

TANCET Reasoning

Sample Paper – 6

Duration: 60 Minutes

Maximum Marks: 50

Instructions

- This paper contains **50 MCQs** (single correct answer), modelled on the Reasoning sections of the **TANCET MCA** entrance examination.
- **Part A** (Q1–Q25): Analytical Reasoning. **Part B** (Q26–Q50): Logical Reasoning. Each part carries **25 marks**.
- Each correct answer carries **+1 mark**. Each wrong answer carries a penalty of $-\frac{1}{4}$ **mark**. Unattempted questions carry **no penalty**.
- **Only one** option is correct for each question.
- Personal calculators, mobile phones, and electronic gadgets are **strictly prohibited**. Rough work may be done in the space provided on the question paper.

Part A: Analytical Reasoning (Q1–Q25, 25 Marks)

Q1. Observe the pattern in the following number series and identify the missing term.

3, 8, 15, 24, 35, ?

Each term is the product of two consecutive integers with a gap of 2 (i.e., $n \times (n + 2)$ for successive values of n).

- (A) 40
- (B) 42
- (C) 48
- (D) 50

Q2. The series below follows an alternating rule: add 5, then multiply by 2, then add 5, and so on. What is the next term?

3, 8, 16, 21, 42, ?

- (A) 47
- (B) 48



(C) 52

(D) 84

Q3. The series below alternates between perfect squares and perfect cubes. Identify the next term.

4, 8, 9, 27, 16, 64, 25, ?

The diagram below shows the alternating pattern:



(A) 32

(B) 100

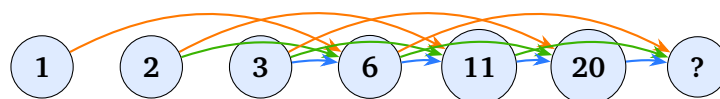
(C) 121

(D) 125

Q4. In the series below, each term (from the 4th onwards) is the sum of the three terms immediately preceding it. Find the missing term.

1, 2, 3, 6, 11, 20, ?

The arrow diagram below illustrates how three consecutive terms combine to give the next:



(A) 33

(B) 37

(C) 39

(D) 41

Q5. The series below is an arithmetic progression with a negative common difference. Find the next term.

45, 38, 31, 24, 17, ?

(A) 14



- (B) 12
- (C) 10
- (D) 8

Q6. The following series lists the *tetrahedral numbers*, where the n -th tetrahedral number is $T_n = \frac{n(n+1)(n+2)}{6}$. What is the next term?

1, 4, 10, 20, 35, 56, ?

- (A) 64
- (B) 70
- (C) 78
- (D) 84

Q7. Complete the analogy by choosing the most appropriate word.

SCULPTOR : CHISEL :: CARPENTER : ?

(The second word is the primary cutting/shaping tool used by the person named first.)

- (A) NAIL
- (B) SAW
- (C) HAMMER
- (D) WOOD

Q8. In the analogy below, the second word is the SI unit used to measure the physical quantity named in the first word. Identify the missing term.

NEWTON : FORCE :: JOULE : ?

- (A) POWER
- (B) MASS
- (C) VELOCITY
- (D) ENERGY

Q9. The first pair relates a sport to the surface on which it is played. Apply the same logic to find the missing word.



CRICKET : PITCH :: SWIMMING : ?

- (A) POOL
- (B) COURT
- (C) RING
- (D) TRACK

Q10. In the pair below, the second word is the antonym (opposite) of the first. Apply the same rule to find the missing antonym.

VICTORY : DEFEAT :: KNOWLEDGE : ?

- (A) WISDOM
- (B) TRUTH
- (C) IGNORANCE
- (D) INTELLIGENCE

Q11. The first pair names a country and the major river most closely associated with its ancient civilisation. Apply the same relationship to complete the analogy.

INDIA : GANGES :: EGYPT : ?

- (A) AMAZON
- (B) MISSISSIPPI
- (C) NILE
- (D) THAMES

Q12. In a certain code, each letter of a word is shifted **5 positions forward** in the English alphabet (wrapping around: V→A, W→B, X→C, Y→D, Z→E). For example, the word COLD is coded as HTQI. Using this rule, how will the word **WARM** be coded?

- (A) BFXR
- (B) BFWQ
- (C) CGWR



(D) BFWR

Q13. In a particular code, only the letters at **odd positions** (1st, 3rd, 5th, 7th, ...) of a word are retained to form the code. For example, PENCIL (6 letters) → letters at positions 1, 3, 5 are P, N, I → code = PNI. Using this rule, what is the code for **BRACKET**?

(A) BAK

(B) BAKT

(C) RACK

(D) BKT

Q14. In a code, the **first letter of the word is moved to the end**; all other letters retain their original order. For example, PLACE is coded as LACEP. Using this rule, what is the code for **MAGIC**?

(A) AGICM

(B) MAGCI

(C) GICAM

(D) ICMAG

Q15. In a special code: every *vowel* is represented by * and every *consonant* is replaced by its **position number from the end of the alphabet** (Z= 1, Y= 2, ..., A= 26). For example, the word CAT is coded as 24 * 7 (C is the 24th letter from the end; A is a vowel → *; T is the 7th letter from the end). Using this rule, what is the code for **CAP**?

(A) 24!11

(B) 23*11

(C) 24*11

(D) 25*12

Q16. In a code, the **2nd and 4th letters** of a word are swapped while all other letters remain in place. For example, STONE (S,T,O,N,E) → swap T (2nd) and N (4th) → SNOTE. Using this rule, what is the code for **PLANE**?



- (A) PLNAE
- (B) PNALE
- (C) PANEL
- (D) PAELN

Q17. Three of the following four items share a common property. Identify the **odd one out**.

BRASS, COPPER, IRON, GOLD

- (A) BRASS
- (B) COPPER
- (C) IRON
- (D) GOLD

Q18. Three of the following four countries are located on the same continent. Identify the **odd one out**.

BRAZIL, ARGENTINA, PERU, EGYPT

- (A) BRAZIL
- (B) ARGENTINA
- (C) EGYPT
- (D) PERU

Q19. In each group below, the letters follow a pattern where each letter is 4 positions ahead of the previous letter in the English alphabet. Three groups follow this rule; one does not. Identify the **odd one out**.

BFJ, CGK, DHL, EIN

- (A) BFJ
- (B) CGK
- (C) DHL
- (D) EIN



Q20. Three of the following four numbers are multiples of 11. Identify the **odd one out**.

22, 63, 44, 88

(A) 22

(B) 63

(C) 44

(D) 88

Q21. Five people P, Q, R, S, and T are arranged by weight. Study the clues and find who is the **3rd heaviest**.

- T is the heaviest.
- P is heavier than R; R is heavier than Q.
- S is the lightest.
- Q is lighter than R.

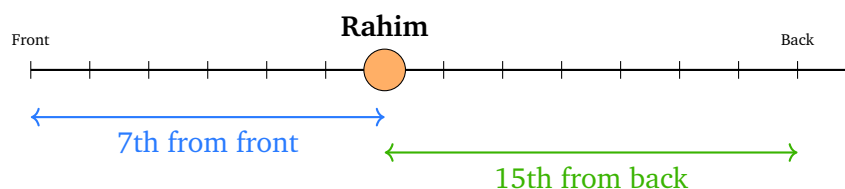
(A) P

(B) Q

(C) S

(D) R

Q22. In a row of students, Rahim is **7th from the front** and **15th from the back**. How many students are there in the row in total?



