

TANCET Reasoning

Sample Paper – 5

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. The following series consists of oblong numbers of the form $N(N + 1)$. Identify the next term.

2, 6, 12, 20, 30, ?

Each term equals $N \times (N + 1)$ for consecutive values of N .

(A) 38

(B) 42

(C) 40

(D) 45

Q2. In the series below, the differences between consecutive terms themselves form an arithmetic progression. Find the missing term.

7, 12, 19, 28, 39, ?

Compute the differences: $12 - 7 = 5$, $19 - 12 = 7$, $28 - 19 = 9$, $39 - 28 = 11$.

The differences increase by 2 each time.

(A) 48



- (B) 50
- (C) 51
- (D) 52

Q3. The series below is formed by successive factorials. What is the next term?

1, 1, 2, 6, 24, ?

Recall: $0! = 1$, $1! = 1$, $2! = 2$, $3! = 6$, $4! = 24$, $5! = ?$

- (A) 120
- (B) 100
- (C) 48
- (D) 60

Q4. In the series below, the differences between consecutive terms decrease by 2 each time. What is the missing term?

50, 46, 40, 32, 22, ?

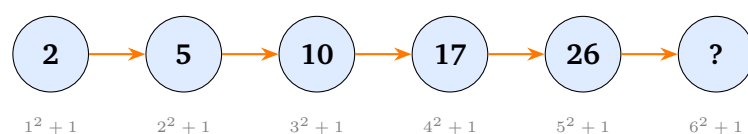
Differences: -4 , -6 , -8 , -10 . The next difference is -12 .

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

Q5. Each term of the following series follows the pattern $N^2 + 1$ for consecutive values of N . What is the next term?

2, 5, 10, 17, 26, ?

The diagram below shows each value placed inside a circle, illustrating the $N^2 + 1$ pattern.



- (A) 33

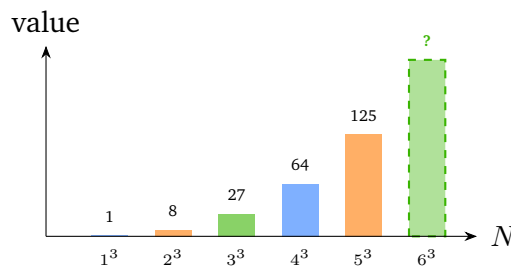


- (B) 34
- (C) 36
- (D) 37

Q6. The series below lists perfect cubes in order. What is the next term?

1, 8, 27, 64, 125, ?

The bar chart below illustrates the rapid growth of the cube values.



- (A) 196
- (B) 216
- (C) 225
- (D) 243

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

CHAPTER : BOOK :: ACT : ?

- (A) SCENE
- (B) FILM
- (C) PLAY
- (D) STAGE

Q8. Complete the gender-pair analogy.

LION : LIONESS :: DUKE : ?

- (A) DUCHESS
- (B) QUEEN
- (C) PRINCESS



(D) BARONESS

Q9. Identify the relationship and complete the analogy.

GUITAR : GUITARIST :: PIANO : ?

(A) MUSICIAN

(B) COMPOSER

(C) CONDUCTOR

(D) PIANIST

Q10. The first pair shows the official language of a country. Apply the same logic.

JAPAN : JAPANESE :: BRAZIL : ?

(A) SPANISH

(B) PORTUGUESE

(C) FRENCH

(D) ITALIAN

Q11. Complete the analogy based on collective nouns.

FISH : SCHOOL :: WOLVES : ?

(A) PACK

(B) HERD

(C) FLOCK

(D) SWARM

Q12. In a certain code, each letter is replaced by the letter 3 positions *before* it in the alphabet (D→A, E→B, ...; A wraps to X, B wraps to Y, C wraps to Z). Using this rule, FIRM is coded as CFOJ. How will the word **RING** be coded?

(A) NFJC

(B) OGJD



- (C) OFKD
- (D) NEKC

Q13. In a special code, the code of a word equals the *product* of the alphabet positions of all its letters ($A=1$, $B=2$, ..., $Z=26$). For example, IF is coded as $9 \times 6 = 54$. What is the code for **CAT**?

- (A) 60
- (B) 50
- (C) 48
- (D) 72

Q14. In a certain code, the letters of a word are first written in reverse order, and then each letter is shifted one position forward in the alphabet ($A \rightarrow B$, $B \rightarrow C$, ..., $Z \rightarrow A$). For example, CAT is reversed to TAC and then encoded as UBD. How will the word **HELP** be coded?

- (A) PMFI
- (B) QNFI
- (C) PLFI
- (D) QMFI

Q15. In a code, letters at *odd* positions (1st, 3rd, ...) in a word remain unchanged, while letters at *even* positions (2nd, 4th, ...) are shifted 2 positions forward in the alphabet. For example, RICE is coded as RKCG (R unchanged; $I+2=K$; C unchanged; $E+2=G$). How is the word **LAMP** coded?

- (A) LDMR
- (B) LCMR
- (C) LCMS
- (D) LCNR

Q16. A ROT-13 cipher replaces each letter by the letter 13 positions ahead in the alphabet, wrapping around ($M \rightarrow Z$, $N \rightarrow A$, ...). For example, CARE



is coded as PNER ($C+13=P$; $A+13=N$; $R+13=E$; $E+13=R$). How will the word **LIME** be coded?

- (A) YVZR
- (B) YUZR
- (C) XVZR
- (D) YVZS

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

SQUARE, TRIANGLE, CYLINDER, RECTANGLE

- (A) SQUARE
- (B) TRIANGLE
- (C) CYLINDER
- (D) RECTANGLE

Q18. Three of the following four instruments belong to the same category. Identify the **odd one out**.

VIOLIN, GUITAR, FLUTE, SITAR

- (A) VIOLIN
- (B) GUITAR
- (C) SITAR
- (D) FLUTE

Q19. Three of the following four letter groups are formed by letters that are each 4 positions apart in the alphabet. Identify the **odd one out**.

BFJ, EIN, DHL, CGK

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



Q20. Three of the following four numbers are perfect cubes. Identify the one that is **not** a perfect cube.

217, 125, 343, 512

(A) 217

(B) 125

(C) 343

(D) 512

Q21. Five people T, P, Q, R, and S are of different ages. Study the clues and identify the **youngest** person.

- T is older than P.
- P is older than Q.
- Q is older than R.
- R is older than S.

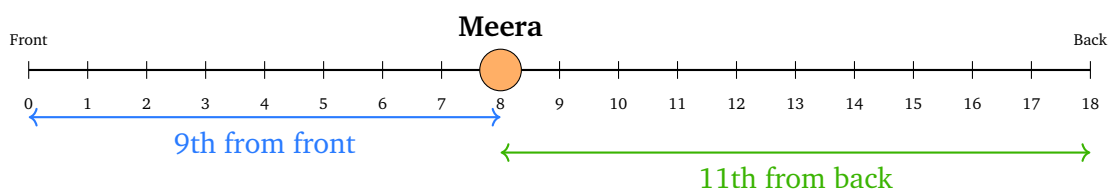
(A) P

(B) Q

(C) S

(D) R

Q22. In a queue, Meera is **9th from the front** and **11th from the back**. How many people are there in the queue?



