RIE CEE Reasoning Ability

Sample Paper – 8

Duration: 45 Minutes **Maximum Marks: 60**

Instructions

- This paper contains **30** Multiple Choice Questions (Single Correct Answer), modelled on the **Reasoning Ability** section of the **RIE CEE** (NCERT Regional Institutes of Education Common Entrance Exam).
- Each correct answer carries **+2 marks**. There is a penalty of -0.5 **mark** for every incorrect answer. Unattempted questions carry **0 marks**.
- Only **one** option is correct. Choose carefully before marking, since wrong answers are penalised.
- The actual exam is a **Computer Based Test (CBT)**; attempt this paper in one timed sitting of 45 minutes.
- Use of mobile phones, calculators, or electronic gadgets is not permitted.

Q1. Find the next term in the series: $4,\ 7,\ 11,\ 18,\ 29,\ ?$

(A) 45

(B) 47

(C) 48

(D) 43

Q2. Find the next term in the series: $4,\ 16,\ 36,\ 64,\ 100,\ ?$

(A) 121

(B) 169

(C) 196

(D) 144

Q3. Find the next term in the letter series: $B,\ C,\ E,\ H,\ ?$

(A) L

(B) K

(C) M

(D) J

Q4. Find the next term in the series: $3,\ 11,\ 27,\ 59,\ 123,\ ?$

(A) 245

(B) 246

(C) 251

(D) 253

Q5. Find the next term in the series: $B2,\ E5,\ H8,\ K11,\ ?$

(A) N14

(B) M14

(C) N11

(D) O14

Q6. $4 : 64 :: 6 :?$

(A) 196

(B) 36

(C) 144

(D) 216

Q7. If $PLANT : NJYLR$, then $GRAPE :?$

(A) EPYMC

(B) FPYNC

(C) EPYNC

(D) EONNC

Q8. Doctor is to Patient as Lawyer is to:

(A) Client

(B) Law

(C) Court

(D) Judge

Q9. Choose the number that does not belong with the others: $49,\ 81,\ 97,\ 121,\ 144$

(A) 121

(B) 97

(C) 49

(D) 144

Q10. Choose the odd letter pair:

(A) CE

(B) KM

(C) RT

(D) WA

Q11. Choose the word that does not belong with the others:

(A) Square

(B) Violet

(C) Crimson

(D) Maroon

Q12. In a certain code, $LAMP$ is written as $JYKN$. How is $DESK$ written in that code?

(A) BCQJ

(B) CCQI

(C) BCQI

(D) BDRI

Q13. If each letter is coded by its position in the English alphabet, then $WIND$ is coded as:

(A) 23-9-15-4

(B) 22-9-14-4

(C) 23-8-14-4

(D) 23-9-14-4

Q14. In a code language $CABLE$ is written as $JHISL$. How is $TABLE$ written in the same code?

(A) ZHISL

(B) AHISL

(C) AHJSL

(D) AGISL

Q15. Pointing to a woman in a photograph, Suresh said, "She is the wife of the only son of my mother." How is the woman related to Suresh?

(A) Wife

(B) Sister

(C) Mother

(D) Daughter

Q16. P and Q are sisters. R is the mother of P. S is the brother of R. How is S related to Q?

(A) Father

(B) Maternal uncle

(C) Brother

(D) Cousin

Q17. Meena said, "This lady is the only daughter of my grandfather." How is the lady related to Meena?

(A) Mother

(B) Sister

(C) Grandmother

(D) Aunt

Q18. Statements: All crows are birds. All birds are creatures.
Conclusions: I. All crows are creatures. II. Some creatures are crows.

(A) Only I follows

(B) Only II follows

(C) Both I and II follow

(D) Neither I nor II follows

Q19. Statements: Some beds are tables. All tables are furniture.
Conclusions: I. Some beds are furniture. II. All furniture are tables.

(A) Only I follows

(B) Both I and II follow

(C) Only II follows

(D) Neither I nor II follows

Q20. Statements: No player is lazy. All athletes are players.
Conclusions: I. No athlete is lazy. II. Some lazy persons are athletes.

(A) Both I and II follow

(B) Only I follows

(C) Only II follows

(D) Neither I nor II follows

Q21. Statement: There has been a sharp rise in the prices of essential vegetables in the city markets this month.
Courses of action: I. The government should check hoarding and ensure adequate supply. II. The government should immediately ban the sale of all vegetables.