(A) 21

(B) 22

(C) 20

(D) 23



Q23. In a class, Priya's rank is **12th from the top** and **19th from the bottom**. How many students are there in the class?

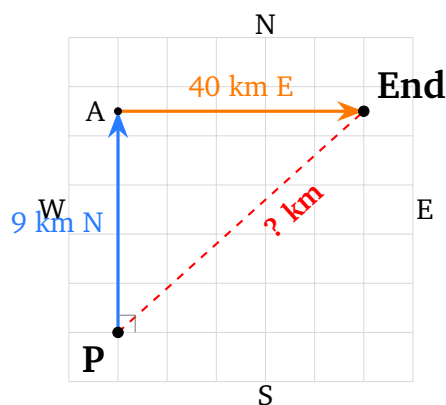
- (A) 31
- (B) 28
- (C) 30
- (D) 29

Q24. Four people — Mona, Rina, Tina, and Sona — are standing in a row. Study the clues and find **Sona's position from the left**.

- Tina is 3rd from the left.
- Sona is immediately to the right of Tina.
- Rina is immediately to the left of Tina.
- Mona is at the extreme left.

- (A) 3rd
- (B) 4th
- (C) 5th
- (D) 2nd

Q25. A person walks **9 km North** from point P, then turns and walks **40 km East**. What is the straight-line distance from the starting point P to the current position?



- (A) 41 km



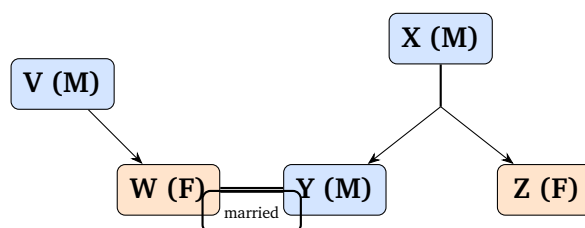
- (B) 39 km
- (C) 43 km
- (D) 40 km

Part B: Logical Reasoning (Q26–Q50, 25 Marks)

- Q26.** Pointing to a girl, Preethi says, “She is the daughter of the husband of my mother’s only sister.” How is the girl related to Preethi?
- (A) Sister
 - (B) Daughter
 - (C) Cousin
 - (D) Niece
- Q27.** A is the father of B. C is the mother of A. D is the son of B. What is C’s relation to D?
- (A) Great-grandmother
 - (B) Grandmother
 - (C) Aunt
 - (D) Mother
- Q28.** Study the family information carefully and answer the question.

Family Details:

- X is the father of Y.
- Y is married to W.
- W’s father is V.
- Z is the sister of Y.



What is Z's relation to W?

- (A) Sister
- (B) Sister-in-law
- (C) Cousin
- (D) Niece

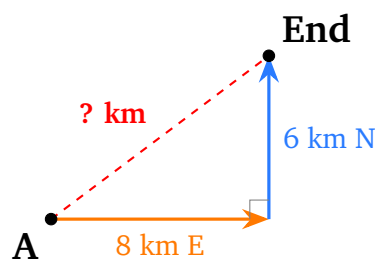
Q29. A coded family relation scheme is defined as follows:

- $A \diamond B$ means A is the *father* of B.
- $A \clubsuit B$ means A is the *mother* of B.
- $A \blacklozenge B$ means A is the *brother* of B.

Given the expression: $P \blacklozenge Q \diamond R \clubsuit S$, what is P's relation to S?

- (A) Brother-in-law
- (B) Father
- (C) Nephew
- (D) Uncle

Q30. A girl starts from point A, walks **8 km East**, then turns and walks **6 km North**. What is the straight-line distance between her current position and the starting point A?



- (A) 8 km
- (B) 12 km
- (C) 10 km
- (D) 14 km



Q31. Mohan initially faces **South**. He turns **90° clockwise**, then turns **90° clockwise** again, then turns **180° counter-clockwise**. In which direction is he finally facing?

- (A) North
- (B) South
- (C) East
- (D) West

Q32. At sunrise, Vijay faces the rising sun (**East**). He turns **90° to his right** and walks 10 m. He then turns **90° to his right** again. In which direction is he now facing?

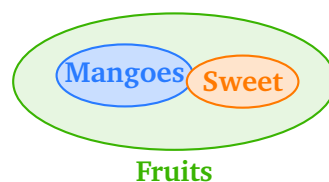
- (A) North
- (B) East
- (C) South
- (D) West

Q33. Statements:

All mangoes are fruits.
Some fruits are sweet.

Conclusions:

- I. Some mangoes are sweet.
- II. All mangoes are sweet.



Which conclusion(s) follow?

- (A) Both I and II follow
- (B) Neither I nor II follows
- (C) Only I follows



(D) Only II follows

Q34. Statements:

All teachers are educated.

All educated people are responsible.

Conclusions:

I. All teachers are responsible.

II. Some responsible people are teachers.

Which conclusion(s) follow?

(A) Only I follows

(B) Only II follows

(C) Both I and II follow

(D) Neither follows

Q35. Statements:

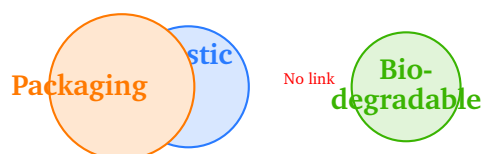
No plastic is biodegradable.

Some packaging is plastic.

Conclusions:

I. Some packaging is not biodegradable.

II. No packaging is biodegradable.



Which conclusion(s) follow?

(A) Only I follows

(B) Only II follows

(C) Both I and II follow

(D) Neither follows

Q36. Statements:

Some rivers are polluted.



All polluted things harm ecosystems.

Conclusions:

I. Some rivers harm ecosystems.

II. All rivers harm ecosystems.

Which conclusion(s) follow?

(A) Both I and II follow

(B) Neither follows

(C) Only II follows

(D) Only I follows

Q37. Statements:

All computers are machines.

Some machines are electric.

Conclusions:

I. Some computers are electric.

II. Some electric things are machines.

Which conclusion(s) follow?

(A) Both I and II follow

(B) Only II follows

(C) Only I follows

(D) Neither follows

Q38. Statement: “The government should increase tax on tobacco products.”

Assumptions:

I. Increased tax will discourage the use of tobacco products.

II. Tobacco products are currently completely free of any tax.

Which assumption(s) are implicit in the statement?

(A) Only I is implicit

(B) Only II is implicit

(C) Both I and II are implicit



(D) Neither is implicit

Q39. Statement: “To reduce obesity among youth, schools should ban junk food in canteens.”

Conclusions:

- I. Junk food contributes to obesity.
- II. Youth spend considerable time in school.

Which conclusion(s) are implicit in the statement?

- (A) Only I follows
- (B) Only II follows
- (C) Both I and II follow
- (D) Neither follows

Q40. Statement: “Strict action should be taken against those who dump garbage in public places.”

Courses of Action:

- I. Impose heavy fines for dumping garbage in public places.
- II. Organise regular cleanliness drives and create awareness campaigns.

Which course(s) of action follow logically?

- (A) Only I follows
- (B) Only II follows
- (C) Neither follows
- (D) Both I and II follow

Q41. Statement: “All ATMs in the city have been disabled due to a technical failure.”

Conclusions:

- I. People in the city cannot withdraw cash from ATMs today.
- II. Banks will immediately deploy extra tellers at all branches.

Which conclusion(s) follow?

- (A) Both I and II follow



- (B) Only I follows
- (C) Only II follows
- (D) Neither follows

Q42. Statement: “Farmers in the region are in severe distress due to consecutive droughts.”