(A) 18

(B) 19

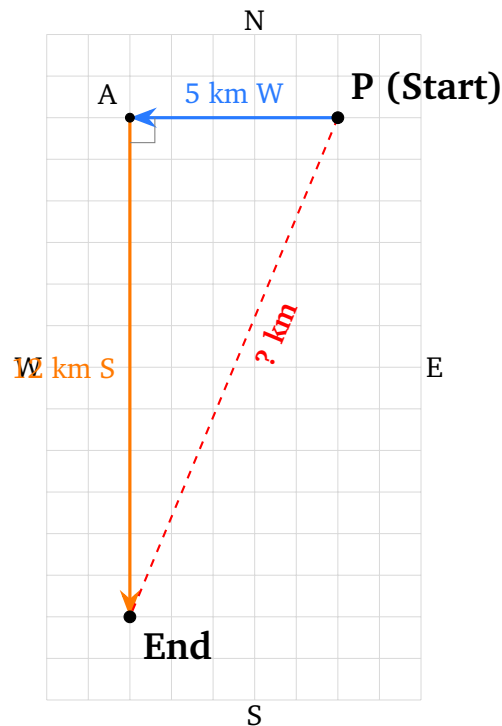
(C) 20

(D) 21



- Q23.** In a class, Asha is **17th from the top** and **14th from the bottom**. How many students are there in the class?
- (A) 31
(B) 29
(C) 28
(D) 30
- Q24.** Six people — Usha, Waqar, Xena, Vinod, Yash, and Zara — are standing in a row. Study the clues and find who is at the **4th position from the left**.
- Usha stands at the extreme left.
 - Waqar is immediately to the right of Usha.
 - Xena is 3rd from the left.
 - Vinod is 4th from the left.
 - Yash is immediately to the left of Zara.
 - Zara stands at the extreme right.
- (A) Vinod
(B) Yash
(C) Waqar
(D) Xena
- Q25.** A person walks **5 km West** from point P, then turns and walks **12 km South**. What is the straight-line distance from the starting point P to the current position?





- (A) 12 km
- (B) 11 km
- (C) 13 km
- (D) 15 km

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

Q26. A woman says, pointing to a man: “He is the son of the only son of my grandfather.” How is the woman related to the man?

- (A) Mother
- (B) Sister
- (C) Aunt
- (D) Grandmother

Q27. A is the mother of B. B is the brother of C. D is the father of C. What is D’s relation to A?

- (A) Brother
- (B) Father

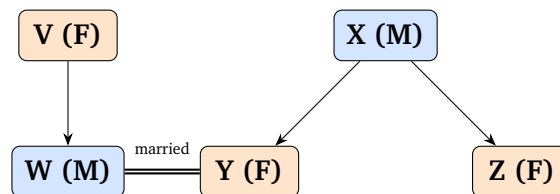


- (C) Son
- (D) Husband

Q28. Study the family information carefully and answer the question.

Family Details:

- X is the father of Y and Z.
- Y is married to W.
- W is the daughter of V.
- Z is the sister of Y.



What is Z's relation to W?

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

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

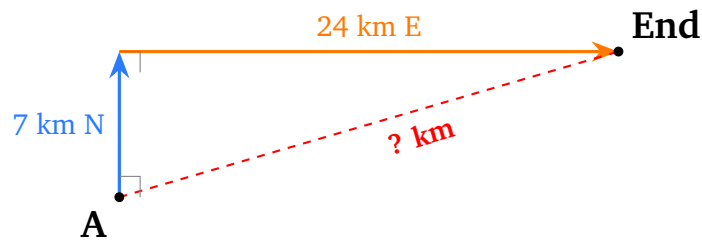
- $P \diamond Q$ means P is the *brother* of Q.
- $P \star Q$ means P is the *father* of Q.
- $P \clubsuit Q$ means P is the *daughter* of Q.

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

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



Q30. A man starts from point A, walks **7 km North**, then turns right and walks **24 km East**. What is the straight-line distance from the starting point A to his current position?



- (A) 24 km
- (B) 25 km
- (C) 26 km
- (D) 28 km

Q31. Rohan initially faces **West**. He then turns **90° clockwise**, followed by a turn of **180° counter-clockwise**. In which direction is Rohan facing finally?

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

Q32. At noon, when the sun is exactly in the south, Sunita notices that her shadow falls directly behind her, confirming she faces **East**. She then turns **90° to her left**. In which direction does her shadow now fall?

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

Q33. Statements:

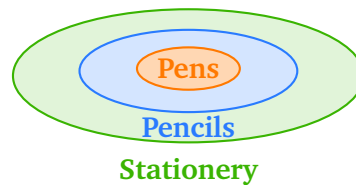
All pens are pencils.



All pencils are stationery.

Conclusions:

- I. All pens are stationery.
- II. Some stationery are pens.



Which conclusion(s) follow?

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

Q34. Statements:

Some birds are parrots.
All parrots are green.

Conclusions:

- I. All birds are green.
- II. Some green things are birds.

Which conclusion(s) follow?

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

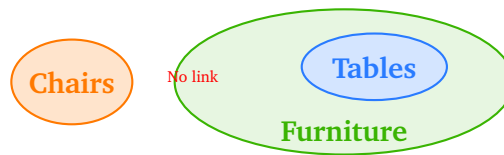
Q35. Statements:

No chairs are tables.
All tables are furniture.

Conclusions:



- I. No chairs are furniture.
II. Some furniture are not chairs.



Which conclusion(s) follow?

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

Q36. Statements:

All stars are planets.
Some planets are moons.

Conclusions:

- I. Some stars are moons.
II. Some moons are planets.

Which conclusion(s) follow?

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

Q37. Statements:

Some questions are answers.
No answers are correct.

Conclusions:

- I. Some questions are not correct.
II. No questions are correct.

Which conclusion(s) follow?



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

Q38. Statement: “Rainwater harvesting should be made compulsory in all new buildings.”

Conclusions:

- I. Rainwater harvesting helps conserve water.
- II. Current water resources are under stress.

Which conclusion(s) follow?

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

Q39. Statement: “Investing in primary education is the most effective way to reduce poverty.”

Assumptions:

- I. Education directly impacts economic status.
- II. Primary education is already accessible to all.

Which assumption(s) are implicit?

- (A) Both I and II are implicit
- (B) Neither is implicit
- (C) Only II is implicit
- (D) Only I is implicit

Q40. Statement: “The government announced fertilizer subsidies to boost agricultural output.”