(A) Only II follows

(B) Both I and II follow

(C) Only I follows

(D) Neither I nor II follows

Q22. Statement: "Get treated at our hospital — we have the most advanced equipment in the region." — an advertisement.
Assumptions: I. People prefer hospitals with advanced equipment. II. The advertisement may attract patients to the hospital.

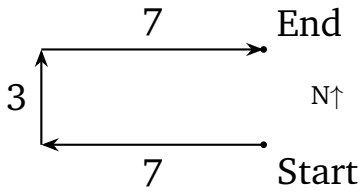
(A) Only I is implicit

(B) Only II is implicit

(C) Neither I nor II is implicit

(D) Both I and II are implicit

Q23. A man starts from a point, walks 7 km West, turns right and walks 3 km, then turns right again and walks 7 km. How far and in which direction is he now from the starting point?



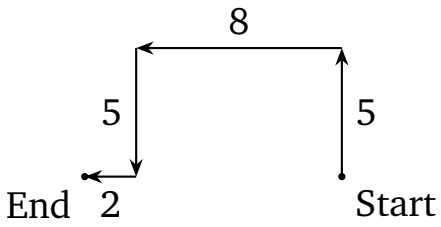
(A) 3 km North

(B) 3 km South

(C) 14 km North

(D) 7 km North

Q24. A girl walks 5 km North, turns left and walks 8 km, turns left and walks 5 km, then turns right and walks 2 km. How far and in which direction is she from the starting point?



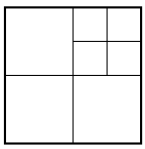
(A) 8 km West

(B) 6 km West

(C) 10 km West

(D) 2 km West

Q25. How many squares are there in the figure given below?



(A) 7

(B) 9

(C) 8

(D) 6

Q26. The arrow rotates by 180° at each step. Which direction should the arrow point in the next figure?

↑ ↓ ↑ ?

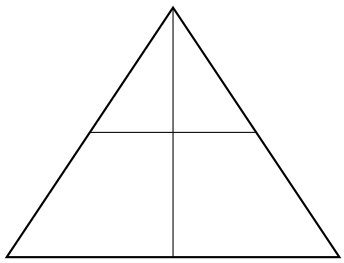
(A) → (points East)

(B) ↑ (points North)

(C) ← (points West)

(D) ↓ (points South)

Q27. How many triangles are there in the figure given below?



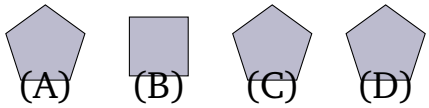
(A) 6

(B) 7

(C) 8

(D) 5

Q28. Choose the figure that is different from the other three.



(A) Figure A

(B) Figure B

(C) Figure C

(D) Figure D

Q29. Five friends C, D, E, F and G are sitting in a row facing North. G is at the extreme right end. E is immediately to the left of G. C is at the extreme left end. F is immediately to the right of C. Who is sitting exactly in the middle of the row?

(A) F

(B) E

(C) D

(D) C

Q30. In a class of 38 students, Neha's rank is 16th from the top. What is her rank from the bottom?

(A) 22nd

(B) 24th

(C) 21st

(D) 23rd

Detailed Solutions

Q1.

Solution

Concept — Number series (sum of previous two): In a Fibonacci-like series, each term is the sum of the two terms before it.

Step 1 — Test the rule: $4 + 7 = 11$.

Step 2 — Check the next pair: $7 + 11 = 18$.

Step 3 — Check again: $11 + 18 = 29$.

Step 4 — Apply to the last two terms: $18 + 29 = 47$.

Why other options are wrong:

- 45 and 43 take the wrong pair of terms; 48 adds an extra unit.

Final Answer: The next term is $47 \Rightarrow$ B

Answer: (B) Go Back to Q1

Q2.

Solution

Concept — Number series (squares of even numbers): Check whether each term is the square of consecutive even numbers.

Step 1 — Match the form: $2^2 = 4$, $4^2 = 16$, $6^2 = 36$, $8^2 = 64$, $10^2 = 100$.

Step 2 — Next even number: The next even number is 12.

Step 3 — Square it: $12^2 = 144$.

Why other options are wrong:

- 121 is 11^2 (odd base); 169 is 13^2; 196 is 14^2 — they skip 12.

