NATA Aptitude Test (Part B)

Sample Paper – 2

Duration: 90 Minutes **Maximum Marks: 120**

Instructions

- This paper is the **Part B (Aptitude)** portion of the **NATA** (National Aptitude Test in Architecture), with **50** questions for **120 marks**.
- It has two parts: **Part B1 – 42 Multiple Choice Questions** (Q1–Q42, one correct option) and **Part B2 – 8 Numerical Answer Questions** (Q43–Q50, write the answer as a number).
- **Questions 1–30 carry +2 marks each** and **Questions 31–50 carry +3 marks each**. There is **no negative marking**; an unattempted or wrong answer scores 0.
- Questions cover **Mathematics and Numerical Ability**, **Visual and Spatial Reasoning**, **Logical Reasoning**, **Language Interpretation**, **Design Sensitivity**, and **General Knowledge in Architecture and Design**.
- Personal calculators, mobile phones and other electronic gadgets are strictly prohibited.

Part B1: Multiple Choice Questions

Q1. Find the next number in the series: $1,\ 4,\ 9,\ 16,\ 25,\ ?$

(A) 30

(B) 35

(C) 36

(D) 49

Q2. In an art gallery of 6000 exhibits, 40% are paintings and 25% are sculptures; the rest are photographs. How many photographs are on display?

(A) 1800

(B) 2100

(C) 2400

(D) 2000

Q3. Two numbers are in the ratio $3 : 8$. If their sum is 88, what is the larger number?

(A) 24

(B) 64

(C) 56

(D) 48

Q4. The average of six numbers is 50. If one number, 35, is removed, what is the average of the remaining five numbers?

(A) 52

(B) 50

(C) 48

(D) 53

Q5. A bus travels 210 km in 3 hours. Maintaining the same speed, how far will it travel in 6 hours?

(A) 360 km

(B) 420 km

(C) 400 km

(D) 480 km

Q6. Find the compound interest on Rs. 20000 for 2 years at 5% per annum, compounded annually.

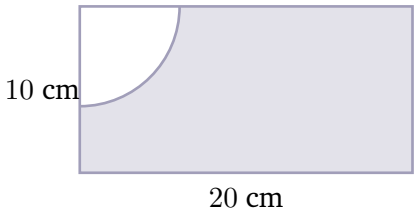
(A) Rs. 2000

(B) Rs. 2050

(C) Rs. 2100

(D) Rs. 1000

Q7. In the figure below, a rectangle of length 20 cm and breadth 10 cm has a quarter-circle removed from one corner (radius $= 7$ cm). Using $\pi = \frac{22}{7}$, find the area of the shaded region.



(A) 161.5 cm^2

(B) 200 cm^2

(C) 161 cm^2

(D) 150.5 cm^2

Q8. If $\cos\theta = \frac{12}{13}$ and θ is acute, what is the value of $\tan\theta$?

(A) $\frac{12}{5}$

(B) $\frac{5}{12}$

(C) $\frac{13}{12}$

(D) $\frac{5}{13}$

Q9. What are the roots of the quadratic equation $x^2 - 9x + 20 = 0$?

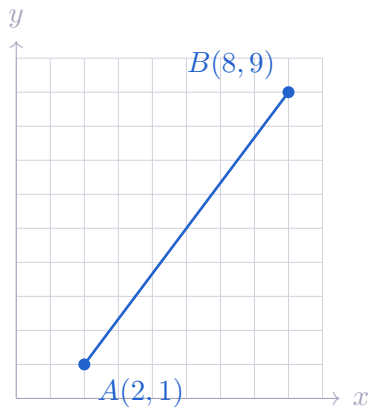
(A) -4 and -5

(B) 2 and 10

(C) 4 and 5

(D) 1 and 20

Q10. Find the distance between the points $A(2, 1)$ and $B(8, 9)$ shown on the grid below.



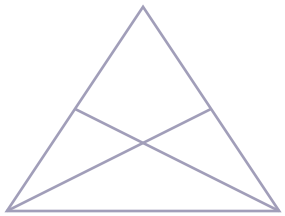
(A) 14

(B) 12

(C) 10

(D) 8

Q11. Count the total number of triangles in the figure below.