Courses of Action:

- I. Educate farmers on efficient fertilizer use to prevent soil degradation.



II. Immediately ban all non-subsidized fertilizers.

Which course(s) of action follow logically?

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

Q41. Statement: “Mobile phone usage among children under 10 has increased significantly.”

Conclusions:

- I. Children are spending less time outdoors.
- II. Parents are providing phones to young children.

Which conclusion(s) follow?

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

Q42. Statement: “Management policy: employees who are late more than 3 times in a month lose their year-end bonus.”

Conclusions:

- I. Employees who are never late will definitely get a bonus.
- II. Punctuality is expected of all employees.

Which conclusion(s) follow?

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

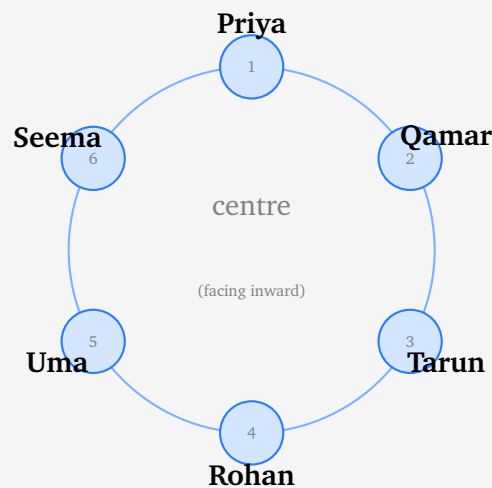
Directions (Q43–Q48): Read the seating arrangement information carefully and answer the questions that follow.



Seating Arrangement:

Six people — Priya, Qamar, Tarun, Rohan, Uma, and Seema — are seated around a circular table, all facing the **centre**. The following clues give their positions (clockwise numbering: position 1 through 6).

- Priya sits directly opposite Rohan.
- Qamar is immediately clockwise from Priya.
- Uma sits directly opposite Qamar.
- Seema is immediately clockwise from Uma.
- Tarun sits between Priya and Rohan (clockwise from Priya).



The clockwise arrangement is: **Priya(1) – Qamar(2) – Tarun(3) – Rohan(4) – Uma(5) – Seema(6)**.

Q43. Who sits **directly opposite** Uma?

- (A) Priya
- (B) Qamar
- (C) Rohan
- (D) Tarun

Q44. Who sits **immediately clockwise** from Tarun?

- (A) Priya



- (B) Seema
- (C) Rohan
- (D) Uma

Q45. How many people sit **between Priya and Seema** going clockwise from Priya?

- (A) 4
- (B) 3
- (C) 2
- (D) 5

Q46. If **Qamar and Rohan** swap their seats, who will then sit **directly opposite Priya**?

- (A) Rohan
- (B) Uma
- (C) Seema
- (D) Qamar

Q47. Who sits **between Tarun and Uma** on the shorter arc?

- (A) Priya
- (B) Seema
- (C) Rohan
- (D) Qamar

Q48. Who sits **exactly 3 seats clockwise from Seema**?

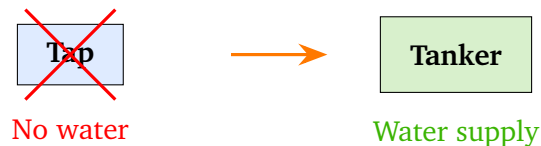
- (A) Uma
- (B) Tarun
- (C) Priya
- (D) Qamar



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

Statement I: The city experienced a severe water shortage this summer.

Statement II: Many residents were forced to buy water from private tankers.



Options:

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

Q50. Assertion (A): We should conserve electricity.

Reason (R): Electricity is derived only from solar panels.

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: Oblong Numbers $N(N + 1)$ **Concept — Oblong Numbers:** An oblong number is of the form $N(N + 1)$ for $N = 1, 2, 3, \dots$ **Step 1 — Verify the pattern:** $1 \times 2 = 2$, $2 \times 3 = 6$, $3 \times 4 = 12$, $4 \times 5 = 20$, $5 \times 6 = 30$. Each term fits $N(N + 1)$.**Step 2 — Find the next term:** The next value is $N = 6$: $6 \times 7 = 42$.**Why other options are wrong:**

- (A) 38: $38 \neq 6 \times 7$ — does not fit the oblong formula.
- (C) 40: Also not a product of two consecutive integers near 6.
- (D) 45: $45 = 5 \times 9$, not two consecutive integers.

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

Solution

Q2 — Number Series: Second-Difference AP**Concept — Second-Order Differences:** When the first differences form an AP, the series is a quadratic sequence. Here the differences are 5, 7, 9, 11, 13, ... (increasing by 2).**Step 1 — Verify differences:** $12 - 7 = 5$, $19 - 12 = 7$, $28 - 19 = 9$, $39 - 28 = 11$. Next difference = $11 + 2 = 13$.**Step 2 — Next term:** $39 + 13 = 52$.**Why other options are wrong:**

- (A) 48: Uses difference 9 again instead of 13.
- (B) 50: Difference would be 11 (same as previous), not incremented.
- (C) 51: Off by 1 from the correct answer.

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

Solution**Q3 — Number Series: Factorial Series**

Concept — Factorials: $n! = n \times (n - 1) \times \cdots \times 1$. The series $0!, 1!, 2!, 3!, 4!, 5! \dots$ is $1, 1, 2, 6, 24, 120, \dots$

Step 1 — Verify: $0! = 1, 1! = 1, 2! = 2, 3! = 6, 4! = 24$. The pattern is confirmed.

Step 2 — Next term: $5! = 5 \times 4! = 5 \times 24 = 120$.

Why other options are wrong:

- (B) 100: Not a factorial value.
- (C) 48: $48 = 2 \times 24$ — uses multiplication by 2 instead of 5.
- (D) 60: $60 = 2.5 \times 24$ — not an integer factorial.

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

Solution**Q4 — Number Series: AP with Decreasing Differences**

Concept — Variable Differences (decreasing by 2): The differences between consecutive terms are $-4, -6, -8, -10, -12, \dots$

Step 1 — Verify: $46 - 50 = -4, 40 - 46 = -6, 32 - 40 = -8, 22 - 32 = -10$. Pattern confirmed.

Step 2 — Next difference and term: Next difference = -12 . Next term = $22 + (-12) = 10$.

Why other options are wrong:

- (A) 14: Applies difference -8 instead of -12 .
- (B) 12: Applies difference -10 (same as the last step, not the next).
- (D) 8: Applies difference -14 — skips one step.

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

Solution**Q5 — Number Series: $N^2 + 1$ Series**

Concept — Quadratic+1 Sequence: Each term equals $N^2 + 1$ for $N = 1, 2, 3, \dots$

Step 1 — Verify: $1^2 + 1 = 2, 2^2 + 1 = 5, 3^2 + 1 = 10, 4^2 + 1 = 17, 5^2 + 1 = 26$. All match.