Final Answer: The next term is $144 \Rightarrow$ D

Answer: (D) Go Back to Q2

Q3.

Solution

Concept — Letter series (growing gaps): Convert letters to positions and study how the gaps grow.

Step 1 — Positions: $B = 2$, $C = 3$, $E = 5$, $H = 8$.

Step 2 — Gaps: $3 - 2 = 1$, $5 - 3 = 2$, $8 - 5 = 3$. The gaps are $1, 2, 3$, increasing by 1.

Step 3 — Next gap and letter: Next gap $= 4$, so position $= 8 + 4 = 12 = L$.

Why other options are wrong:

- K (11) uses a gap of 3 again; M (13) and J (10) miss position 12.

Final Answer: The next letter is $L \Rightarrow$ A

Answer: (A) Go Back to Q3

Q4.

Solution

Concept — Number series (multiply then add): Test a rule of the form "previous term $\times 2 + 5$".

Step 1 — Test the rule: $3 \times 2 + 5 = 11$.

Step 2 — Continue: $11 \times 2 + 5 = 27$.

Step 3 — Continue: $27 \times 2 + 5 = 59$.

Step 4 — Continue: $59 \times 2 + 5 = 123$.

Step 5 — Apply to the last term: $123 \times 2 + 5 = 246 + 5 = 251$.

Why other options are wrong:

- 246 is only $\times 2$ (forgets the $+5$); 245 and 253 miscompute the addition.

Final Answer: The next term is $251 \Rightarrow$ C

Answer: (C) Go Back to Q4

Q5.

Solution

Concept — Alphanumeric series: Treat the letter part and the number part as two separate series.

Step 1 — Letters: B, E, H, K increase by 3 each time, so next is N.

Step 2 — Numbers: $2, 5, 8, 11$ increase by 3 each time, so next is 14.

Step 3 — Combine: The next term is $N14$.

Why other options are wrong:

- M14 uses the wrong letter; N11 uses the wrong number; O14 skips a letter.

Final Answer: The next term is $N14 \Rightarrow$ A

Answer: (A) Go Back to Q5

Q6.

Solution

Concept — Number analogy (cube): Find the rule connecting the first pair, then apply it to the second.

Step 1 — Rule: $4^3 = 4 \times 4 \times 4 = 64$, so the rule is $n \to n^3$.

Step 2 — Apply: For 6: $6^3 = 6 \times 6 \times 6 = 216$.

Why other options are wrong:

- 196 is 14^2; 36 is 6^2; 144 is 12^2 — none is 6^3.

Final Answer: $6 : 216 \Rightarrow$ D

Answer: (D) Go Back to Q6

Q7.

Solution

Concept — Letter analogy (shift -2): Compare each letter's position shift between the two words.

Step 1 — Find the shift: $P \to N$ (-2), $L \to J$ (-2), $A \to Y$ $(-2$, wrapping A back to $Y)$, $N \to L$ (-2), $T \to R$ (-2). The rule is -2 to each letter.

Step 2 — Apply to GRAPE: $G \to E$, $R \to P$, $A \to Y$, $P \to N$, $E \to C$, giving $EPYNC$.

Why other options are wrong:

- EPYMC and EONNC shift one letter wrongly; FPYNC shifts G by -1.

Final Answer: $GRAPE \to EPYNC \Rightarrow$ C

Answer: (C) Go Back to Q7

Q8.

Solution

Concept — Word analogy (professional : person served): A doctor works on (serves) a patient; match the professional to the person they serve.

Step 1 — First pair: Doctor $\to$ Patient (a doctor treats a patient).

Step 2 — Apply: A lawyer represents a client, so Lawyer $\to$ Client.

Why other options are wrong:

- Court is a place, Law is the field, and Judge is another official — none is the person the lawyer serves.

Final Answer: Lawyer is to Client $\Rightarrow$ A

Answer: (A) Go Back to Q8

Q9.

Solution

Concept — Classification of numbers: Look for a single property shared by all but one.

Step 1 — Test for perfect squares: $49 = 7^2$, $81 = 9^2$, $121 = 11^2$, $144 = 12^2$.

Step 2 — Check 97: 97 has no integer square root; in fact 97 is a prime number.

Step 3 — Conclusion: 97 is the odd one out.