Courses of Action:

- I. Provide immediate financial assistance and relief to affected farmers.
- II. Launch long-term drought-resistant crop programmes for future seasons.

Which course(s) of action follow logically?

- (A) Both I and II follow
- (B) Only I follows
- (C) Only II follows
- (D) Neither follows

Directions (Q43–Q48): Read the following seating arrangement carefully and answer the questions that follow.

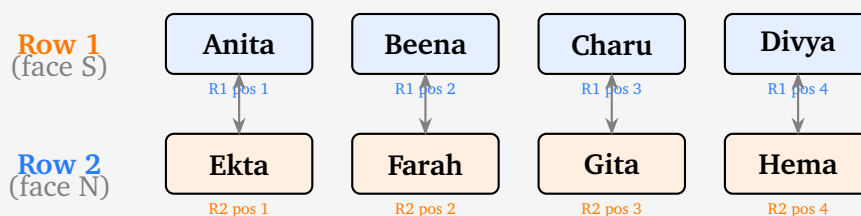


Seating Arrangement:

Eight people sit in **two parallel rows of 4 each**. Row 1 (Anita, Beena, Charu, Divya) face **South**. Row 2 (Ekta, Farah, Gita, Hema) face **North**. The two rows face each other so that each person in Row 1 is directly opposite one person in Row 2.

Clues:

- Anita is at the **left end** of Row 1.
- Gita sits directly opposite Beena.
- Hema is at the **right end** of Row 2.
- Farah is immediately to the **left of Gita** in Row 2.
- Ekta is at the **left end** of Row 2.

**Derived arrangement:**

Row 1 (L→R): Anita(1) – Beena(2) – Charu(3) – Divya(4)

Row 2 (L→R): Ekta(1) – Farah(2) – Gita(3) – Hema(4)

Facing pairs: Anita ↔ Hema; Beena ↔ Gita; Charu ↔ Farah; Divya ↔ Ekta.

Q43. Who sits **directly opposite** Anita in Row 2?

- (A) Ekta
- (B) Farah
- (C) Gita
- (D) Hema

Q44. Who is **immediately to the right of Ekta** in Row 2?

- (A) Farah
- (B) Gita



- (C) Hema
- (D) Charu

Q45. Who sits **directly opposite** Farah in Row 1?

- (A) Anita
- (B) Charu
- (C) Beena
- (D) Divya

Q46. If **Beena and Charu swap their seats** in Row 1, who will then sit directly opposite Gita?

- (A) Beena
- (B) Divya
- (C) Charu
- (D) Anita

Q47. How many people sit **between Anita and Divya** in Row 1?

- (A) 2
- (B) 1
- (C) 3
- (D) 0

Q48. Who is at the **right end of Row 2**?

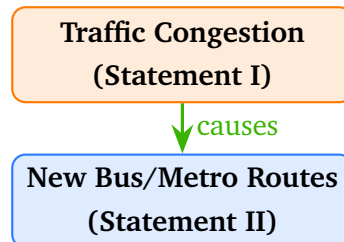
- (A) Ekta
- (B) Farah
- (C) Gita
- (D) Hema

Q49. Study the two statements and decide the cause–effect relationship.



Statement I: City traffic congestion has worsened significantly during peak hours.

Statement II: The government is planning to introduce additional bus routes and metro services.



Options:

- (A) Statement II is the cause; Statement I is the effect.
- (B) Statement I is the cause; Statement II is the effect.
- (C) Both are effects of a common cause.
- (D) Both are independent causes.

Q50. Assertion (A): Junk food consumption should be limited.

Reason (R): Junk food is always made with harmful chemicals.

Select the correct option:

- (A) Both A and R are true, and R is the correct reason for A.
- (B) Both A and R are true, but R is NOT the correct reason for A.
- (C) A is true, but R is false.
- (D) A is false, but R is true.



Detailed Solutions

Solution

Q1 — Number Series: $N(N + 2)$ Product Series

Concept — Product Pattern: Each term equals $n \times (n + 2)$ for $n = 1, 2, 3, \dots$, giving the products of integers that are 2 apart.

Step 1 — Verify the pattern:

$$1 \times 3 = 3, \quad 2 \times 4 = 8, \quad 3 \times 5 = 15, \quad 4 \times 6 = 24, \quad 5 \times 7 = 35.$$

Step 2 — Next term ($n = 6$): $6 \times 8 = 48$.

Why other options are wrong:

- (A) 40: Would require 5×8 – mixing different indices.
- (B) 42: $6 \times 7 = 42$ – wrong: the two factors must differ by 2, not 1.
- (D) 50: No integer pair $(n, n + 2)$ with product 50 follows in sequence.

Answer: (C) [Go Back to Q 1](#)

Solution

Q2 — Number Series: Alternating $+5$ and $\times 2$

Concept — Alternating Operations: The series alternates between two operations: add 5, then multiply by 2.

Step 1 — Trace the pattern:

$$3 \xrightarrow{+5} 8 \xrightarrow{\times 2} 16 \xrightarrow{+5} 21 \xrightarrow{\times 2} 42 \xrightarrow{+5} 47$$

Step 2 — Confirm: The 5th term is 42 and the next operation is $+5$: $42 + 5 = 47$.

Why other options are wrong:

- (B) 48: Would require $42 + 6$ – wrong step size.
- (C) 52: Would require $42 + 10$ – no such rule.
- (D) 84: Would apply $\times 2$ again to 42, but the next operation is $+5$.

Answer: (A) [Go Back to Q 2](#)



Solution**Q3 — Number Series: Alternating Perfect Squares and Cubes**

Concept — Interleaved Sequences: The series interleaves two sub-sequences: even-indexed terms are perfect cubes and odd-indexed terms are perfect squares, each using the integers 2, 3, 4, 5, ... in order.

Step 1 — Identify the sub-sequences:

- Squares at positions 1, 3, 5, 7: $2^2 = 4$, $3^2 = 9$, $4^2 = 16$, $5^2 = 25$.
- Cubes at positions 2, 4, 6, 8: $2^3 = 8$, $3^3 = 27$, $4^3 = 64$, $5^3 = ?$

Step 2 — Next term (position 8, cube): $5^3 = 125$.

Why other options are wrong:

- (A) 32: $2^5 = 32$ – uses powers of 2, not the cube sub-sequence.
- (B) 100: $10^2 = 100$ – a perfect square, not the cube needed here.
- (C) 121: $11^2 = 121$ – again a perfect square, not a cube.

Answer: (D) [Go Back to Q 3](#)

Solution**Q4 — Number Series: Sum of Three Preceding Terms**

Concept — Tribonacci-Style Recurrence: Each term from the 4th onward equals the sum of the three immediately preceding terms.

Step 1 — Verify:

$$1 + 2 + 3 = 6, \quad 2 + 3 + 6 = 11, \quad 3 + 6 + 11 = 20. \checkmark$$

Step 2 — Next term:

$$6 + 11 + 20 = 37.$$

Why other options are wrong:

- (A) 33: Sums only two terms ($14 + 20 = 34$) or uses wrong predecessors.
- (C) 39: Off by 2 – perhaps incorrectly adds 3, 6, 11 with an extra 1.
- (D) 41: Overcounts by 4.

Answer: (B) [Go Back to Q 4](#)



Solution**Q5 — Number Series: Arithmetic Progression ($d = -7$)**

Concept — Arithmetic Progression with Negative Common Difference: Each term decreases by a fixed constant d .