Step 2 — Next term ($N = 6$): $6^2 + 1 = 36 + 1 = 37$.

Why other options are wrong:

- (A) 33: $33 = 5^2 + 8$ — does not fit $N^2 + 1$.
- (B) 34: $34 = 5^2 + 9$ — incorrect.
- (C) 36: $36 = 6^2$ — forgets to add 1.

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

Solution

Q6 — Number Series: Perfect Cubes

Concept — Cubic Sequence: Each term equals N^3 for $N = 1, 2, 3, \dots$

Step 1 — Verify: $1^3 = 1$, $2^3 = 8$, $3^3 = 27$, $4^3 = 64$, $5^3 = 125$. All confirmed.

Step 2 — Next term ($N = 6$): $6^3 = 6 \times 6 \times 6 = 216$.

Why other options are wrong:

- (A) 196: $196 = 14^2$ — a perfect square, not the next cube.
- (C) 225: $225 = 15^2$ — another perfect square.
- (D) 243: $243 = 3^5$ — a power of 3, not 6^3 .

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

Solution

Q7 — Analogy: Part-Whole Relationship

Concept — Component-Container Analogy: The first word is a part/division; the second is the whole to which it belongs.

Step 1 — Identify the relationship: A CHAPTER is a part of a BOOK. An ACT is a part (division) of a PLAY.

Why other options are wrong:

- (A) SCENE: A scene is a division of an act, not the whole of which an act is a part.
- (B) FILM: A film uses the word “scene,” not “act” as a formal division.
- (D) STAGE: A stage is the physical platform in a theatre, not a literary form containing acts.



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

Solution

Q8 — Analogy: Gender Pair

Concept — Masculine-Feminine Analogy: The second word is the feminine form of the title given in the first word.

Step 1 — Apply the rule: LION (masculine) → LIONESS (feminine). DUKE (masculine) → DUCHESS (feminine).

Why other options are wrong:

- (B) QUEEN: A queen is the feminine of king, not duke.
- (C) PRINCESS: The feminine form of prince, not duke.
- (D) BARONESS: The feminine of baron, a different title of nobility.

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

Solution

Q9 — Analogy: Instrument-Player

Concept — Instrument to Performer Analogy: The second word is the name for a person who plays the instrument named in the first word.

Step 1 — Apply the rule: A GUITAR is played by a GUITARIST. A PIANO is played by a PIANIST.

Why other options are wrong:

- (A) MUSICIAN: A general term, not specific to the piano.
- (B) COMPOSER: A composer writes music and may or may not play the piano.
- (C) CONDUCTOR: A conductor leads an orchestra and does not primarily play an instrument.

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

Solution

Q10 — Analogy: Country-Language



Concept — Country to Official Language Analogy: The second word is the primary official language of the country in the first word.

Step 1 — Apply the rule: The official language of JAPAN is JAPANESE. The official language of BRAZIL is **PORTUGUESE** (Brazil was a Portuguese colony and Portuguese is the sole official language).

Why other options are wrong:

- (A) SPANISH: Spanish is spoken in most of South America, but Brazil's official language is Portuguese.
- (C) FRENCH: French is spoken in France, Canada (partially), and parts of Africa — not Brazil.
- (D) ITALIAN: Italian is not an official language of any South American country.

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

Solution

Q11 — Analogy: Collective Noun

Concept — Animal Group Name Analogy: The second word is the collective noun (group name) for the animal in the first word.

Step 1 — Apply the rule: A group of FISH is called a SCHOOL. A group of WOLVES is called a **PACK**.

Why other options are wrong:

- (B) HERD: A herd is used for cattle, elephants, or horses — not wolves.
- (C) FLOCK: A flock is used for birds or sheep.
- (D) SWARM: A swarm refers to insects (bees, wasps) — not wolves.

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

Solution

Q12 — Coding-Decoding: Backward Shift –3

Concept — Caesar Cipher (–3): Each letter is replaced by the letter 3 positions before it in the alphabet. For letters A, B, C the wrap-around gives X, Y, Z respectively.

Step 1 — Verify with FIRM: $F(6)-3=C(3)$; $I(9)-3=F(6)$; $R(18)-3=O(15)$; $M(13)-3=J(10)$. FIRM → CFOJ. ✓



Step 2 — Encode RING:

$$R(18) - 3 = O(15), \quad I(9) - 3 = F(6), \quad N(14) - 3 = K(11), \quad G(7) - 3 = D(4)$$

RING → OFKD.

Why other options are wrong:

- (A) NFJC: N would mean R−4; incorrect shift.
- (B) OGJD: G for I means I−2; incorrect.
- (D) NEKC: N for R means R−4; wrong shift applied.

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

Solution**Q13 — Coding-Decoding: Position-Product**

Concept — Product of Alphabet Positions: The code equals the product of the alphabet-position values (A=1, B=2, ..., Z=26) of all letters.

Step 1 — Verify with IF: I=9, F=6. Product = $9 \times 6 = 54$. ✓

Step 2 — Encode CAT: C=3, A=1, T=20.

$$3 \times 1 \times 20 = 60$$

Why other options are wrong:

- (B) 50: $50 = 2 \times 1 \times 25$ — corresponds to BAY or similar, not CAT.
- (C) 48: $48 = 3 \times 1 \times 16$ — would correspond to CAP.
- (D) 72: $72 = 3 \times 1 \times 24$ — corresponds to CAX, not CAT.

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

Solution**Q14 — Coding-Decoding: Reverse then Shift +1**

Concept — Reverse-then-Shift Encoding: Step 1: Reverse the letters of the word. Step 2: Shift each letter one position forward in the alphabet (Z wraps to A).

Step 1 — Verify with CAT: Reverse: TAC. Shift: T+1=U; A+1=B; C+1=D. Code = UBD. ✓



Step 2 — Encode HELP: Reverse HELP: P-L-E-H.

Shift each letter +1: $P+1=Q$; $L+1=M$; $E+1=F$; $H+1=I$.

Code = QMFI.

Why other options are wrong:

- (A) PMFI: P for P would mean no shift applied to the first letter.
- (B) QNFI: N would mean $L+2$ — shift of 2, not 1.
- (C) PLFI: L for L means no shift applied to the second letter.

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

Solution

Q15 — Coding-Decoding: Even-Position Letters Shift +2

Concept — Position-Based Differential Encoding: Letters at odd positions (1st, 3rd, ...) remain unchanged; letters at even positions (2nd, 4th, ...) shift +2 in the alphabet.

Step 1 — Verify with RICE: R(1, odd, unchanged); I(2, even, $+2=K$); C(3, odd, unchanged); E(4, even, $+2=G$). Code = RKCG. ✓

Step 2 — Encode LAMP: L(1, odd, unchanged = L); A(2, even, $A+2=C$); M(3, odd, unchanged = M); P(4, even, $P+2=R$).

