1: Understanding Rajya Sabha Chairmanship

The Chairman of the Rajya Sabha is not elected directly by the members. Instead, the Vice-President of India is the ex-officio Chairman of the Rajya Sabha as per Article 64 of the Indian Constitution.

Step 2: Eliminating Incorrect Options

The Prime Minister (Option 1) heads the government but is not the Chairman of the Rajya Sabha.

The Finance Minister (Option 2) handles financial matters but does not have authority over Rajya Sabha.

The Commerce Minister (Option 3) oversees trade and business policies, not Rajya Sabha.

Step 3: Confirming the Correct Answer Since the Vice-President is the ex-officio Chairman of the Rajya Sabha, the correct answer is Option (4).

Quick Tip

The Vice-President of India acts as the Chairman of Rajya Sabha but does not have voting rights except in case of a tie.

140. Excise Duties are taxes on:

- (1) Sales of commodities
- (2) Export of commodities
- (3) Production of commodities
- (4) Import of commodities

Correct Answer: (3) Production of commodities

Solution: Step 1: Understanding Excise Duty

Excise duty is a tax levied by the government on the manufacture or production of goods within the country. It is different from customs duty, which is imposed on imports and exports.

Step 2: Analyzing the Given Options

Sales of commodities (Option 1) are subject to Goods and Services Tax (GST), not excise duty.

Export of commodities (Option 2) is generally exempt from excise duty.

Import of commodities (Option 4) is taxed under customs duty, not excise duty.

Step 3: Identifying the Correct Answer Since excise duty is levied on the production of goods, Option (3) is correct.

Quick Tip

Excise duty is now largely subsumed under the GST system, but it still applies to certain goods like alcohol and petroleum products.

Part B (section V) English

Direction: Choose the word that is nearest in meaning to the underlined word.

141. Anita is a vociferous defender of labour unions.

- (1) *eloquent*
- (2) *forceful*
- (3) *submissive*
- (4) *amiable*

Correct Answer: (2) *forceful*

Solution: Step 1: Understanding the meaning of "vociferous".

The word "vociferous" describes someone who is loud, outspoken, and forceful in expressing opinions.

Step 2: Evaluating the options.

- (1) *eloquent* means well-spoken but does not necessarily imply forcefulness.
- (2) *forceful* correctly conveys the meaning of being outspoken and assertive.
- (3) *submissive* means passive and is the opposite of "vociferous."
- (4) *amiable* means friendly and does not match the meaning.

Conclusion: Since "vociferous" means expressing opinions loudly and with emphasis, the best choice is (2) *forceful*.

Quick Tip

"Vociferous" means being outspoken, loud, and forceful in expressing opinions. Synonyms include assertive, insistent, and vehement.

142. The critic described the painting as insipid. Choose the word that is nearest in meaning.

- (1) Inspiring
- (2) Uninteresting
- (3) Significant
- (4) Aesthetic

Correct Answer: (2) Uninteresting

Solution: Step 1: Understanding the word "insipid"

The word "insipid" is an adjective that describes something lacking in flavor, excitement, or interest. It is often used to refer to dull or bland things.

Step 2: Analyzing the given options

- (1) **Inspiring:** This means something that motivates or excites, which is the opposite of insipid.
- (2) **Uninteresting:** This means dull or lacking excitement, which is closest in meaning to insipid.
- (3) **Significant:** This means important or meaningful, which does not match insipid.
- (4) **Aesthetic:** This means visually appealing, which is unrelated to insipid.

Step 3: Selecting the correct answer

Since "uninteresting" best matches the meaning of "insipid," option (2) is correct.

Quick Tip

When solving synonym-based questions, eliminate antonyms and unrelated meanings first to narrow down the best choice.

143. The compliant student made sure to compliment her supervisor at every stage. Choose the word that is nearest in meaning.

- (1) Brilliant
- (2) Amicable
- (3) Obliging
- (4) Faithful

Correct Answer: (3) Obliging

Solution: Step 1: Understanding the word "compliant"

The word "compliant" describes a person who easily agrees with others or follows instructions without resistance.

Step 2: Analyzing the given options (1) **Brilliant:** Refers to intelligence or brightness, unrelated to compliant.

(2) **Amicable:** Means friendly, which is close but not the best synonym.

(3) **Obliging:** Means willing to do favors or help others, which matches compliant well.