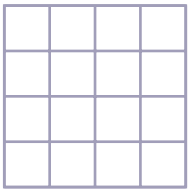
(A) 5

(B) 6

(C) 7

(D) 8

Q12. How many squares (of all sizes) are there in the 4×4 grid shown below?



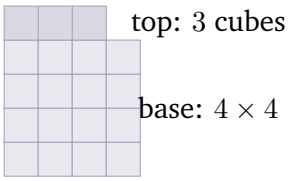
(A) 16

(B) 25

(C) 30

(D) 20

Q13. The solid below is built from identical unit cubes stacked as a 4×4 base with a smaller block on top. How many unit cubes are used in all?



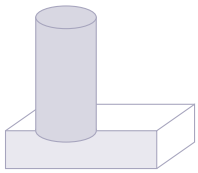
(A) 16

(B) 18

(C) 19

(D) 20

Q14. A solid is made of a cylinder standing upright on a square slab, as shown. What is its **top view** (the shape seen looking straight down)?



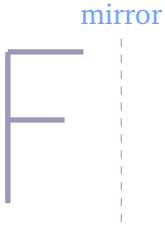
(A) A plain square only

(B) A circle inside a square

(C) A triangle inside a square

(D) Two circles side by side

Q15. When the capital letter **F** (shown below) is held up to a vertical mirror placed to its right, how does its reflection look?



(A) The arms point to the left and the vertical stroke is on the right

(B) The arms still point to the right

(C) The letter looks identical to the original

(D) The letter turns upside down

Q16. A square sheet is folded once along its horizontal centre line, then a single round hole is punched near the folded edge. When the paper is unfolded, how many holes appear and how are they arranged?

(A) One hole at the centre

(B) Two holes placed symmetrically about the horizontal centre line, one above the other

(C) Four holes in a square pattern

(D) Two holes side by side about a vertical line

Q17. In the series below, an arrow rotates by a fixed angle at each step. Through what angle does it turn from one figure to the next?

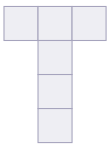
(A) 90° clockwise

(B) 45° anticlockwise

(C) 45° clockwise

(D) 180°

Q18. Which of the flat figures described below is a valid **net** that folds up into a closed cube? (A cube net has exactly six squares arranged so no two overlap when folded.) One valid "T" net is shown.



(A) A row of eight squares in a line

(B) The "T" arrangement of six squares shown above

(C) Five squares in a plus sign

(D) A 3×3 block of nine squares

Q19. Find the next term in the letter series: $B,\ D,\ G,\ K,\ P,\ ?$

(A) V

(B) U

(C) W

(D) T

Q20. If in a certain code **HOUSE** is written as **JQWUG**, how is **PLAZA** written in the same code?

(A) RNCBC

(B) RNDBC

(C) QNCBC

(D) RMCBD

Q21. Pointing to a man, Meena said, "He is the son of the only daughter of my mother." How is the man related to Meena?

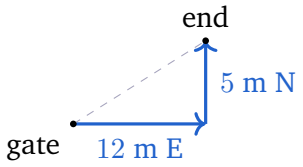
(A) Brother

(B) Son

(C) Nephew

(D) Father

Q22. A visitor walks 12 m East from a museum gate, then turns left and walks 5 m North, as traced below. How far is he from the gate, and in which general direction?



(A) 17 m, North-East

(B) 7 m, East

(C) 13 m, North-East

(D) 15 m, East

Q23. Statements: (i) All sketches are drawings. (ii) All drawings are artworks. Which conclusion definitely follows?

(A) All sketches are artworks

(B) All artworks are sketches

(C) Some drawings are not artworks

(D) No sketch is an artwork

Q24. Four students W, X, Y and Z sit around a circular table facing the centre. X is to the immediate right of W, and Y is directly opposite X. Who sits to the immediate left of W?

(A) Z

(B) Y

(C) X

(D) Cannot be determined

Q25. What is the angle between the hour hand and the minute hand of a clock at exactly 4:20?

(A) 0°

(B) 20°

(C) 10°

(D) 30°

Q26. Find the odd one out: $16,\ 36,\ 49,\ 64,\ 90$.

(A) 49

(B) 90

(C) 36

(D) 64

Q27. Choose the word that is closest in meaning (synonym) to **VIVID**.