Step 1 — Find the common difference: $38 - 45 = -7$. Check: $31 - 38 = -7$, $24 - 31 = -7$, $17 - 24 = -7$. ✓

Step 2 — Next term: $17 + (-7) = 10$.

Why other options are wrong:

- (A) 14: Subtracts only 3 from 17 – wrong difference.
- (B) 12: Subtracts 5 – not the common difference.
- (D) 8: Subtracts 9 – one too many.

Answer: (C) [Go Back to Q 5](#)

Solution**Q6 — Number Series: Tetrahedral Numbers**

Concept — Tetrahedral Numbers: The n -th tetrahedral number is $T_n = \frac{n(n+1)(n+2)}{6}$.

Step 1 — Verify the sequence:

$$T_1 = 1, T_2 = 4, T_3 = 10, T_4 = 20, T_5 = 35, T_6 = 56.$$

Step 2 — Next term ($n = 7$):

$$T_7 = \frac{7 \times 8 \times 9}{6} = \frac{504}{6} = 84.$$

Why other options are wrong:

- (A) 64: $4^3 = 64$ – a cube, not a tetrahedral number.
- (B) 70: T_7 for an incorrect formula; $7 \times 10 = 70$ misapplies a 2-factor product.
- (C) 78: No integer n gives $T_n = 78$ in this sequence.

Answer: (D) [Go Back to Q 6](#)



Solution**Q7 — Analogy: Tool–User Relationship**

Concept — Craftsperson’s Primary Tool: The second word is the primary cutting or shaping tool used by the tradesperson named first.

Step 1 — Identify the relationship: A SCULPTOR shapes stone/wood with a CHISEL. A CARPENTER’s primary cutting tool is the **SAW**.

Why other options are wrong:

- (A) NAIL: A nail is a fastener, not a cutting/shaping tool.
- (C) HAMMER: A hammer drives nails; it is used alongside other tools but is not the primary cutting tool.
- (D) WOOD: Wood is the material worked on, not a tool.

Answer: (B) [Go Back to Q 7](#)

Solution**Q8 — Analogy: Scientific Unit**

Concept — SI Unit–Quantity Relationship: The analogy pairs an SI unit with the physical quantity it measures.

Step 1 — Identify the relationship: NEWTON is the SI unit of FORCE. JOULE is the SI unit of **ENERGY**.

Why other options are wrong:

- (A) POWER: The SI unit of power is the Watt, not the Joule.
- (B) MASS: The SI unit of mass is the kilogram.
- (C) VELOCITY: The SI unit of velocity is metres per second (m/s).

Answer: (D) [Go Back to Q 8](#)

Solution**Q9 — Analogy: Game Playing Surface**

Concept — Sport–Venue Relationship: The second word names the specific surface or area where the sport is played.

Step 1 — Identify the relationship: CRICKET is played on a PITCH. SWIMMING is done in a **POOL**.



Why other options are wrong:

- (B) COURT: A court is used for tennis, badminton, basketball, etc.
- (C) RING: A ring is used for boxing or wrestling.
- (D) TRACK: A track is used for athletics (running) or cycling.

Answer: (A) [Go Back to Q 9](#)

Solution

Q10 — Analogy: Word–Antonym

Concept — Antonym Relationship: The second word is the direct opposite (antonym) of the first.

Step 1 — Identify the relationship: VICTORY ↔ DEFEAT (antonyms). Therefore KNOWLEDGE ↔ IGNORANCE.

Why other options are wrong:

- (A) WISDOM: Wisdom is a form of applied knowledge – a related concept, not an antonym.
- (B) TRUTH: Truth relates to accuracy; it is not the opposite of knowledge.
- (D) INTELLIGENCE: Intelligence is the capacity to acquire knowledge – again related, not opposite.

Answer: (C) [Go Back to Q 10](#)

Solution

Q11 — Analogy: Country–River

Concept — Civilisation–River Relationship: The second word names the river most historically and culturally associated with the country's ancient civilisation.

Step 1 — Identify the relationship: INDIA's ancient civilisation centred on the GANGES. EGYPT's ancient civilisation centred on the NILE.

Why other options are wrong:

- (A) AMAZON: The Amazon flows through South America (Brazil, Peru, etc.), not Egypt.
- (B) MISSISSIPPI: The Mississippi is North America's major river.



- (D) THAMES: The Thames flows through England.

Answer: (C) [Go Back to Q 11](#)

Solution

Q12 — Coding–Decoding: +5 Letter Shift (Caesar Cipher)

Concept — Caesar Cipher with Wrap-around (+5): Each letter shifts 5 positions forward; letters beyond Z wrap back from A.

Step 1 — Verify with the example: COLD: $C(3)+5=H(8)$; $O(15)+5=T(20)$; $L(12)+5=Q(17)$; $D(4)+5=I(9) \rightarrow HTQI$. ✓

Step 2 — Encode WARM:

$$W(23) + 5 = B(2), \quad A(1) + 5 = F(6), \quad R(18) + 5 = W(23), \quad M(13) + 5 = R(18)$$

WARM $\rightarrow$ BFWR.

Why other options are wrong:

- (A) BFXR: X would be $R+6$, not $R+5$.
- (B) BFWQ: Q would be $M+4$, not $M+5$.
- (C) CGWR: C would be $W+6$ – off by 1.

Answer: (D) [Go Back to Q 12](#)

Solution

Q13 — Coding–Decoding: Odd-Position Letters Only

Concept — Positional Letter Extraction: Retain only letters at positions 1, 3, 5, 7, ... (counting from the left).

Step 1 — Apply to BRACKET (7 letters):

Pos:	1	2	3	4	5	6	7
Let:	B	R	A	C	K	E	T
Keep?	✓	–	✓	–	✓	–	✓

Letters at odd positions: B(1), A(3), K(5), T(7) $\rightarrow$ code = **BAKT**.

Why other options are wrong:

- (A) BAK: Omits the 7th-position letter T.



- (C) RACK: R is at position 2 (even) – should not be included.
- (D) BKT: Skips A at position 3.

Answer: (B) [Go Back to Q 13](#)

Solution

Q14 — Coding–Decoding: First Letter Moved to End

Concept — Rotation Cipher: Remove the first letter and append it at the end; all other letters retain their order.

Step 1 — Verify with the example: PLACE: remove P, move to end $\rightarrow$ LACE + P = LACEP. ✓

Step 2 — Encode MAGIC (M-A-G-I-C): Remove M, append to end: A-G-I-C + M = AGICM.

Why other options are wrong:

- (B) MAGCI: The letters are rearranged internally – does not match the rule.
- (C) GICAM: Removes the first two letters (M and A) – not the rule.
- (D) ICMA G: A different scramble; no valid application of the rule produces this.

Answer: (A) [Go Back to Q 14](#)

Solution

Q15 — Coding–Decoding: Vowels as *, Consonants by Position from End

Concept — Mixed Symbol Code: Vowels (A, E, I, O, U) $\rightarrow$ *. Consonants $\rightarrow$ their position number counting backwards from Z (Z=1, Y=2, ..., A=26).

Step 1 — Verify with CAT: C: position from start = 3 $\Rightarrow$ from end = $26 - 3 + 1 = 24$. A: vowel $\rightarrow$ *. T: position from start = 20 $\Rightarrow$ from end = $26 - 20 + 1 = 7$. Code = 24 * 7. ✓

Step 2 — Encode CAP: C: from end = 24. A: vowel $\rightarrow$ *. P: position from start = 16 $\Rightarrow$ from end = $26 - 16 + 1 = 11$. Code = 24 * 11.