Why other options are wrong:

- 49, 81, 121 and 144 are all perfect squares, so they belong together.

Final Answer: 97 does not belong $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q9

Q10.

Solution

Concept — Letter-pair classification: Find the gap between the two letters of each pair.

Step 1 — Gaps: CE: $C(3) \to E(5)$, gap 2. KM: $K(11) \to M(13)$, gap 2. RT: $R(18) \to T(20)$, gap 2. WA: $W(23) \to A(1)$, which is a gap of 4 (wrapping past Z).

Step 2 — Conclusion: Three pairs have a gap of 2; WA has a gap of 4, so it is the odd one.

Why other options are wrong:

- CE, KM and RT all have a gap of 2 between the letters.

Final Answer: WA is the odd pair $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q10

Q11.

Solution

Concept — Word classification: Group the items by category and find the outsider.

Step 1 — Identify the items: Violet, Crimson and Maroon are all colours.

Step 2 — The outsider: Square is a geometric shape, not a colour.

Why other options are wrong:

- Violet, Crimson and Maroon share the category "colour".

Final Answer: Square does not belong $\Rightarrow$ A

Answer: (A) Go Back to Q11

Q12.

Solution

Concept — Coding by letter shift: Find the constant shift from the plain word to its code.

Step 1 — Find the shift: $L \to J$ (-2), $A \to Y$ $(-2$, wrapping), $M \to K$ (-2), $P \to N$ (-2). The shift is -2.

Step 2 — Apply to DESK: $D \to B$, $E \to C$, $S \to Q$, $K \to I$, giving $BCQI$.

Why other options are wrong:

- BCQJ shifts K wrongly; CCQI shifts D wrongly; BDRI shifts E and S wrongly.

Final Answer: $DESK \to BCQI \Rightarrow$ C

Answer: (C) Go Back to Q12

Q13.

Solution

Concept — Positional coding: Replace each letter by its position number ($A = 1, B = 2, \ldots, Z = 26$).

Step 1 — Decode each letter: $W = 23$, $I = 9$, $N = 14$, $D = 4$.

Step 2 — Write the code: $WIND = 23\text{-}9\text{-}14\text{-}4$.

Why other options are wrong:

- 23-9-15-4 puts $N = 15$; 22-9-14-4 puts $W = 22$; 23-8-14-4 puts $I = 8$.

Final Answer: $WIND = 23\text{-}9\text{-}14\text{-}4 \Rightarrow$ D

Answer: (D) Go Back to Q13

Q14.

Solution

Concept — Coding by fixed shift: Determine the shift from $CABLE$ to $JHISL$ and reuse it.

Step 1 — Find the shift: $C \to J$ $(+7)$, $A \to H$ $(+7)$, $B \to I$ $(+7)$, $L \to S$ $(+7)$, $E \to L$ $(+7)$. The shift is $+7$.

Step 2 — Apply to TABLE: $T \to A$ ($T = 20$, $20 + 7 = 27$, wraps to $1 = A$), $A \to H$, $B \to I$, $L \to S$, $E \to L$, giving $AHISL$.

Why other options are wrong:

- ZHISL shifts T by $+6$; AHJSL shifts B wrongly; AGISL shifts A by $+6$.

Final Answer: $TABLE \to AHISL \Rightarrow$ B

Answer: (B) Go Back to Q14

Q15.

Solution

Concept — Blood relations (work inwards): Break the statement into small steps, starting from the innermost phrase.

Step 1 — "the only son of my mother": Suresh's mother's only son is Suresh himself.

Step 2 — "the wife of (Suresh)": The woman is the wife of Suresh.

Why other options are wrong:

- Sister, Mother and Daughter do not match "Suresh's own wife".

Final Answer: The woman is Suresh's wife $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q15

Q16.

Solution

Concept — Blood relations (build the tree): Lay out each clue as a link in a family tree.

Step 1 — Note the links: P and Q are sisters, so they share the same parents. R is the mother of P, hence also the mother of Q. S is the brother of R.

Step 2 — Relate S to Q: S is the brother of Q's mother, i.e. Q's maternal uncle.

Why other options are wrong:

- Father and Brother are the wrong relation; Cousin is the wrong generation.

Final Answer: S is Q's maternal uncle $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q16

Q17.

Solution

Concept — Blood relations (decode the phrase): Resolve "the only daughter of my grandfather" carefully.