(A) Faded

(B) Bright

(C) Quiet

(D) Narrow

Q28. Complete the analogy: **Sculptor** is to **Statue** as **Composer** is to _____.

(A) Stage

(B) Audience

(C) Baton

(D) Symphony

Q29. Choose the word that best completes the sentence: "The newly opened gallery drew large crowds because of its _____ layout, which guided visitors smoothly from room to room."

(A) confusing

(B) intuitive

(C) gloomy

(D) crowded

Q30. In the standard artists' colour wheel, which of the following is a set of the three **secondary** colours?

(A) Red, Yellow, Blue

(B) Orange, Green, Violet

(C) Red, Green, Blue

(D) Black, White, Grey

Q31. A composition that distributes visual weight evenly around a central point, like the petals of a flower or a rose window, is said to have which kind of balance?

(A) Symmetrical (formal) balance

(B) Asymmetrical balance

(C) Radial balance

(D) No balance

Q32. Three of the following are man-made (manufactured) building materials and one is natural. Pick the **odd one out**.

(A) Brick

(B) Glass

(C) Granite

(D) Steel

Q33. Identify the famous clock tower shown below. In which city does it stand?

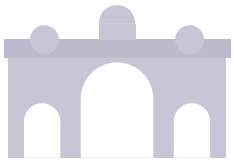
(A) Paris

(B) Berlin

(C) London

(D) Vienna

Q34. The grand arched monument shown below faces the harbour of an Indian coastal city. In which city does it stand?



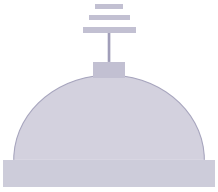
(A) Chennai

(B) Kolkata

(C) Kochi

(D) Mumbai

Q35. The dome-shaped monument shown below, topped by a railing and a triple umbrella, is a place of worship of which faith?



(A) Buddhist

(B) Hindu

(C) Jain

(D) Sikh

Q36. The ancient royal tombs shown below stand on a desert plateau near a great river. In which present-day country are they located?

(A) Greece

(B) Iraq

(C) Mexico

(D) Egypt

Q37. The square monument shown below, with four arches and four corner minarets, is the emblem of which Indian city?

(A) Lucknow

(B) Hyderabad

(C) Bhopal

(D) Jaipur

Q38. Which celebrated villa near Paris, raised on slender columns (pilotis) with a flat roof garden, was designed by the architect Le Corbusier?

(A) Fallingwater

(B) Villa Savoye

(C) Robie House

(D) Farnsworth House

Q39. A South Indian temple with a tall, ornate, pyramidal gateway tower called a *gopuram* belongs to which architectural style?

(A) Nagara

(B) Vesara

(C) Dravidian

(D) Gothic

Q40. A beam or slab that projects horizontally beyond its support and is fixed at one end only, like a balcony, is called a:

(A) Lintel

(B) Cantilever

(C) Plinth

(D) Column

Q41. In construction, the abbreviation **PCC** stands for which of the following?

(A) Pre-Cast Column

(B) Plain Cement Concrete

(C) Polished Concrete Coating

(D) Pressed Carbon Composite

Q42. The Aga Khan Award, given every three years, recognises outstanding achievement in which field?

(A) Architecture

(B) Cinema

(C) Sculpture

(D) Poetry

Part B2: Numerical Answer Questions

Q43. What is 12% of 400? *(Numerical Answer Type: write your answer as a number.)*

Q44. A rectangular sheet measures 15 cm by 8 cm. Find its area (in square cm). *(Numerical Answer Type: write your answer as a number.)*

Q45. An amount of Rs. 104 is divided between two people in the ratio $3 : 5$. How much (in rupees) does the person with the larger share get? *(Numerical Answer Type: write your answer as a number.)*

Q46. Find the amount (in rupees) on Rs. 7000 for 2 years at 10% per annum, compounded annually. *(Numerical Answer Type: write your answer as a number.)*

Q47. A vehicle covers 200 km in 4 hours at a steady pace. Find its speed (in km/h). *(Numerical Answer Type: write your answer as a number.)*

Q48. Find the next term of the series: $3,\ 6,\ 9,\ 12,\ 15,\ ?$ *(Numerical Answer Type: write your answer as a number.)*

Q49. Find the average of the five numbers $48,\ 50,\ 52,\ 54,\ 56$. *(Numerical Answer Type: write your answer as a number.)*

Q50. Two angles of a triangle measure 60° and 65°. Find the third angle (in degrees). *(Numerical Answer Type: write your answer as a number.)*

Detailed Solutions

Q1.