(4) **Faithful:** Means loyal, which does not fully capture the meaning of compliant.

Step 3: Selecting the correct answer

Since "obliging" means accommodating and willing to help, it is the closest synonym to "compliant."

Quick Tip

"Compliant" is different from "compliment"! The former means obedient, while the latter means giving praise.

144. The treacherous accountant gave away secrets to the rival company. Choose the word that is nearest in meaning.

- (1) Greedy
- (2) Perfect
- (3) Faithful
- (4) Disloyal

Correct Answer: (4) Disloyal

Solution: Step 1: Understanding the word "treacherous"

"Treacherous" describes someone who is untrustworthy, betrays others, or engages in deceit.

Step 2: Analyzing the given options

- (1) **Greedy**: Refers to excessive desire for wealth, which is unrelated.
- (2) **Perfect**: Means flawless, which is not relevant.
- (3) **Faithful**: Means loyal, which is the opposite of treacherous.
- (4) **Disloyal**: Means unfaithful or betraying trust, which matches treacherous.

Step 3: Selecting the correct answer Since "disloyal" is the closest synonym for "treacherous," option (4) is correct.

Quick Tip

Be careful with words that describe betrayal! "Treacherous," "perfidious," and "deceitful" are synonyms.

145. The personalities of the twins are as disparate as day and night. Choose the word that is nearest in meaning.

- (1) Dissimilar
- (2) Similar
- (3) Common
- (4) Incomprehensible

Correct Answer: (1) Dissimilar

Solution: Step 1: Understanding the word "disparate"

"Disparate" refers to things that are fundamentally different and cannot be compared easily.

Step 2: Analyzing the given options

- (1) **Dissimilar**: Means not alike, which matches "disparate."
- (2) **Similar**: Means alike, which is the opposite of "disparate."
- (3) **Common**: Means widespread or usual, unrelated to "disparate."
- (4) **Incomprehensible**: Means difficult to understand, which is different from "disparate."

Step 3: Selecting the correct answer

Since "dissimilar" means "different," it is the best synonym for "disparate."

Quick Tip

"Disparate" is stronger than "different"—it means things that are completely unlike, like "apples and oranges."

Direction:

In this group of words, only one word is correctly spelt. Select the one with the correct spelling.

146. In this group of words, only one word is correctly spelt. Select the one with the correct spelling.

- (1) Dessonance
- (2) Dissonance
- (3) Desonance
- (4) Disonance

Correct Answer: (2) Dissonance

Solution: Step 1: Understanding the meaning of the word

The word "Dissonance" means a lack of harmony among musical notes or disagreement.

Step 2: Identifying the correct spelling

The correct spelling of the word is "Dissonance." The other options are incorrect due to misplaced or missing letters.

Quick Tip

Always check the dictionary for the correct spelling of commonly confused words.

147. In this group of words, only one word is correctly spelt. Select the one with the correct spelling.

- (1) Grigarious
- (2) Gregerious
- (3) Gregarious
- (4) Grigerious

Correct Answer: (3) Gregarious

Solution: Step 1: Understanding the meaning of the word

The word "Gregarious" refers to a person who is sociable and enjoys being in a group.

Step 2: Identifying the correct spelling

The correct spelling is "Gregarious." The other options contain spelling errors.

Quick Tip

Try breaking the word into syllables to spell it correctly: Gre-ga-ri-ous.

148. In this group of words, only one word is correctly spelt. Select the one with the correct spelling.

- (1) Erasable
- (2) Erasible
- (3) Erasibal
- (4) Erascible

Correct Answer: (1) Erasable

Solution: Step 1: Understanding the meaning of the word

"Erasable" means capable of being erased or removed, especially in reference to writing materials.

Step 2: Identifying the correct spelling

The correct spelling is "Erasable." The other options contain errors in their formation.

Quick Tip

Remember the root word "erase" and add "-able" to form the correct spelling.

149. Select the correctly spelled word.

- (1) Alleviate
- (2) Allevate
- (3) Aleviate
- (4) Aleeviate

Correct Answer: (1) Alleviate

Solution: Step 1: Understanding the correct spelling

The word "Alleviate" means to make suffering, deficiency, or a problem less severe. The correct spelling is "Alleviate."

Step 2: Identifying the incorrect options

"Allevate" (Option 2) is incorrect as it misses the "i" after "v."