Code = LCMR.

Why other options are wrong:

- (A) LDMR: D for A means +3 shift applied to position 2, not +2.
- (C) LCMS: S for P means $P+3$; shift should be +2.
- (D) LCNR: N for M means the 3rd letter (odd position) was incorrectly shifted.

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

Solution

Q16 — Coding-Decoding: ROT-13 Cipher

Concept — ROT-13 (Rotate by 13): Each letter is replaced by the letter 13 positions ahead in the alphabet. Since the alphabet has 26 letters, applying ROT-13 twice returns the original. Letters after M wrap around: $N \rightarrow A$, $O \rightarrow B$, ..., $Z \rightarrow M$.

Step 1 — Verify with CARE: $C(3)+13=P(16)$; $A(1)+13=N(14)$; $R(18)+13=E(5)$; $E(5)+13=R(18)$. Code = PNER. ✓



Step 2 — Encode LIME: $L(12)+13=Y(25)$; $I(9)+13=V(22)$; $M(13)+13=Z(26)$; $E(5)+13=R(18)$.

Code = YVZR.

Why other options are wrong:

- (B) YUZR: U for I means $I+12$ instead of $+13$.
- (C) XVZR: X for L means $L+12$ — off by 1 for the first letter.
- (D) YVZS: S for E means $E+14$ — one too many for the last letter.

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

Solution

Q17 — Classification: 2-D vs 3-D Shape

Concept — Dimensionality of Geometric Shapes: Two-dimensional (2-D) shapes are flat (plane figures); three-dimensional (3-D) shapes have volume.

Step 1 — Classify each shape: SQUARE — 2-D. TRIANGLE — 2-D. RECTANGLE — 2-D. CYLINDER — 3-D (has circular cross-section and height).

Step 2 — Odd one out: CYLINDER is the only 3-D shape.

Why other options are wrong:

- (A) SQUARE: A flat quadrilateral with four equal sides — 2-D.
- (B) TRIANGLE: A flat polygon with three sides — 2-D.
- (D) RECTANGLE: A flat quadrilateral — 2-D.

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

Solution

Q18 — Classification: Wind vs String Instrument

Concept — Musical Instrument Family: String instruments produce sound by vibrating strings (plucked, bowed, or struck). Wind instruments produce sound by blowing air through a tube.

Step 1 — Classify each instrument: VIOLIN — string (bowed). GUITAR — string (plucked). SITAR — string (plucked). FLUTE — **wind** (blown across an opening).

Step 2 — Odd one out: FLUTE is the only wind instrument.



Why other options are wrong:

- (A) VIOLIN: Bowed string instrument.
- (B) GUITAR: Plucked string instrument.
- (C) SITAR: Plucked string instrument used in Indian classical music.

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

Solution

Q19 — Classification: Letter Groups with +4 Gap

Concept — Equidistant Letter Groups: In a valid group each letter is exactly 4 positions ahead of the previous one in the alphabet.

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

DHL: $D(4)+4=H(8)+4=L(12)$. ✓

CGK: $C(3)+4=G(7)+4=K(11)$. ✓

EIN: $E(5)+4=I(9)$. $I(9)+4=M(13) \neq N(14)$. **Gap of 5, not 4.** ✗

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

Why other options are wrong:

- (A) BFJ: Each consecutive pair has a gap of exactly 4.
- (C) DHL: Each consecutive pair has a gap of exactly 4.
- (D) CGK: Each consecutive pair has a gap of exactly 4.

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

Solution

Q20 — Classification: Perfect Cubes

Concept — Perfect Cubes: A perfect cube is a number of the form N^3 for some integer N .

Step 1 — Check each number: $125 = 5^3$. ✓ $343 = 7^3$. ✓ $512 = 8^3$. ✓

$217: 6^3 = 216; 7^3 = 343$. Since $216 < 217 < 343$, **217 is not a perfect cube.**

Step 2 — Odd one out: 217 is not a perfect cube.

Why other options are wrong:

- (B) 125: $5^3 = 125$ — a perfect cube.



- (C) 343: $7^3 = 343$ — a perfect cube.
- (D) 512: $8^3 = 512$ — a perfect cube.

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

Solution

Q21 — Ranking/Ordering: Age Ordering

Concept — Linear Chain from Comparative Clues: Each clue adds a link to the age chain. Chain together all clues to find the extremes.

Step 1 — Build the chain: $T > P > Q > R > S$.

T is the oldest; S is the youngest.

Step 2 — Identify youngest: S is the youngest.

Why other options are wrong:

- (A) P: P is older than Q, R, and S.
- (B) Q: Q is older than R and S.
- (D) R: R is older than S.

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

Solution

Q22 — Ranking/Ordering: Queue Total

Concept — Position from Both Ends: Total = (position from front) + (position from back) – 1.

Step 1 — Apply the formula: Total = $9 + 11 - 1 = 19$.

Step 2 — Verify: 8 people are ahead of Meera; 10 people are behind her; Meera herself: $8 + 1 + 10 = 19$. ✓

Why other options are wrong:

- (A) 18: Subtracts 2 instead of 1 from the raw sum.
- (C) 20: Adds $9 + 11 = 20$ without subtracting 1 for Meera counted twice.
- (D) 21: Over-counts by 2.

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



Solution**Q23 — Ranking/Ordering: Class Rank**

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

Step 1 — Apply the formula: Total = $17 + 14 - 1 = 30$.

Step 2 — Verify: 16 students rank above Asha; 13 rank below: $16 + 1 + 13 = 30$. ✓

Why other options are wrong:

- (A) 31: Applies the formula with +1 instead of –1.
- (B) 29: Subtracts 2 instead of 1.
- (C) 28: Subtracts 3 from the raw sum.

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

Solution**Q24 — Ranking/Ordering: Row Position**

Concept — Sequential Deduction of Positions: Use the positional clues one by one to fix each person's place.

Step 1 — Fix positions: Usha is at position 1 (extreme left).

Waqar is immediately right of Usha $\Rightarrow$ position 2.

Xena is 3rd from left $\Rightarrow$ position 3.

Vinod is 4th from left $\Rightarrow$ position 4.

Zara is at extreme right $\Rightarrow$ position 6.

Yash is immediately left of Zara $\Rightarrow$ position 5.

Step 2 — Arrangement:

1: Usha 2: Waqar 3: Xena 4: **Vinod** 5: Yash 6: Zara

4th from left = **Vinod**.

Why other options are wrong:

- (B) Yash: Yash is at position 5.
- (C) Waqar: Waqar is at position 2.
- (D) Xena: Xena is at position 3.

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



Solution**Q25 — Direction / Net Displacement: 5-12-13 Right Triangle**

Concept — Pythagorean Theorem: West and South displacements are perpendicular. The straight-line distance is the hypotenuse: $d = \sqrt{a^2 + b^2}$.