Solution

Concept — Number series of perfect squares: Check whether each term is the square of a counting number.

Step 1 — Recognise the squares: $1 = 1^2,\ 4 = 2^2,\ 9 = 3^2,\ 16 = 4^2,\ 25 = 5^2$. The terms are consecutive perfect squares.

Step 2 — Next term: The next square is 6^2:

$$6^2 = 36.$$

Why other options are wrong:

- (A) 30 and (B) 35 are not perfect squares; (D) $49 = 7^2$ skips 6^2.

Final Answer: The next term is $36 \Rightarrow \boxed{\text{C}}$

Answer: (C) Go Back to Q1

Q2.

Solution

Concept — Percentages of a whole: The parts must add to 100%; photographs make up whatever remains.

Step 1 — Percentage of photographs: $100\% - 40\% - 25\% = 35\%$.

Step 2 — Compute the number:

$$35\% \text{ of } 6000 = \frac{35}{100} \times 6000 = 2100.$$

Why other options are wrong:

- (A) 1800 is 30%; (C) 2400 is 40%; (D) 2000 does not match 35% of 6000.

Final Answer: There are 2100 photographs $\Rightarrow \boxed{\text{B}}$

Answer: (B) Go Back to Q2

Q3.

Solution

Concept — Dividing in a ratio: Split the total into equal parts equal to the sum of the ratio terms, then scale.

Step 1 — Value of one part: Total parts $= 3 + 8 = 11$, so one part $= \frac{88}{11} = 8$.

Step 2 — Larger number: The larger share has 8 parts:

$$8 \times 8 = 64.$$

Why other options are wrong:

- (A) 24 is the smaller number (3 parts); (C) 56 and (D) 48 do not fit the $3 : 8$ split of 88.

Final Answer: The larger number is $64 \Rightarrow \boxed{\text{B}}$

Answer: (B) Go Back to Q3

Q4.

Solution

Concept — Average and total: The total of a set = average $\times$ count. Remove a value by subtracting it from the total.

Step 1 — Original total: $6 \times 50 = 300$.

Step 2 — New average: Remove 35: new total $= 300 - 35 = 265$ over 5 numbers, so

$$\text{average} = \frac{265}{5} = 53.$$

Why other options are wrong:

- (A) 52, (B) 50, (C) 48: none equals $265 \div 5$.

Final Answer: The new average is $53 \Rightarrow \boxed{\text{D}}$

Answer: (D) Go Back to Q4

Q5.

Solution

Concept — Constant speed: Distance = speed × time; at fixed speed distance is proportional to time.

Step 1 — Find the speed: speed $= \frac{210}{3} = 70$ km/h.

Step 2 — Distance in 6 h:

$$70 \times 6 = 420 \text{ km}.$$

Why other options are wrong:

- (A) 360 km and (C) 400 km use a wrong speed; (D) 480 km overshoots.

Final Answer: The bus travels 420 km $\Rightarrow$ B

Answer: (B) Go Back to Q5

Q6.

Solution

Concept — Compound interest: Amount $A = P\left(1 + \frac{r}{100}\right)^n$, and CI $= A - P$.

Step 1 — Amount after 2 years:

$$A = 20000\left(1 + \frac{5}{100}\right)^2 = 20000 \times (1.05)^2 = 22050.$$

Step 2 — Interest: CI $= 22050 - 20000 = 2050$.

Why other options are wrong:

- (A) Rs. 2000 is simple interest; (C) Rs. 2100 over-counts; (D) Rs. 1000 is one year only.

Final Answer: The compound interest is Rs. 2050 $\Rightarrow$ B

Answer: (B) Go Back to Q6

Q7.

Solution

Concept — Composite area: Shaded area = rectangle area − quarter-circle area.

Step 1 — Rectangle: $20 \times 10 = 200$ cm^2.