Step 1 — "the only daughter of my grandfather": The grandfather's only daughter is one of Meena's parents' generation. Since she is the grandfather's daughter, she is Meena's mother (the daughter of Meena's grandfather, on whichever side, who has Meena as a child).

Step 2 — Confirm the link: Meena's grandfather's daughter who is in Meena's parent line is Meena's mother (his only daughter).

Why other options are wrong:

- Sister and Grandmother are the wrong generation; Aunt would require another daughter, but she is the only daughter, so she is Meena's mother.

Final Answer: The lady is Meena's mother $\Rightarrow$ D

Answer: (D) Go Back to Q17

Q18.

Solution

Concept — Syllogism (chain rule): "All A are B" plus "All B are C" gives "All A are C".

Step 1 — Conclusion I: All crows are birds and all birds are creatures, so all crows are creatures. I follows.

Step 2 — Conclusion II: If all crows are creatures, then those crows are creatures, so some creatures are crows. II follows (valid conversion of "all").

Why other options are wrong:

- Any option dropping I or II is wrong, since both conclusions are valid.

Final Answer: Both I and II follow $\Rightarrow$ C

Answer: (C) Go Back to Q18

Q19.

Solution

Concept — Syllogism (some + all): "Some A are B" plus "All B are C" gives "Some A are C".

Step 1 — Conclusion I: Some beds are tables, and all tables are furniture, so those beds are furniture. "Some beds are furniture" follows.

Step 2 — Conclusion II: "All furniture are tables" reverses the given "all tables are furniture" and is not valid.

Why other options are wrong:

- Options including II are wrong because the reverse statement does not follow.

Final Answer: Only I follows $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q19

Q20.

Solution

Concept — Syllogism (no + all): "No A is B" with "All C are A" transfers the exclusion to C.

Step 1 — Conclusion I: All athletes are players, and no player is lazy, so no athlete is lazy. I follows.

Step 2 — Conclusion II: "Some lazy persons are athletes" contradicts "no athlete is lazy", so it does not follow.

Why other options are wrong:

- Options accepting II are wrong; athletes cannot be lazy here.

Final Answer: Only I follows $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q20

Q21.

Solution

Concept — Course of action: A course of action should be practical and should genuinely address the problem.

Step 1 — Course I: Checking hoarding and ensuring supply directly tackles a sharp price rise, so it is a sensible action. I follows.

Step 2 — Course II: Banning the sale of all vegetables is impractical and would harm people more, so it does not follow.

Why other options are wrong:

- Any option accepting II is wrong; a total ban is not a workable remedy.

Final Answer: Only I follows $\Rightarrow$ C

Answer: (C) Go Back to Q21

Q22.

Solution

Concept — Implicit assumptions: An assumption is something taken for granted that must hold for the statement to make sense.

Step 1 — Assumption I: Advertising advanced equipment assumes patients value such equipment when choosing a hospital; otherwise the appeal is pointless. I is implicit.

Step 2 — Assumption II: An advertisement is placed to draw patients, so it may attract them to the hospital. II is implicit.

Why other options are wrong:

- Dropping either assumption is wrong, since both underlie the advertisement.

Final Answer: Both I and II are implicit $\Rightarrow$ D

Answer: (D) Go Back to Q22

Q23.

Solution

Concept — Direction sense (net displacement): Track each leg on a grid and combine the moves.

Step 1 — Leg 1: 7 km West.

Step 2 — Turn right, Leg 2: Facing West, a right turn points North; walk 3 km North.

Step 3 — Turn right, Leg 3: Facing North, a right turn points East; walk 7 km East. The 7 km East cancels the 7 km West.

Step 4 — Net position: Only the 3 km North remains, so he is 3 km North of the start.

Why other options are wrong:

- 7 km North and 14 km North add wrong legs; 3 km South reverses the direction.

Final Answer: 3 km North $\Rightarrow$ A

Answer: (A) Go Back to Q23

Q24.

Solution

Concept — Direction sense (cancel opposite legs): North and South distances cancel; East and West distances add when in the same direction.

Step 1 — List the legs: 5 km North, then 8 km West (left turn while facing North), then 5 km South (left turn while facing West), then 2 km West (right turn while facing South).

Step 2 — Vertical movement: 5 km North and 5 km South cancel out.

Step 3 — Horizontal movement: 8 km West + 2 km West = 10 km West.