Why other options are wrong:

- (A) 24!11: Uses ! instead of * for the vowel.
- (B) 23*11: 23 would be D's position from the end (D=4 from start $\Rightarrow$ 23 from end), not C's.
- (D) 25*12: 25 is B's position from end; 12 is O's position from end – neither matches



C or P.

Answer: (C) [Go Back to Q 15](#)

Solution

Q16 — Coding–Decoding: Swap 2nd and 4th Letters

Concept — Positional Swap: Exchange the 2nd and 4th letters of the word; all other letters stay in place.

Step 1 — Verify with STONE (S,T,O,N,E): 2nd = T; 4th = N. Swap → S,N,O,T,E = SNOTE. ✓

Step 2 — Encode PLANE (P,L,A,N,E): 2nd = L; 4th = N. Swap → P,N,A,L,E = PNALE.

Why other options are wrong:

- (A) PLNAE: Swaps the 3rd and 4th letters (A and N), not the 2nd and 4th.
- (C) PANEL: Completely rearranges the letters – not a simple 2nd/4th swap.
- (D) PAELN: No valid single-swap of the 2nd and 4th positions produces this.

Answer: (B) [Go Back to Q 16](#)

Solution

Q17 — Classification: Alloy vs. Pure Metals

Concept — Alloy vs. Elemental Metal: An alloy is a mixture of two or more metals (or a metal and a non-metal). A pure metal is a single chemical element.

Step 1 — Classify each item: COPPER – pure metal (element Cu). IRON – pure metal (element Fe). GOLD – pure metal (element Au). BRASS – an **alloy** of copper and zinc, not a pure element.

Step 2 — Odd one out: BRASS – it is the only alloy; the other three are pure metals.

Why other options are wrong:

- (B) COPPER: A pure element (atomic number 29).
- (C) IRON: A pure element (atomic number 26).
- (D) GOLD: A pure element (atomic number 79).

Answer: (A) [Go Back to Q 17](#)



Solution**Q18 — Classification: Continent**

Concept — Geographical Classification by Continent: Three countries share the same continent; one belongs to a different continent.

Step 1 — Identify the continent of each country: BRAZIL – South America. ARGENTINA – South America. PERU – South America. EGYPT – **Africa**.

Step 2 — Odd one out: EGYPT – it is in Africa while the other three are in South America.

Why other options are wrong:

- (A) BRAZIL: South America.
- (B) ARGENTINA: South America.
- (D) PERU: South America.

Answer: (C) [Go Back to Q 18](#)

Solution**Q19 — Classification: Letter Groups with +4 Gap**

Concept — Arithmetic Letter Sequence: In each group, each successive letter should be 4 positions ahead of the previous one.

Step 1 — Check each group: BFJ: $B(2)+4=F(6)+4=J(10)$. ✓

CGK: $C(3)+4=G(7)+4=K(11)$. ✓

DHL: $D(4)+4=H(8)+4=L(12)$. ✓

EIN: $E(5)+4=I(9)+4=M(13)$. But the given 3rd letter is N(14) $\neq$ M. **Does NOT follow the rule.**

Step 2 — Odd one out: EIN – the 3rd letter should be M, not N.

Why other options are wrong:

- (A) BFJ: Each gap is exactly 4.
- (B) CGK: Each gap is exactly 4.
- (C) DHL: Each gap is exactly 4.

Answer: (D) [Go Back to Q 19](#)



Solution**Q20 — Classification: Multiples of 11**

Concept — Divisibility by 11: A number is a multiple of 11 if it equals $11k$ for some integer k .

Step 1 — Test each number: $22 = 11 \times 2 \checkmark$. $44 = 11 \times 4 \checkmark$. $88 = 11 \times 8 \checkmark$. $63 \div 11 = 5.727 \dots$ – **not a multiple of 11** ($11 \times 5 = 55$, $11 \times 6 = 66$).

Step 2 — Odd one out: 63 is not a multiple of 11.

Why other options are wrong:

- (A) 22: 11×2 – a multiple of 11.
- (C) 44: 11×4 – a multiple of 11.
- (D) 88: 11×8 – a multiple of 11.

Answer: (B) [Go Back to Q 20](#)

Solution**Q21 — Ranking/Ordering: Weight Order (3rd Heaviest)**

Concept — Linear Ordering from Comparative Clues: Build a chain from the given inequality statements.

Step 1 — Chain the clues: From “P heavier than R; R heavier than Q; S is lightest; T is heaviest”: $T > P > R > Q > S$.

Step 2 — Identify the 3rd heaviest: Order: T(1st), P(2nd), R(3rd), Q(4th), S(5th).
The 3rd heaviest = R.

Why other options are wrong:

- (A) P: P is the 2nd heaviest, not the 3rd.
- (B) Q: Q is the 4th heaviest.
- (C) S: S is the lightest (5th).

Answer: (D) [Go Back to Q 21](#)

Solution**Q22 — Ranking/Ordering: Total in Row from Both Ends**

Concept — Position from Both Ends Formula: Total = (position from front) + (posi-



tion from back) -1 .

Step 1 — Apply the formula: $\text{Total} = 7 + 15 - 1 = 21$.

Step 2 — Verify: 6 students are ahead of Rahim; 14 are behind; Rahim himself: $6 + 1 + 14 = 21$. ✓

Why other options are wrong:

- (B) 22: Adds $7 + 15 = 22$ without subtracting 1 for Rahim counted in both ranks.
- (C) 20: Subtracts 2 instead of 1.
- (D) 23: Overcounts by 2.

Answer: (A) [Go Back to Q 22](#)

Solution

Q23 — Ranking/Ordering: Class Size from Top and Bottom Ranks

Concept — Rank from Top and Bottom: Total students = (rank from top) + (rank from bottom) -1 .

Step 1 — Apply the formula: $\text{Total} = 12 + 19 - 1 = 30$.

Step 2 — Verify: 11 students rank above Priya; 18 rank below; Priya herself: $11 + 1 + 18 = 30$. ✓

Why other options are wrong:

- (A) 31: Adds $12 + 19 = 31$ without subtracting 1.
- (B) 28: Subtracts 3 instead of 1.
- (D) 29: Off by 1 – perhaps erroneously uses $12 + 18 - 1 = 29$.

Answer: (C) [Go Back to Q 23](#)

Solution

Q24 — Ranking/Ordering: Sona's Position in Row

Concept — Sequential Position Deduction: Use each positional clue to fix every person's seat.

Step 1 — Fix positions: Tina is 3rd from the left $\Rightarrow$ position 3.

Rina is immediately to the left of Tina $\Rightarrow$ position 2.

Sona is immediately to the right of Tina $\Rightarrow$ position 4.



Mona is at the extreme left $\Rightarrow$ position 1.

Step 2 — Arrangement:

1: Mona 2: Rina 3: Tina 4: **Sona**

Sona is at the **4th position from the left**.

Why other options are wrong:

- (A) 3rd: Tina occupies 3rd position, not Sona.
- (C) 5th: There are only 4 people in the row.
- (D) 2nd: Rina is at 2nd position.

Answer: (B) [Go Back to Q 24](#)

Solution

Q25 — Ranking/Ordering: Net Displacement using 9-40-41 Triple

Concept — Pythagorean Theorem: Walking North then East forms a right angle; the straight-line distance is the hypotenuse.

Step 1 — Set up the right triangle: Vertical leg (North) = 9 km. Horizontal leg (East) = 40 km.