Step 1 — Identify the two legs: Leg 1 (West) = 5 km. Leg 2 (South) = 12 km. These are perpendicular.

Step 2 — Calculate displacement:

$$d = \sqrt{5^2 + 12^2} = \sqrt{25 + 144} = \sqrt{169} = 13 \text{ km}$$

This is the classic 5-12-13 Pythagorean triple.

Why other options are wrong:

- (A) 12 km: One leg of the triangle, not the hypotenuse.
- (B) 11 km: $\sqrt{121}$ — unrelated to the given distances.
- (D) 15 km: $\sqrt{225} = 15$; would require legs of 9 and 12, not 5 and 12.

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

Solution**Q26 — Blood Relations: Grandfather's Only Son**

Concept — Family Tree Deduction: Trace the chain: “my grandfather’s only son” identifies one specific person; then determine the speaker’s relation to the person referenced.

Step 1 — Decode the statement: “My grandfather’s only son” = the speaker’s own father (since he is the only son of grandfather).

“He is the son of my grandfather’s only son” $\Rightarrow$ He is the son of the speaker’s father.

Son of speaker’s father = speaker’s **brother**.

The speaker (a woman) is the brother’s **sister**.

Why other options are wrong:

- (A) Mother: The speaker is the same generation as the man, not one generation above.
- (C) Aunt: Aunt is the sister of a parent; here the speaker is the sister of the man (same generation).
- (D) Grandmother: Two generations above — does not apply here.

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



Solution**Q27 — Blood Relations: Parents of Same Child**

Concept — Identifying Spousal Relationship: If two people are both parents of the same child, they are married to each other.

Step 1 — Build the tree: A is mother of B. B is brother of C $\Rightarrow$ A is also mother of C (B and C have the same mother A). D is father of C $\Rightarrow$ D and A are both parents of C.

Step 2 — D's relation to A: D and A share the same child C, so D is A's **husband**.

Why other options are wrong:

- (A) Brother: D is not a sibling of A.
- (B) Father: D would be A's father only if D were a generation above A; here they are co-parents.
- (C) Son: D would be A's son only if D were a generation below A.

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

Solution**Q28 — Blood Relations: Complex Family Tree**

Concept — In-law Relationships via Marriage: Z is the sister of Y. Y is married to W. The spouse's sibling is one's sibling-in-law.

Step 1 — Identify the key links: X is father of Y and Z. Z is sister of Y. Y is married to W.

Step 2 — Z's relation to W: W is married to Y. Z is the sister of Y. Therefore Z is W's **sister-in-law** (sister of one's spouse).

Why other options are wrong:

- (B) Cousin: Cousins share grandparents; Z and W are not cousins.
- (C) Daughter-in-law: W's daughter-in-law would be the wife of W's son; not applicable.
- (D) Niece: A niece is the daughter of one's sibling; Z is in the same generation as Y, not below W.

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



Solution**Q29 — Blood Relations: Coded Symbolic Relations**

Concept — Step-by-Step Symbol Decoding: Decode each operator in the expression to build the family tree.

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

$Q \star R$: Q is father of R.

$R \clubsuit S$: R is daughter of S $\Rightarrow$ S is parent of R. Since Q is father of R, S is the mother of R (Q's wife).

Step 2 — P's relation to S: Q is husband of S. P is brother of Q. Therefore P is the brother of S's husband $\Rightarrow$ P is S's **brother-in-law**.

Why other options are wrong:

- (A) Uncle: Uncle would be the brother of S's parent, not of S's husband.
- (B) Father: P is not the father of S.
- (D) Son: P is in Q's generation, not below S's generation.

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

Solution**Q30 — Directions: 7-24-25 Right Triangle**

Concept — Pythagorean Theorem: North and East displacements are perpendicular. The straight-line distance is the hypotenuse.

Step 1 — Identify the two legs: Vertical (North) = 7 km. Horizontal (East) = 24 km. They meet at a right angle.

Step 2 — Calculate:

$$d = \sqrt{7^2 + 24^2} = \sqrt{49 + 576} = \sqrt{625} = 25 \text{ km}$$

This is the 7-24-25 Pythagorean triple.

Why other options are wrong:

- (A) 24 km: Just one leg of the triangle.
- (C) 26 km: $\sqrt{676}$; not obtained from 7 and 24.
- (D) 28 km: $\sqrt{784}$; not related to 7 and 24.

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



Solution**Q31 — Directions: Compass Turns**

Concept — Sequential Direction Changes: Clockwise turn = turning right; counter-clockwise turn = turning left.

Step 1 — Initial direction: Rohan faces **West**.

Step 2 — First turn: 90° clockwise from West: West $\xrightarrow{+90 \text{ CW}}$ North.

Step 3 — Second turn: 180° counter-clockwise from North: North $\xrightarrow{-180}$ South.

Final direction: **South**.

Why other options are wrong:

- (B) North: Only the intermediate direction after the first turn.
- (C) East: Would result from 90° counter-clockwise then 180° counter-clockwise from West.
- (D) West: The starting direction — the turns change it.

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

Solution**Q32 — Directions: Sun-Shadow Orientation**

Concept — Shadow Direction at Noon: At noon the sun is in the south, so shadows fall to the north (directly behind a person facing south, or in front of a person facing north). The shadow falls in the direction opposite to the sun, relative to the object.

Step 1 — Initial setup: Sunita faces East. At noon, the sun is in the south, so her shadow falls to the north (shadow is behind when sun is to her south-left). More precisely: the shadow falls on the opposite side of the sun from the person. Sun is south; Sunita faces East; shadow falls north.

Step 2 — After turning 90° left: Facing East, turning 90° left $\Rightarrow$ faces **North**. Now the sun (south) is directly behind her. Shadow falls directly in front of her $\Rightarrow$ **South**.

Why other options are wrong:

- (A) North: That was the shadow direction before the turn.
- (B) West: Her left side — shadow does not fall sideways at noon.
- (D) East: Her original facing direction.

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



Solution**Q33 — Syllogism: All-All (Pens, Pencils, Stationery)**

Concept — Transitive Universal Syllogism: If all A are B and all B are C, then all A are C. Also, since some A exist within C, some C are A.

Step 1 — Apply transitivity (Conclusion I): All pens $\subset$ pencils $\subset$ stationery. Therefore all pens are stationery. Conclusion I follows.

Step 2 — Check Conclusion II: Since all pens are stationery and pens exist, some stationery are pens. Conclusion II follows.

Both I and II follow.

Why other options are wrong:

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

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

Solution**Q34 — Syllogism: Some-All (Birds, Parrots, Green)**

Concept — Partial Set Inclusion with Universal: “Some birds are parrots” means birds $\cap$ parrots $\neq \emptyset$. “All parrots are green” means parrots $\subset$ green.