"Aleviate" (Option 3) is incorrect as it lacks the second "l."

"Aleeviate" (Option 4) is incorrect as it has an extra "e" before "v."

Thus, the correct answer is option (1).

Quick Tip

To remember the spelling, note that "Alleviate" has two "l" letters, and "viate" is a common ending in English.

150. Select the correctly spelled word.

(1) Transitory

(2) Transitory

(3) Tranetory

(4) Tranesetery

Correct Answer: (2) Transitory

Solution: Step 1: Understanding the correct spelling

The word "Transitory" means temporary or not permanent. The correct spelling is "Transitory."

Step 2: Identifying the incorrect options

"Transitory" (Option 1) is incorrect as "tory" is incorrectly written as "tery."

"Tranetory" (Option 3) is incorrect due to the misspelling "Trane" instead of "Trans."

"Tranesetery" (Option 4) is incorrect due to the additional unnecessary letters.

Thus, the correct answer is option (2).

Quick Tip

To recall the spelling, remember "Trans" (as in transition) and "itory" (common English suffix).

Direction:

Choose the word which is opposite in meaning to the underlined word.

151. Choose the word which is opposite in meaning to the underlined word.

Anita has a reputation for veracity, so everyone trusted her.

- (1) candour
- (2) exactitude
- (3) dishonesty
- (4) fidelity

Correct Answer: (3) dishonesty

Solution: Step 1: Understanding the meaning of "veracity"

Veracity means truthfulness or accuracy.

Step 2: Finding the opposite

The opposite of veracity is dishonesty, which refers to deceit or lack of truthfulness.

Step 3: Evaluating other options

Candour means openness and honesty.

Exactitude means precision.

Fidelity means faithfulness or loyalty.

Thus, the correct answer is option (3) dishonesty.

Quick Tip

Remember that "veracity" comes from the Latin "verax," meaning truthful. Its opposite is related to falsehood or deceit.

152. Choose the word which is opposite in meaning to the underlined word.

His volatile personality made it difficult to predict his reaction to anything.

- (1) Capricious

- (2) Erratic
- (3) Fickle
- (4) Calm

Correct Answer: (4) Calm

Solution: Step 1: Understanding the meaning of "volatile"

Volatile means unstable, unpredictable, or likely to change suddenly.

Step 2: Finding the opposite

The opposite of volatile is calm, which refers to stability and steadiness.

Step 3: Evaluating other options

Capricious means unpredictable.

Erratic means inconsistent or unpredictable.

Fickle means changing frequently.

Thus, the correct answer is option (4) Calm.

Quick Tip

A "volatile" situation or personality changes unpredictably, while a "calm" one remains steady.

153. Choose the word which is opposite in meaning to the underlined word.

His prodigal son quickly wasted all of his savings.

- (1) miserly
- (2) extravagant
- (3) lavish
- (4) wasteful

Correct Answer: (1) Miserly

Solution: Step 1: Understanding the meaning of "prodigal"

Prodigal means wasteful or spending money recklessly.

Step 2: Finding the opposite

The opposite of prodigal is miserly, which means being excessively frugal or unwilling to spend money.

Step 3: Evaluating other options

- Extravagant means spending money lavishly.
- Lavish means luxurious or generous.
- Wasteful means using resources carelessly.

Thus, the correct answer is option (1) Miserly.

Quick Tip

The term "prodigal" is often associated with wastefulness, as in "The Prodigal Son" biblical story.

154. Choose the word which is opposite in meaning to the underlined word.

The character Scrooge in *A Christmas Carol* is a misanthrope.

- (1) Cynic
- (2) Philanthropist
- (3) Pessimist
- (4) Recluse

Correct Answer: (2) Philanthropist

Solution: Step 1: Understanding the meaning of "misanthrope"

A misanthrope is a person who dislikes and avoids human society.

Step 2: Finding the opposite

The opposite of misanthrope is philanthropist, which means someone who loves and helps humanity.

Step 3: Evaluating other options

Cynic means someone who distrusts others.

Pessimist means someone who always expects the worst.

Recluse means someone who avoids social contact.

Thus, the correct answer is option (2) Philanthropist.

Quick Tip

The word "misanthrope" comes from Greek, where "misos" means hatred and "anthropos" means human. A philanthropist is the opposite.