Step 2 — Quarter circle (radius 7):

$$\tfrac{1}{4}\pi r^2 = \tfrac{1}{4} \times \tfrac{22}{7} \times 7^2 = \tfrac{1}{4} \times \tfrac{22}{7} \times 49 = 38.5 \text{ cm}^2.$$

Step 3 — Subtract: $200 - 38.5 = 161.5$ cm^2.

Why other options are wrong:

- (B) 200 ignores the cut; (C) 161 and (D) 150.5 use a wrong quarter-circle area.

Final Answer: The shaded area is 161.5 cm^2 $\Rightarrow$ A

Answer: (A) Go Back to Q7

Q8.

Solution

Concept — Right-triangle trig: For $\cos\theta = \frac{\text{adj}}{\text{hyp}}$, find the third side by Pythagoras, then form $\tan\theta = \frac{\text{opp}}{\text{adj}}$.

Step 1 — Find the opposite side: With adj $= 12$, hyp $= 13$: opp $= \sqrt{13^2 - 12^2} = \sqrt{169 - 144} = \sqrt{25} = 5$.

Step 2 — Form the tangent:

$$\tan\theta = \frac{5}{12}.$$

Why other options are wrong:

- (A) $\frac{12}{5}$ inverts opp and adj; (C) $\frac{13}{12}$ and (D) $\frac{5}{13}$ are not tan.

Final Answer: $\tan\theta = \frac{5}{12} \Rightarrow$ B

Answer: (B) Go Back to Q8

Q9.

Solution

Concept — Factorising a quadratic: For $x^2 - (a+b)x + ab = 0$, the roots are a and b, where $a + b = 9$ and $ab = 20$.

Step 1 — Find the pair: Two numbers with sum 9 and product 20 are 4 and 5, since $4 + 5 = 9$ and $4 \times 5 = 20$.

Step 2 — Write the roots:

$$x = 4 \quad \text{or} \quad x = 5.$$

Why other options are wrong:

- (A) $-4, -5$ give the wrong sign of the middle term; (B) $2, 10$ and (D) $1, 20$ give product 20 but sum $\neq 9$.

Final Answer: The roots are 4 and $5 \Rightarrow \boxed{\text{C}}$

Answer: (C) Go Back to Q9

Q10.

Solution

Concept — Distance formula: For points (x_1, y_1) and (x_2, y_2), distance $= \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$.

Step 1 — Differences: $\Delta x = 8 - 2 = 6$, $\Delta y = 9 - 1 = 8$.

Step 2 — Apply the formula:

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

Why other options are wrong:

- (A) $14 = 6 + 8$ adds the legs; (B) 12 and (D) 8 ignore the right-triangle relation.

Final Answer: The distance $AB = 10 \Rightarrow \boxed{\text{C}}$

Answer: (C) Go Back to Q10

Q11.

Solution

Concept — Counting triangles: Count small triangles first, then combine them into larger ones.

Step 1 — The two cevians: Two lines drawn from the base corners to points on the opposite sides cross inside the big triangle, dividing it into smaller regions.

Step 2 — Tally: The intersecting cevians create small triangles at the bottom and sides; combining these with the outer triangle gives 6 distinct triangles in all.

Why other options are wrong:

- (A) 5 misses one composite triangle; (C) 7 and (D) 8 double-count overlapping regions.

Final Answer: There are 6 triangles $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q11

Q12.

Solution

Concept — Squares in an $n \times n$ grid: The number of squares of all sizes is $1^2 + 2^2 + \cdots + n^2$.

Step 1 — Apply for $n = 4$:

$$1^2 + 2^2 + 3^2 + 4^2 = 1 + 4 + 9 + 16 = 30.$$

Step 2 — Interpret: 16 unit squares, 9 of size 2×2, 4 of size 3×3, and 1 of size 4×4, giving 30 in total.

Why other options are wrong:

- (A) 16 counts only unit squares; (B) 25 and (D) 20 miss some sizes.

Final Answer: There are 30 squares $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) Go Back to Q12

Q13.

Solution

Concept — Counting stacked cubes: Add the cubes layer by layer.

Step 1 — Base layer: A 4×4 arrangement uses $4 \times 4 = 16$ cubes.

Step 2 — Top block: A small block of 3 cubes sits on top.

Step 3 — Total:

$$16 + 3 = 19.$$

Why other options are wrong:

- (A) 16 forgets the top; (B) 18 under-counts; (D) 20 adds too many.