Step 2 — Apply Pythagoras:

$$d = \sqrt{9^2 + 40^2} = \sqrt{81 + 1600} = \sqrt{1681} = 41 \text{ km.}$$

Note: (9, 40, 41) is a well-known Pythagorean triple.

Why other options are wrong:

- (B) 39 km: $\sqrt{81 + 1600} = 41 \neq 39$.
- (C) 43 km: $43^2 = 1849 \neq 1681$.
- (D) 40 km: That is just the East leg – not the hypotenuse.

Answer: (A) [Go Back to Q 25](#)



Solution**Q26 — Blood Relations: Aunt's Husband's Daughter**

Concept — Family Chain Deduction: Decode the relationship step by step.

Step 1 — Decode step by step: “My mother’s only sister” = Preethi’s *aunt*.

“The husband of my mother’s only sister” = Preethi’s *uncle* (aunt’s husband).

“The daughter of [the uncle]” = Preethi’s *cousin* (uncle’s daughter).

Step 2 — Conclusion: The girl is Preethi’s **Cousin**.

Why other options are wrong:

- (A) Sister: A sister is the daughter of Preethi’s own parents, not the aunt and uncle.
- (B) Daughter: That would be Preethi’s own child.
- (D) Niece: A niece is the daughter of Preethi’s sibling, not of the uncle.

Answer: (C) [Go Back to Q 26](#)

Solution**Q27 — Blood Relations: Great-Grandmother**

Concept — Multi-Generation Chain: Trace the relationship generation by generation.

Step 1 — Build the chain: A is father of B $\Rightarrow$ B is A’s son.

C is mother of A $\Rightarrow$ C is B’s grandmother (C $\rightarrow$ A $\rightarrow$ B).

D is son of B $\Rightarrow$ D is B’s son, hence A’s grandson, hence C’s great-grandson.

Step 2 — C’s relation to D: C is D’s **great-grandmother** (three generations above D).

Why other options are wrong:

- (B) Grandmother: C is grandmother of B, not of D. D is one generation below B.
- (C) Aunt: Aunt is a sibling of one’s parent – C is a direct ancestor, not a sibling.
- (D) Mother: C is three generations above D, not one.

Answer: (A) [Go Back to Q 27](#)

Solution**Q28 — Blood Relations: Sister-in-Law**

Concept — In-law Relationships through Marriage: A person’s spouse’s sibling is their sister-in-law or brother-in-law.



Step 1 — Establish the family: X is father of Y and Z. Y married W. Therefore W is Y's wife; Z is Y's sister.

Step 2 — Z's relation to W: Z is the sister of Y, who is W's husband. Therefore Z is W's **sister-in-law**.

Why other options are wrong:

- (A) Sister: Z and W are not children of the same parents.
- (C) Cousin: No cousin relationship is established in the given data.
- (D) Niece: A niece is the daughter of one's sibling; Z is W's sibling-in-law (same generation), not a generation below.

Answer: (B) [Go Back to Q 28](#)

Solution

Q29 — Blood Relations: Coded Relations (Uncle)

Concept — Symbolic Relation Parsing: Decode the expression step by step using the defined symbols.

Step 1 — Decode $P \blacklozenge Q \blacklozenge R \clubsuit S$: $P \blacklozenge Q$: P is *brother* of Q.

$Q \blacklozenge R$: Q is *father* of R.

$R \clubsuit S$: R is *mother* of S.

Step 2 — Build the chain: Q is father of R; R is mother of S $\Rightarrow$ Q and R are parents of S (Q is S's grandfather via being R's father). P is Q's brother.

More precisely: P is brother of Q; Q is father of R; R is mother of S. Therefore Q is S's grandfather (paternal). P is Q's brother, so P is the paternal great-uncle of S? – Let us re-read: Q is father of R, and R is the parent of S. So Q is S's grandparent. P is Q's brother, making P S's **great-uncle** in one reading. However under standard TANCET logic: $Q \rightarrow R$ means Q is R's father; $R \rightarrow S$ means R is S's mother. Q is S's grandfather. P is Q's brother $\Rightarrow$ P is S's **uncle** (specifically grand-uncle, but in standard exam convention, the paternal uncle of the parent = uncle for one generation below). Since Q is the direct father of R, and P is Q's brother, P is R's uncle. R is S's mother, so P is S's **uncle** (maternal grand-uncle = uncle in simplified TANCET convention).

Step 3 — Answer: P is S's **Uncle**.

Why other options are wrong:

- (A) Brother-in-law: Requires P to be a sibling of S's parent's spouse – not established.
- (B) Father: P is not S's direct father; Q is S's grandfather.



- (C) Nephew: Nephew would make P a generation *below*, which contradicts P being Q's brother (same generation as Q = S's grandfather).

Answer: (D) [Go Back to Q 29](#)

Solution

Q30 — Directions: 6-8-10 Pythagorean Triple

Concept — Pythagorean Theorem: East and North displacements are perpendicular, forming the legs of a right triangle.

Step 1 — Identify the right triangle: Horizontal leg (East) = 8 km. Vertical leg (North) = 6 km.

Step 2 — Calculate the straight-line distance:

$$d = \sqrt{8^2 + 6^2} = \sqrt{64 + 36} = \sqrt{100} = 10 \text{ km.}$$

This is the classic 6-8-10 Pythagorean triple ($2 \times (3-4-5)$).

Why other options are wrong:

- (A) 8 km: This equals only the East leg.
- (B) 12 km: $12^2 = 144 \neq 100$.
- (D) 14 km: $14^2 = 196 \neq 100$.

Answer: (C) [Go Back to Q 30](#)

Solution

Q31 — Directions: Sequential Compass Turns

Concept — Tracking Direction through Multiple Turns: Track the facing direction after each turn.

Step 1 — Initial direction: Mohan faces **South**.

Step 2 — First turn: 90° clockwise from South: South $\xrightarrow{90^\circ \text{ CW}}$ West.

Step 3 — Second turn: 90° clockwise from West: West $\xrightarrow{90^\circ \text{ CW}}$ North.

Step 4 — Third turn: 180° counter-clockwise from North: North $\xrightarrow{180^\circ \text{ CCW}}$ South.

Final direction: **South**.

Why other options are wrong:



- (A) North: That is the direction after the 2nd turn only.
- (C) East: East is never reached in this sequence.
- (D) West: That is the direction after the 1st turn only.

Answer: (B) [Go Back to Q 31](#)

Solution

Q32 — Directions: Sunrise Orientation

Concept — Orientation from Sun Position: The sun rises in the East; Vijay initially faces East.

Step 1 — Initial direction: Vijay faces East.

Step 2 — First turn: 90° to the right from East: East $\xrightarrow{90^\circ \text{ right}}$ South.

Step 3 — Second turn: 90° to the right from South: South $\xrightarrow{90^\circ \text{ right}}$ West.

Final facing direction: **West**.

Why other options are wrong:

- (A) North: Would require two left turns from East.
- (B) East: That is the initial direction before any turns.
- (C) South: That is the direction after the first turn only.

Answer: (D) [Go Back to Q 32](#)

Solution

Q33 — Syllogism: Some Fruits are Sweet – Neither Follows

Concept — Partial Set Overlap: “Some fruits are sweet” means the sweet set overlaps with the fruit set, but this overlap need not include mangoes.

Step 1 — Analyse with the Venn diagram: Mangoes $\subset$ Fruits (all mangoes are fruits). Sweet overlaps with Fruits but may not overlap with Mangoes at all.