Direction:

Select the word in each group that does not properly belong to it.

155. Select the word in each group that does not properly belong to it.

- (1) Ardent
- (2) Enthusiastic
- (3) Passionate
- (4) Apathetic

Correct Answer: (4) Apathetic

Solution: The words "Ardent," "Enthusiastic," and "Passionate" all convey strong emotions and intense feelings about something. However, "Apathetic" means indifferent or lacking interest, which is the opposite in meaning to the other words. Hence, "Apathetic" is the word that does not properly belong to this group.

Quick Tip

To identify the odd one out in a group of words, analyze the meaning and relationship between the words. - If all words except one share a common characteristic (e.g., all express strong emotions except one), the outlier is the correct answer. - Look for antonyms, unrelated meanings, or different categories.

156. Select the word in each group that does not properly belong to it.

- (1) Professional
- (2) Lay person
- (3) Amateur
- (4) Novice

Correct Answer: (1) Professional

Solution: The words "Lay person," "Amateur," and "Novice" all refer to individuals who are either beginners or non-experts in a particular field. In contrast, a "Professional" is someone who has expertise and proficiency in a field. Since "Professional" does not match the category of the other words, it is the odd one out.

Quick Tip

In classification-type questions, identify the pattern among the words: - "Professional" refers to someone with expertise, while "amateur," "novice," and "lay person" indicate a lack of expertise. - The odd one out is typically the word that does not belong to the same category or has an opposite meaning.

Direction:

Pick out the most appropriate word from the given alternatives to fill in the blank to complete the sentence.

157. The mines of the gold rush dug so deeply into the mountain that any more excavation could have had _____ consequences, causing a cave-in or a complete collapse.

- (1) rigid
- (2) devastating
- (3) alienating
- (4) moderate

Correct Answer: (2) devastating

Solution: Step 1: Understanding the context The sentence suggests that excessive mining could cause a collapse.

Step 2: Evaluating the options - "Rigid" means stiff, which does not fit the context. - "Devastating" means causing great damage, which fits perfectly. - "Alienating" means isolating, which is irrelevant. - "Moderate" means mild, which does not align with a cave-in. Thus, the correct answer is **option (2)**.

Quick Tip

When choosing words for blanks, focus on the severity of the described situation.

158. Despite the efforts to _____ the discord between the two factions, the two groups remained sworn enemies.

- (1) intensify
- (2) exploit
- (3) assuage
- (4) excite

Correct Answer: (3) assuage

Solution: Step 1: Understanding the meaning

The sentence suggests that efforts were made to reduce discord.

Step 2: Evaluating the options

"Intensify" means to increase, which is opposite to the intended meaning.

"Exploit" means to take advantage of, which is incorrect.

"Assuage" means to reduce tension, which fits.

"Excite" means to stir emotions, which does not fit.

Thus, the correct answer is **option (3)**.

Quick Tip

Words that indicate reduction or mitigation are suitable when describing efforts to calm situations.

159. To avoid being _____, the teacher often includes jokes and amusing anecdotes in her lectures.

- (1) amusing
- (2) complex
- (3) eccentric
- (4) monotonous

Correct Answer: (4) monotonous

Solution: Step 1: Understanding the sentence

The sentence suggests that the teacher avoids something negative by adding humor.

Step 2: Evaluating the options

”Amusing” means entertaining, which is positive and incorrect.

”Complex” means complicated, which does not fit.

”Eccentric” means unconventional, which is unrelated.

”Monotonous” means dull and repetitive, which makes sense in the context.

Thus, the correct answer is **option (4)**.

Quick Tip

Context clues in the sentence can help eliminate options that do not fit the intended meaning.

160. To properly represent its _____ forms, Manu included, in his paper on the history of renaissance Art, over twenty sections each describing a different style.

(1) diverse

(2) simplest

(3) identical

(4) singular

Correct Answer: (1) diverse

Solution: Step 1: Understanding the sentence

The sentence indicates that Manu included various styles in his paper.

Step 2: Evaluating the options

”Diverse” means varied, which fits.

”Simplest” means the easiest, which does not fit.

”Identical” means the same, which is opposite to the meaning.

”Singular” means unique, which does not match the context.

Thus, the correct answer is **option (1)**.

Quick Tip

Words describing variety and difference should be chosen in contexts that emphasize multiple forms.