Why other options are wrong:

- 8 km and 2 km use only one horizontal leg; 6 km wrongly subtracts the legs.

Final Answer: 10 km West $\Rightarrow$ C

Answer: (C) Go Back to Q24

Q25.

Solution

Concept — Counting squares: Count squares of every possible size, including those formed by the extra subdivision.

Step 1 — Base grid: The 2×2 grid gives 4 unit squares plus 1 large outer square $= 5$ squares.

Step 2 — Extra subdivision: The top-right unit cell is cut into four small squares by the extra lines, adding 4 tiny squares. But the top-right unit cell itself was already counted, so these 4 tiny squares are new.

Step 3 — Total: $5 + 4 = 9$ squares.

Why other options are wrong:

- 7 and 8 miss some of the new tiny squares; 6 counts only part of the subdivision.

Final Answer: 9 squares $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q25

Q26.

Solution

Concept — Figure series (rotation): Identify the fixed angle of rotation between successive figures.

Step 1 — Read the figures: The arrow points North, then South, then North — a 180° turn each step.

Step 2 — Next figure: A further 180° turn from North points South.

Why other options are wrong:

- East and West are not on the vertical axis; North repeats the third figure instead of flipping it.

Final Answer: The arrow points South $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q26

Q27.

Solution

Concept — Counting triangles: A large triangle with a median (apex to the base midpoint) and a midline (joining the midpoints of the two slant sides) creates triangles of several sizes. Count them by size.

Step 1 — Label the points: Let the triangle be ABC with apex C. The median runs from C to the base midpoint M. The midline runs from P (midpoint of the left side) to Q (midpoint of the right side); the median and midline cross at the centre point O.

Step 2 — Smallest triangles (above the midline): The midline and the median split the top region into 2 small triangles: CPO and COQ.

Step 3 — Medium triangle: Combining those two gives the triangle CPQ (apex C on the full midline). That is 1 more.

Step 4 — Half triangles by the median: The median splits the whole triangle into the left half ACM and the right half BCM. That is 2 more.

Step 5 — The whole triangle: The outer triangle ABC itself is 1.

Step 6 — Total: $2+1+2+1=6$ triangles. (The region below the midline is split only into quadrilaterals, so it adds no triangles.)

Why other options are wrong:

- 7 and 8 over-count by treating the lower quadrilaterals as triangles; 5 misses the medium triangle CPQ.

Final Answer: 6 triangles $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q27

Q28.

Solution

Concept — Odd figure out: Compare the shapes and find the one with a different form.

Step 1 — Compare: Figures A, C and D are shaded pentagons (five sides); figure B is a shaded square (four sides).

Step 2 — Conclusion: The square is the odd figure.

Why other options are wrong:

- A, C and D are all pentagons of the same kind, so they belong together.

Final Answer: Figure B is different $\Rightarrow$ B

Answer: (B) Go Back to Q28

Q29.

Solution

Concept — Linear seating: Fix the ends first, then place the remaining people using the clues.

Step 1 — Ends: C is at the extreme left (position 1) and G is at the extreme right (position 5).

Step 2 — Place E: E is immediately to the left of G, so E is at position 4.

Step 3 — Place F: F is immediately to the right of C, so F is at position 2.

Step 4 — Place D and read the order: The only seat left, position 3, goes to D. The row is C, F, D, E, G; the middle seat (position 3) is D.

C	F	D	E	G

Why other options are wrong:

- F is at position 2, E at position 4 and C at the end — none is in the middle.

Final Answer: D sits in the middle $\Rightarrow$ C

Answer: (C) Go Back to Q29

Q30.

Solution

Concept — Rank from the other end: For a single line, rank from top + rank from bottom = total +1.

Step 1 — Known values: Total students = 38, rank from top = 16.

Step 2 — Apply the formula: Rank from bottom $= 38 - 16 + 1 = 23$.

Why other options are wrong:

- 22 forgets the "$+1$"; 24 and 21 misapply the formula.

Final Answer: Neha's rank from the bottom is 23rd $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q30

Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	2	D	3	A	4	C	5	A
6	D	7	C	8	A	9	B	10	D
11	A	12	C	13	D	14	B	15	A
16	B	17	D	18	C	19	A	20	B
21	C	22	D	23	A	24	C	25	B
26	D	27	A	28	B	29	C	30	D