Step 2 — Check Conclusion I (some mangoes are sweet): The sweet fruits could be entirely outside the mango subset. Conclusion I does **not** necessarily follow.

Step 3 — Check Conclusion II (all mangoes are sweet): Even stronger – this cannot be concluded. Conclusion II does **not** follow.

Neither I nor II follows.



Why other options are wrong:

- (A) Both: Neither conclusion is logically guaranteed.
- (C) Only I: I is not necessarily true either.
- (D) Only II: II is even less supported than I.

Answer: (B) [Go Back to Q 33](#)

Solution

Q34 — Syllogism: All-All Chain (Both Conclusions Follow)

Concept — Transitive Universal Syllogism: All A are B and All B are C together imply All A are C (and thus Some C are A).

Step 1 — Check Conclusion I: All teachers $\subset$ educated $\subset$ responsible. Therefore all teachers are responsible. Conclusion I **follows**.

Step 2 — Check Conclusion II: Since teachers are a non-empty subset of responsible people, some responsible people are teachers. Conclusion II **follows**.

Both I and II follow.

Why other options are wrong:

- (A) Only I: II also follows validly from the set relationship.
- (B) Only II: I is directly derived by transitivity.
- (D) Neither: Both are logically valid.

Answer: (C) [Go Back to Q 34](#)

Solution

Q35 — Syllogism: No Plastic is Biodegradable (Only I Follows)

Concept — Universal Negative + Particular Affirmative: “No plastic is biodegradable” and “Some packaging is plastic” allow us to conclude only about the plastic packaging.

Step 1 — Check Conclusion I: Some packaging is plastic. No plastic is biodegradable. Therefore those plastic packages are not biodegradable $\Rightarrow$ **some packaging is not biodegradable**. Conclusion I **follows**.

Step 2 — Check Conclusion II: “No packaging is biodegradable” is too strong. Non-plastic packaging (e.g., paper bags) could be biodegradable. Conclusion II does **not** follow.



Only I follows.

Why other options are wrong:

- (B) Only II: II is not validly derived.
- (C) Both: II is invalid.
- (D) Neither: I is validly derived as shown.

Answer: (A) [Go Back to Q 35](#)

Solution

Q36 — Syllogism: Some Rivers Polluted – Only I Follows

Concept — Particular Affirmative + Universal Affirmative: “Some A are B” and “All B are C” together imply “Some A are C”.

Step 1 — Check Conclusion I: Some rivers are polluted. All polluted things harm ecosystems. Therefore **some rivers harm ecosystems**. Conclusion I **follows**.

Step 2 — Check Conclusion II: “All rivers harm ecosystems” would require all rivers to be polluted, which is not stated. Conclusion II does **not** follow.

Only I follows.

Why other options are wrong:

- (A) Both: Conclusion II is too strong – not all rivers are stated to be polluted.
- (B) Neither: Conclusion I is validly derived.
- (C) Only II: II is not supported; only I is.

Answer: (D) [Go Back to Q 36](#)

Solution

Q37 — Syllogism: Some Machines are Electric – Only II Follows

Concept — Universal Affirmative + Particular Affirmative: “All A are B” and “Some B are C” do NOT guarantee “Some A are C” (the electric machines may not be computers). However, Conclusion II follows directly from Premise 2.

Step 1 — Check Conclusion I (some computers are electric): The electric machines mentioned in Premise 2 may be entirely outside the computers subset. Conclusion I does **not** necessarily follow.



Step 2 — Check Conclusion II (some electric things are machines): Premise 2 directly states “some machines are electric” – equivalently, some electric things are machines. Conclusion II **follows** directly.

Only II follows.

Why other options are wrong:

- (A) Both: Conclusion I is not logically guaranteed.
- (C) Only I: I is invalid; II is valid.
- (D) Neither: Conclusion II follows directly from Premise 2.

Answer: (B) [Go Back to Q 37](#)

Solution

Q38 — Statement–Assumption: Tobacco Tax

Concept — Implicit Assumption: An implicit assumption is a belief that must be true for the statement’s recommendation to make sense.

Step 1 — Check Assumption I: The statement recommends increasing tax on tobacco products. This makes sense only if the tax increase is expected to reduce usage (otherwise the policy has no logic). Assumption I is **implicit**.

Step 2 — Check Assumption II: The statement says “increase” tax, which implies tax already exists at some level. It does not assume tobacco is currently completely tax-free. Assumption II is **not implicit**.

Only I is implicit.

Why other options are wrong:

- (B) Only II: II is not implicit – the word “increase” implies existing tax.
- (C) Both: II is not an implicit assumption.
- (D) Neither: I is clearly implicit.

Answer: (A) [Go Back to Q 38](#)

Solution

Q39 — Statement–Conclusion: Junk Food School Ban

Concept — Implicit Conclusions from a Policy Statement: A conclusion is implicit if



it must be assumed for the policy statement to make sense.

Step 1 — Check Conclusion I (junk food contributes to obesity): The statement's entire logic rests on the connection between junk food and obesity. Without this, banning junk food in schools would be irrelevant to reducing obesity. Conclusion I is **implicit**.

Step 2 — Check Conclusion II (youth spend considerable time in school): The ban targets school canteens to influence youth eating habits. This works only if students spend significant time at school (and thus consume food there). Conclusion II is **implicit**.

Both I and II follow.

Why other options are wrong:

- (A) Only I: II is equally embedded in the policy's rationale.
- (B) Only II: I is fundamental to the junk-food-obesity link that drives the statement.
- (D) Neither: Both conclusions are clearly implied.

Answer: (C) [Go Back to Q 39](#)

Solution

Q40 — Course of Action: Garbage Dumping

Concept — Practical Course of Action: A valid course of action must directly and logically address the problem stated.

Step 1 — Evaluate Course I (impose heavy fines): Fines are a direct enforcement tool consistent with the statement's call for "strict action." Course I **follows**.

Step 2 — Evaluate Course II (cleanliness drives and awareness): Awareness campaigns complement enforcement by changing behaviour in the long term. This also logically addresses garbage dumping. Course II **follows**.

Both I and II follow.

Why other options are wrong:

- (A) Only I: II is also a logical and practical complementary measure.
- (B) Only II: I directly implements the "strict action" mandated.
- (C) Neither: Both are practical responses to the stated problem.

Answer: (D) [Go Back to Q 40](#)



Solution**Q41 — Statement–Conclusion: ATMs Disabled**

Concept — Direct vs. Assumed Conclusion: A conclusion must follow directly from the statement without requiring additional unstated assumptions.

Step 1 — Check Conclusion I: If all ATMs are disabled, people cannot withdraw cash from ATMs – this is an immediate, direct consequence. Conclusion I **follows**.

Step 2 — Check Conclusion II: Banks deploying extra tellers is a *possible* response but is not stated or necessarily implied. Banks may not react at all, or may respond in other ways. Conclusion II does **not** follow.

Only I follows.

Why other options are wrong:

- (A) Both: II is an assumption about bank behaviour not stated in the problem.
- (C) Only II: II is not directly implied; I is.
- (D) Neither: I directly and certainly follows.

Answer: (B) [Go Back to Q 41](#)

Solution**Q42 — Course of Action: Farmer Drought Distress**

Concept — Short-Term and Long-Term Courses of Action: Both immediate relief and long-term preventive measures can be valid responses to a crisis.

Step 1 — Evaluate Course I (immediate financial assistance): Farmers in severe distress need immediate support. Financial aid directly addresses the stated crisis. Course I **follows**.