Final Answer: 19 unit cubes are used $\Rightarrow$ C

Answer: (C) Go Back to Q13

Q14.

Solution

Concept — Orthographic views: The top view shows the outline seen looking straight down, with hidden inner edges drawn as lines.

Step 1 — Look down on the solid: The square slab's top face is a square; the cylinder standing on it appears as a circle inside that outline.

Step 2 — Result: The top view is a circle nested inside a square.

Why other options are wrong:

- (A) ignores the cylinder; (C) a triangle is wrong (the cylinder is round); (D) two circles needs two cylinders.

Final Answer: A circle inside a square $\Rightarrow$ B

Answer: (B) Go Back to Q14

Q15.

Solution

Concept — Mirror images: A vertical mirror swaps left and right (a lateral flip) while keeping up and down the same.

Step 1 — Flip the F: The letter F normally has its vertical stroke on the left and two arms pointing right. A mirror on the right reverses left-right, so the vertical stroke moves to the right and the arms point left.

Step 2 — Confirm: Top and bottom are unchanged, so the F is not turned upside down and is not identical to the original.

Why other options are wrong:

- (B) arms still right ignores the flip; (C) "identical" is false; (D) upside-down would need a horizontal mirror.

Final Answer: Arms point left, spine on the right $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q15

Q16.

Solution

Concept — Paper folding and punching: A single fold creates a line of symmetry; a punch through both layers makes a hole on each layer, mirrored about the fold line.

Step 1 — One horizontal fold: The fold line is the horizontal centre of the sheet. One punch goes through two layers.

Step 2 — Unfold: Two holes appear, one above and one below, placed symmetrically about the horizontal centre line.

Why other options are wrong:

- (A) one hole ignores the second layer; (C) four holes needs two folds; (D) side-by-side needs a vertical fold.

Final Answer: Two holes symmetric about the horizontal centre line $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q16

Q17.

Solution

Concept — Rotation in a figure series: Measure the turn of the arrow from one frame to the next.

Step 1 — Track the arrow: It points right ($0°$), then up-right ($45°$), then up ($90°$). Each step is a turn of $45°$ in the anticlockwise sense.

Step 2 — Next term: Continuing $45°$ anticlockwise, the arrow would point up-left ($135°$).

Why other options are wrong:

- (A) $90°$ is too large; (C) $45°$ clockwise turns the wrong way; (D) $180°$ skips steps.

Final Answer: The arrow turns $45°$ anticlockwise each step $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q17

Q18.

Solution

Concept — Nets of a cube: A cube net has exactly six squares that fold without overlap into the six faces. A "T" (a row of three with a column of three hanging from the middle) is a valid net.

Step 1 — Test the T: The vertical strip of four squares wraps round as four faces; the two side squares on the top row form the remaining top and bottom faces. No overlap occurs, so it folds into a cube.

Step 2 — Reject the others: A net must have exactly six squares arranged so folding closes the box.

Why other options are wrong:

- (A) eight squares are too many; (C) a plus of five squares is too few; (D) a 3×3 block has nine squares and overlaps when folded.

Final Answer: The "T" of six squares folds into a cube $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q18

Q19.

Solution

Concept — Letter series by position: Convert letters to their alphabet positions and study the gaps.

Step 1 — Positions: $B = 2, D = 4, G = 7, K = 11, P = 16$. Differences are $2, 3, 4, 5$, so the next gap is 6.

Step 2 — Next letter: $16 + 6 = 22$, and the 22nd letter is V.

Why other options are wrong:

- (B) $U = 21$ uses gap 5; (C) $W = 23$ overshoots; (D) $T = 20$ is too small.

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

Answer: (A) Go Back to Q19

Q20.

Solution

Concept — Coding by shifting letters: Compare each coded letter with the original to find the rule.

Step 1 — Find the shift: $H \to J, O \to Q, U \to W, S \to U, E \to G$: every letter moves forward by 2.

Step 2 — Apply to PLAZA: $P \to R, L \to N, A \to C, Z \to B$ (wrapping past Z), $A \to C$, giving

RNCBC.

Why other options are wrong:

- (B) RNDBC mis-shifts A; (C) QNCBC mis-shifts P; (D) RMCBD mis-shifts L and the last A.