Step 1 — Check Conclusion I (All birds are green): Only some birds are parrots; the rest need not be green. Conclusion I does **not** follow.

Step 2 — Check Conclusion II (Some green things are birds): Some birds are parrots; all parrots are green $\Rightarrow$ those birds (which are parrots) are green. So some green things are birds. Conclusion II follows.

Only II follows.

Why other options are wrong:

- (A) Both: I is too strong — not all birds are parrots.
- (B) Only I: I does not follow; II does.
- (C) Neither: II is validly derived.

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



Solution**Q35 — Syllogism: No-All (Chairs, Tables, Furniture)**

Concept — Universal Negative with Universal Affirmative: “No chairs are tables” means chairs and tables are disjoint. “All tables are furniture” means $\text{tables} \subset \text{furniture}$. The chairs-tables exclusion does not cover all furniture.

Step 1 — Check Conclusion I (No chairs are furniture): This would follow only if all furniture were tables. But furniture includes things other than tables. Chairs might be furniture independently. Conclusion I does **not** follow.

Step 2 — Check Conclusion II (Some furniture are not chairs): Tables are furniture. No chairs are tables, so the tables within furniture are not chairs. Hence at least the tables are furniture members that are not chairs. Conclusion II **follows**.

Only II follows.

Why other options are wrong:

- (A) Both: I is not established by the given statements.
- (C) Only I: I is invalid; II is the valid conclusion.
- (D) Neither: II is correctly derived.

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

Solution**Q36 — Syllogism: All-Some (Stars, Planets, Moons)**

Concept — Universal Affirmative with Particular Affirmative: “All stars are planets” means $\text{stars} \subset \text{planets}$. “Some planets are moons” — the “some planets” that are moons need not be the stars-subset.

Step 1 — Check Conclusion I (Some stars are moons): The “some planets” that are moons might entirely lie outside the stars-subset of planets. We cannot guarantee the overlap. Conclusion I does **not** definitely follow.

Step 2 — Check Conclusion II (Some moons are planets): “Some planets are moons” directly converts to “some moons are planets” (the same overlap stated the other way). Conclusion II **follows**.

Only II follows.

Why other options are wrong:

- (A) Both: I is not guaranteed by the premises.
- (B) Only I: I does not follow; II does.



- (D) Neither: II is a valid direct conversion of the second premise.

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

Solution

Q37 — Syllogism: Some-No (Questions, Answers, Correct)

Concept — Particular Affirmative + Universal Negative: “Some questions are answers” means questions $\cap$ answers $\neq \emptyset$. “No answers are correct” means answers and correct are disjoint.

Step 1 — Check Conclusion I (Some questions are not correct): Those questions that are also answers are not correct (since no answers are correct). So at least *some* questions (the ones that are answers) are not correct. Conclusion I **follows**.

Step 2 — Check Conclusion II (No questions are correct): This is too strong. Only *some* questions are answers; other questions might still be correct. Conclusion II does **not** follow.

Only I follows.

Why other options are wrong:

- (B) Only II: II overclaims — not all questions are answers.
- (C) Both: II is invalid.
- (D) Neither: I is correctly derived from the two premises.

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

Solution

Q38 — Statement-Conclusion: Rainwater Harvesting

Concept — Conclusion from Policy Statement: A policy recommendation implies reasons that justify it. Both the utility of the action and the underlying problem it addresses can be inferred.

Step 1 — Check Conclusion I (Rainwater harvesting conserves water): The very recommendation to make harvesting compulsory presupposes that it is effective at conserving water. Conclusion I **follows**.

Step 2 — Check Conclusion II (Water resources are under stress): If water resources were adequate, there would be no need for compulsory harvesting. The statement strongly implies scarcity/stress. Conclusion II **follows**.



Both I and II follow.

Why other options are wrong:

- (A) Only I: II is equally implicit in the policy motivation.
- (B) Only II: I is directly implied by recommending harvesting as a solution.
- (D) Neither: Both conclusions are reasonable inferences from the statement.

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

Solution

Q39 — Statement-Assumption: Primary Education and Poverty

Concept — Implicit Assumption Test: An assumption is implicit if the statement cannot logically stand without it. Test by negating each assumption.

Step 1 — Check Assumption I (Education directly impacts economic status): If education had no impact on economic status, saying it is the “most effective way to reduce poverty” would be meaningless. Assumption I is **implicit**.

Step 2 — Check Assumption II (Primary education is accessible to all): The statement says education is *effective*, not that it is *accessible*. Accessibility is a separate policy issue not assumed by the statement. Assumption II is **not implicit**.

Only I is implicit.

Why other options are wrong:

- (A) Both: II is not a required assumption.
- (B) Neither: I is clearly implicit.
- (C) Only II: II is not embedded in the statement.

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

Solution

Q40 — Course of Action: Fertilizer Subsidies

Concept — Evaluating Practical Courses of Action: A valid course of action must be relevant to the problem and practically logical, without being extreme or counterproductive.

Step 1 — Evaluate Course I (Educate farmers on efficient use): Subsidies increase



fertilizer availability; misuse can degrade soil. Educating farmers is a complementary, practical, and directly relevant step. Course I **follows**.

Step 2 — Evaluate Course II (Ban all non-subsidized fertilizers): A blanket ban would be extreme and potentially disruptive to agriculture where subsidized fertilizers may be insufficient. This is an overreaction and counterproductive. Course II does **not** follow.

Only I follows.

Why other options are wrong:

- (A) Only II: II is extreme and not logically required.
- (C) Both: II is counterproductive.
- (D) Neither: I is clearly a logical and useful course.

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

Solution

Q41 — Statement-Conclusion: Mobile Phones Among Children

Concept — Direct vs Indirect Inference: A valid conclusion must follow from the statement without requiring additional unstated information.

Step 1 — Check Conclusion I (Less time outdoors): Children using phones more might spend less time outdoors, but this is an indirect inference. The statement says phone usage has increased, not what *replaced*. Conclusion I is not a necessary direct conclusion.

Step 2 — Check Conclusion II (Parents providing phones): Children under 10 cannot independently obtain mobile phones; they access them through adults, primarily parents. This is a direct and necessary inference. Conclusion II **follows**.

Only II follows.

Why other options are wrong:

- (B) Only I: I is speculative — the statement does not say what activity phones replaced.
- (C) Both: I requires an additional assumption not stated.
- (D) Neither: II is a valid direct conclusion.

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



Solution**Q42 — Statement-Conclusion: Late Policy and Bonus**

Concept — Scope of a Conditional Policy: The policy specifies what happens if an employee is late more than 3 times. It does not spell out all conditions for receiving a bonus.

Step 1 — Check Conclusion I (Never-late employees will definitely get a bonus):

The policy only says latecomers *lose* the bonus. Other conditions (performance, conduct) could also affect bonuses. Conclusion I is too strong. It does **not** follow.