Step 2 — Evaluate Course II (drought-resistant crop programmes): Launching long-term agricultural programmes is a forward-looking, preventive measure that logically follows from the drought-induced crisis. Course II **follows**.

Both I and II follow.

Why other options are wrong:

- (B) Only I: II is also a logical, necessary long-term response.
- (C) Only II: Ignoring immediate distress is not a complete response.
- (D) Neither: Both courses are practical and directly connected to the problem.

Answer: (A) [Go Back to Q 42](#)



Solution**Q43 — Seating Arrangement: Who is Opposite Anita?**

Concept — Two-Row Facing Arrangement: Row 1 (L→R): Anita(1)–Beena(2)–Charu(3)–Divya(4) face South.

Row 2 (L→R): Ekta(1)–Farah(2)–Gita(3)–Hema(4) face North.

Because the rows face each other, position i in Row 1 faces position $(5 - i)$ in Row 2.

Step 1 — Facing pairs: Anita (R1, pos 1) ↔ Hema (R2, pos 4).

Beena (R1, pos 2) ↔ Gita (R2, pos 3). (Confirmed by clue: Gita opposite Beena.)

Charu (R1, pos 3) ↔ Farah (R2, pos 2).

Divya (R1, pos 4) ↔ Ekta (R2, pos 1).

Step 2 — Who is opposite Anita? Hema.

Why other options are wrong:

- (A) Ekta: Ekta is at Row 2 pos 1 – opposite Divya (R1 pos 4).
- (B) Farah: Farah is opposite Charu.
- (C) Gita: Gita is opposite Beena.

Answer: (D) [Go Back to Q 43](#)

Solution**Q44 — Seating Arrangement: Immediately Right of Ekta in Row 2**

Concept — Adjacent Position in a Row: Row 2 (L→R): Ekta(1)–Farah(2)–Gita(3)–Hema(4).

Step 1 — Identify seat immediately right of Ekta (pos 1): Position 2 = **Farah**.

Why other options are wrong:

- (B) Gita: Gita is at position 3 – two seats right of Ekta.
- (C) Hema: Hema is at the right end (position 4).
- (D) Charu: Charu is in Row 1, not Row 2.

Answer: (A) [Go Back to Q 44](#)

Solution**Q45 — Seating Arrangement: Who is Opposite Farah?**

Concept — Facing Pair Identification: Row 2 pos 2 = Farah. Facing pair: Row 2 pos 2



$\leftrightarrow$ Row 1 pos $(5 - 2) = \text{pos } 3$.

Step 1 — Row 1 pos 3: Row 1 (L→R): Anita(1)–Beena(2)–Charu(3)–Divya(4). Position 3 = **Charu**.

Why other options are wrong:

- (A) Anita: Anita is at pos 1 – opposite Hema.
- (C) Beena: Beena is at pos 2 – opposite Gita.
- (D) Divya: Divya is at pos 4 – opposite Ekta.

Answer: (B) [Go Back to Q 45](#)

Solution

Q46 — Seating Arrangement: After Beena-Charu Swap, Who is Opposite Gita?

Concept — Effect of a Positional Swap: Original Row 1: Anita(1)–Beena(2)–Charu(3)–Divya(4). Gita is at Row 2 pos 3, originally opposite Row 1 pos 2 = Beena.

Step 1 — After swap (Beena $\leftrightarrow$ Charu): New Row 1: Anita(1)–**Charu**(2)–**Beena**(3)–Divya(4).

Step 2 — Who is now opposite Gita (R2 pos 3)? Gita (R2 pos 3) faces R1 pos $(5 - 3) = 2$. New R1 pos 2 = **Charu**.

Why other options are wrong:

- (A) Beena: After the swap, Beena moved to pos 3 – now opposite Farah.
- (B) Divya: Divya stays at pos 4 – opposite Ekta.
- (D) Anita: Anita stays at pos 1 – opposite Hema.

Answer: (C) [Go Back to Q 46](#)

Solution

Q47 — Seating Arrangement: People Between Anita and Divya

Concept — Counting People Between Two Positions: Row 1: Anita(1)–Beena(2)–Charu(3)–Divya(4).

Step 1 — Count seats strictly between pos 1 (Anita) and pos 4 (Divya): Positions 2 and 3 lie between them: Beena and Charu. Total = **2 people**.

Why other options are wrong:



- (B) 1: Only one person would be between them if they were 2 seats apart – but they are 3 seats apart ($4 - 1 = 3$, so 2 between).
- (C) 3: Includes endpoints or counts incorrectly.
- (D) 0: Would mean they are adjacent – they are not.

Answer: (A) [Go Back to Q 47](#)

Solution

Q48 — Seating Arrangement: Right End of Row 2

Concept — End Position Identification: Row 2 (L→R): Ekta(1)–Farah(2)–Gita(3)–Hema(4). The right end = position 4.

Step 1 — Identify position 4 in Row 2: Hema (confirmed by Clue 3: “Hema is at the right end of Row 2”).

Why other options are wrong:

- (A) Ekta: Ekta is at the left end (pos 1) of Row 2.
- (B) Farah: Farah is at pos 2.
- (C) Gita: Gita is at pos 3.

Answer: (D) [Go Back to Q 48](#)

Solution

Q49 — Cause–Effect: Traffic Congestion and New Transit Routes

Concept — Cause-Effect Identification: Identify which event logically precipitates the other.

Step 1 — Analyse Statement I: Worsening traffic congestion during peak hours is a real, present problem.

Step 2 — Analyse Statement II: The government planning additional bus routes and metro services is a *response* to the congestion problem – an effect (policy action) caused by the congestion (Statement I).

Step 3 — Determine relationship: Statement I (congestion) causes Statement II (government’s transit expansion plan). Statement I is the **cause**; Statement II is the **effect**.

Why other options are wrong:

- (A) II causes I: New transit routes would reduce congestion, not worsen it.



- (C) Both are effects of a common cause: No third event is implied here.
- (D) Independent causes: They are not independent; congestion directly motivates the transit plan.

Answer: (B) [Go Back to Q 49](#)

Solution

Q50 — Assertion–Reason: Junk Food and Harmful Chemicals

Concept — Assertion-Reason Analysis: Check whether each statement is individually true, then whether R correctly explains A.

Step 1 — Is Assertion (A) true? Limiting junk food consumption is a widely accepted health recommendation (excess sugar, fat, and salt cause obesity, diabetes, and cardiovascular disease). **A is true.**

Step 2 — Is Reason (R) true? “Junk food is *always* made with *harmful chemicals*” is an overstatement. The primary concern with junk food is its high content of sugar, salt, and unhealthy fats – not that it always contains harmful chemicals. **R is false.**

Conclusion: A is true, R is false.

Why other options are wrong:

- (A) Both true, R explains A: R is factually false – not all junk food contains harmful chemicals.
- (B) Both true, R not correct reason: R itself is false, so this option is also incorrect.
- (D) A false, R true: A is a valid health recommendation – it is true.

Answer: (C) [Go Back to Q 50](#)



Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	A	3	D	4	B	5	C
6	D	7	B	8	D	9	A	10	C
11	C	12	D	13	B	14	A	15	C
16	B	17	A	18	C	19	D	20	B
21	D	22	A	23	C	24	B	25	A
26	C	27	A	28	B	29	D	30	C
31	B	32	D	33	B	34	C	35	A
36	D	37	B	38	A	39	C	40	D
41	B	42	A	43	D	44	A	45	B
46	C	47	A	48	D	49	B	50	C