Final Answer: PLAZA is coded as RNCBC $\Rightarrow$ A

Answer: (A) Go Back to Q20

Q21.

Solution

Concept — Blood relations: Decode the phrase step by step, starting from the innermost relation.

Step 1 — "The only daughter of my mother": The only daughter of Meena's mother is Meena herself.

Step 2 — "The son of (Meena)": The son of Meena is Meena's son.

Why other options are wrong:

- (A) Brother would need another child of the mother; (C) Nephew and (D) Father are the wrong generation.

Final Answer: The man is Meena's son $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q21

Q22.

Solution

Concept — Direction sense as a right triangle: The East leg and the North leg meet at a right angle; the straight-line distance is the hypotenuse.

Step 1 — Apply Pythagoras:

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

Step 2 — Direction: Moving East then North lands him to the North-East of the gate.

Why other options are wrong:

- (A) 17 m adds the legs; (B) 7 m subtracts them; (D) 15 m is unrelated.

Final Answer: He is 13 m away, to the North-East $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) Go Back to Q22

Q23.

Solution

Concept — Syllogism (chaining sets): If all A are B and all B are C, then all A are C.

Step 1 — Chain the statements: All sketches $\subseteq$ drawings $\subseteq$ artworks, so every sketch is an artwork.

Step 2 — Check direction: The reverse (all artworks are sketches) does not follow.

Why other options are wrong:

- (B) reverses the inclusion; (C) and (D) contradict the given "all" statements.

Final Answer: All sketches are artworks $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q23

Q24.

Solution

Concept — Circular seating: For people facing the centre, "left" and "right" are from the seated person's own viewpoint.

Step 1 — Place W and X: X is immediately right of W. Facing the centre, the remaining two seats lie opposite this pair.

Step 2 — Use Y opposite X: With four seats, Y sits opposite X; the only remaining seat, to W's immediate left, is taken by Z.

Why other options are wrong:

- (B) Y is opposite X, not beside W; (C) X is on W's right; (D) the data fix the arrangement.

Final Answer: Z sits to W's immediate left $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q24

Q25.

Solution

Concept — Clock angles: Use angle $= |30H - 5.5M|$ degrees, where H is the hour and M the minutes.

Step 1 — Substitute $H = 4$, $M = 20$:

$$|30 \times 4 - 5.5 \times 20| = |120 - 110| = 10^\circ.$$

Step 2 — Interpret: The minute hand is at 4 (the "20" mark) and the hour hand has moved one-third past 4, giving a 10° gap.

Why other options are wrong:

- (A) 0° assumes both hands coincide; (B) 20° and (D) 30° ignore the hour hand's drift.

Final Answer: The angle is $10^\circ \Rightarrow$ C

Answer: (C) Go Back to Q25

Q26.

Solution

Concept — Odd one out by pattern: Test the numbers against a common rule such as "perfect square."

Step 1 — Check for squares: $16 = 4^2$, $36 = 6^2$, $49 = 7^2$, $64 = 8^2$ are all perfect squares. But 90 is not a perfect square.

Step 2 — Identify the misfit: 90 breaks the "square" pattern.

Why other options are wrong:

- (A) 49, (C) 36, (D) 64 are all genuine squares.

Final Answer: The odd one out is $90 \Rightarrow$ B

Answer: (B) Go Back to Q26

Q27.

Solution

Concept — Synonyms: A synonym has the same meaning. "Vivid" means bright, intense and lively.

Step 1 — Match the meaning: "Vivid" (as in a vivid colour) means strikingly bright, so its synonym is **Bright**.

Why other options are wrong:

- (A) Faded is the opposite (an antonym); (C) Quiet and (D) Narrow are unrelated to brightness.

Final Answer: VIVID means Bright $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q27

Q28.

Solution

Concept — Verbal analogy: Find the relationship in the first pair, then apply the same relation.

Step 1 — First pair: A sculptor creates a statue; "maker $\rightarrow$ thing made."

Step 2 — Apply it: A composer creates a **Symphony**, matching "maker $\rightarrow$ thing made."

Why other options are wrong:

- (A) Stage is a place, not the work made; (B) Audience listens to it; (C) Baton is only a tool.