Step 2 — Check Conclusion II (Punctuality is expected of all): A policy penalizing lateness directly implies that management expects employees to be punctual. Conclusion II **follows**.

Only II follows.

Why other options are wrong:

- (A) Both: I is an over-extension of the policy's stated scope.
- (B) Only I: I does not follow; II does.
- (C) Neither: II is a direct and necessary implication of the policy.

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

Solution**Q43 — Seating Arrangement: Who Sits Directly Opposite Uma?**

Concept — Circular Arrangement with Opposite Seats: In a 6-person circle, position k is directly opposite position $k + 3 \pmod{6}$.

Clockwise arrangement: Priya(1) – Qamar(2) – Tarun(3) – Rohan(4) – Uma(5) – Seema(6).

Step 1 — Opposite of Uma (position 5): Position $5 - 3 = 2 \Rightarrow$ **Qamar** sits directly opposite Uma.

Why other options are wrong:

- (A) Priya: Priya (pos 1) is opposite Rohan (pos 4), not Uma.
- (C) Rohan: Rohan (pos 4) is opposite Priya (pos 1).
- (D) Tarun: Tarun (pos 3) is opposite Seema (pos 6).

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



Solution**Q44 — Seating Arrangement: Immediately Clockwise from Tarun**

Clockwise arrangement: Priya(1) – Qamar(2) – Tarun(3) – Rohan(4) – Uma(5) – Seema(6).

Step 1 — Position clockwise after Tarun (position 3): Next clockwise position = 4 = Rohan.

Why other options are wrong:

- (A) Priya: Priya is at position 1, not immediately after Tarun.
- (B) Seema: Seema is at position 6, two seats past Rohan.
- (D) Uma: Uma is at position 5, two seats after Tarun.

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

Solution**Q45 — Seating Arrangement: People Between Priya and Seema (Clockwise)**

Clockwise arrangement: Priya(1) – Qamar(2) – Tarun(3) – Rohan(4) – Uma(5) – Seema(6).

Step 1 — Count people strictly between Priya (1) and Seema (6) going clockwise: Positions 2, 3, 4, 5 = Qamar, Tarun, Rohan, Uma. That is **4 people**.

Why other options are wrong:

- (B) 3: Undercounts by 1.
- (C) 2: Undercounts by 2.
- (D) 5: Would require 5 people between positions 1 and 6, but there are only 4.

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

Solution**Q46 — Seating Arrangement: After Qamar-Rohan Swap, Who is Opposite Priya?**

Original arrangement: Priya(1) – Qamar(2) – Tarun(3) – Rohan(4) – Uma(5) – Seema(6).

Step 1 — Original: Priya (pos 1) is directly opposite Rohan (pos 4).

Step 2 — After swap (Qamar ↔ Rohan): New arrangement: Priya(1) – Rohan(2) –



Tarun(3) – **Qamar**(4) – Uma(5) – Seema(6).

Position 4 (directly opposite Priya) is now occupied by **Qamar**.

Why other options are wrong:

- (A) Rohan: After the swap, Rohan moved to position 2.
- (B) Uma: Uma is at position 5 and was not swapped.
- (C) Seema: Seema is at position 6 and was not swapped.

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

Solution

Q47 — Seating Arrangement: Between Tarun and Uma on Shorter Arc

Clockwise arrangement: Priya(1) – Qamar(2) – Tarun(3) – Rohan(4) – Uma(5) – Seema(6).

Step 1 — Identify the arcs between Tarun (3) and Uma (5): Clockwise arc from 3 to 5: positions 3→4→5, so one person between = position 4 = **Rohan**. (1 person between = shorter arc.)

Counter-clockwise arc from 3 to 5: 3→2→1→6→5, so 3 people between (Qamar, Priya, Seema). Longer arc.

Step 2 — Person on shorter arc: **Rohan** sits between Tarun and Uma on the shorter arc.

Why other options are wrong:

- (A) Priya: Priya is on the longer arc (counter-clockwise) between Tarun and Uma.
- (B) Seema: Seema is also on the longer arc.
- (D) Qamar: Qamar is on the longer arc.

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

Solution

Q48 — Seating Arrangement: 3 Seats Clockwise from Seema

Clockwise arrangement: Priya(1) – Qamar(2) – Tarun(3) – Rohan(4) – Uma(5) – Seema(6).

Step 1 — 3 seats clockwise from Seema (position 6): $(6 + 3 - 1) \bmod 6 + 1$: Position



$6 + 3 = 9$; $9 \bmod 6 = 3 \Rightarrow \text{position } 3 = \text{Tarun}.$

Alternatively: Seema(6) $\rightarrow$ Priya(1) $\rightarrow$ Qamar(2) $\rightarrow$ Tarun(3). Count: 1st=Priya, 2nd=Qamar, 3rd=Tarun.

Why other options are wrong:

- (A) Uma: Uma is 1 seat counter-clockwise from Seema, or 5 clockwise.
- (C) Priya: Priya is 1 seat clockwise from Seema.
- (D) Qamar: Qamar is 2 seats clockwise from Seema.

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

Solution

Q49 — Cause-Effect: Water Shortage and Private Tankers

Concept — Cause-Effect Identification: A cause precedes and directly produces the effect. The effect would not have occurred without the cause.

Step 1 — Analyse the statements: Statement I: Severe water shortage in the city (a supply-side failure). Statement II: Residents buying water from private tankers (an adaptive response to shortage).

Step 2 — Determine the relationship: The water shortage (Statement I) directly compels residents to seek alternative water sources (Statement II). Statement I is the **cause**; Statement II is the **effect**.

Why other options are wrong:

- (A) II causes I: Water tankers do not cause a city-wide shortage — the reverse is true.
- (B) Effects of a common cause: There is no third event implied; the shortage directly causes the tanker demand.
- (C) Independent causes: They are not independent; II is a direct consequence of I.

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

Solution

Q50 — Assertion-Reason: Electricity Conservation

Concept — Assertion-Reason Analysis: Check: (1) Is Assertion A true? (2) Is Reason R true? (3) If both true, does R correctly explain A?



Step 1 — Is Assertion A true? “We should conserve electricity” — electricity is a finite or resource-intensive commodity; conservation is environmentally and economically sound. **A is true.**

Step 2 — Is Reason R true? “Electricity is derived *only* from solar panels” — this is factually **false**. Electricity is generated from coal, natural gas, nuclear energy, hydropower, wind, solar, and other sources. The word “only” makes R incorrect.

Conclusion: A is true; R is false.

Why other options are wrong:

- (A) Both true, R explains A: R is factually false.
- (B) Both true, R not correct reason: R is false, not merely an incorrect explanation.
- (D) A is false, R is true: A is a valid, well-supported statement; R is false.

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



Answer Key

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