Final Answer: Composer is to Symphony $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q28

Q29.

Solution

Concept — Sentence completion: Pick the word that fits the positive tone of "drew large crowds."

Step 1 — Read the tone: A layout that guides visitors smoothly is being complimented, so a positive word is needed.

Step 2 — Best fit: "Intuitive" (easy to understand and follow) fits a praised, smooth-flowing layout.

Why other options are wrong:

- (A) confusing, (C) gloomy and (D) crowded are all negative and clash with "drew large crowds."

Final Answer: The layout was "intuitive" $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q29

Q30.

Solution

Concept — Colour theory: On the artists' (subtractive) colour wheel, secondary colours are made by mixing two primaries.

Step 1 — Recall the secondaries: Mixing pairs of the primaries (red, yellow, blue) gives **Orange, Green and Violet**.

Step 2 — Confirm: Red+yellow = orange, yellow+blue = green, blue+red = violet.

Why other options are wrong:

- (A) red/yellow/blue are the primaries; (C) red/green/blue are the *light* (additive) primaries; (D) black/white/grey are neutrals.

Final Answer: The artists' secondaries are Orange, Green, Violet $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q30

Q31.

Solution

Concept — Balance in composition: Balance is how visual weight is distributed. When elements radiate evenly from a central point, the balance is radial.

Step 1 — Match the description: Visual weight spread evenly around a centre, like flower petals or a rose window, is **radial balance**.

Why other options are wrong:

- (A) symmetrical mirrors left and right about an axis; (B) asymmetrical uses unlike but balanced elements; (D) "no balance" contradicts the even spread.

Final Answer: Weight radiating from a centre gives radial balance $\Rightarrow$ C

Answer: (C) Go Back to Q31

Q32.

Solution

Concept — Natural vs man-made materials: Manufactured materials are produced by processing; natural ones are used roughly as found.

Step 1 — Classify: Brick (fired clay), glass (melted sand) and steel (smelted iron) are all manufactured. Granite is a natural rock quarried from the ground.

Step 2 — Odd one out: Granite is the natural material.

Why other options are wrong:

- (A) Brick, (B) Glass and (D) Steel are all man-made.

Final Answer: The natural material is Granite $\Rightarrow$ C

Answer: (C) Go Back to Q32

Q33.

Solution

Concept — Reading a tower's silhouette: A tall masonry tower with a large clock face near the top and a steep pinnacled roof is a famous landmark.

Step 1 — Match the features: This is the clock tower of the Palace of Westminster (commonly called Big Ben after its bell), which stands in **London**.

Why other options are wrong:

- (A) Paris has the Eiffel Tower; (B) Berlin has the Fernsehturm; (D) Vienna's landmarks differ from this clock tower.

Final Answer: The clock tower stands in London $\Rightarrow$ $\boxed{C}$

Answer: (C) Go Back to Q33

Q34.

Solution

Concept — Identifying an arched monument: A large central arch flanked by smaller arches and topped by domes, facing a harbour, is a signature waterfront landmark.

Step 1 — Recall the city: This is the **Gateway of India**, which overlooks the Arabian Sea harbour in **Mumbai**.

Why other options are wrong:

- (A) Chennai, (B) Kolkata and (C) Kochi are coastal cities but do not have this monument.

Final Answer: The Gateway of India is in Mumbai $\Rightarrow$ $\boxed{D}$

Answer: (D) Go Back to Q34

Q35.

Solution

Concept — A dome with a triple umbrella: A large solid hemispherical dome on a drum, crowned by a square railing (harmika) and a stack of three umbrellas (chhatra), is a stupa.

Step 1 — Match the faith: The stupa, such as the Great Stupa at Sanchi, is a **Buddhist** place of worship enshrining relics.

Why other options are wrong:

- (B) Hindu temples have a shikhara or gopuram; (C) Jain temples differ; (D) Sikh gurudwaras have an onion-style dome, not a stupa.

Final Answer: The dome is a Buddhist stupa $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q35

Q36.

Solution

Concept — Reading ancient tombs: Massive triangular stone structures grouped on a desert plateau beside a great river are royal tombs.

Step 1 — Recall the country: These are the **Pyramids of Giza**, royal tombs near the Nile in **Egypt**.

Why other options are wrong:

- (A) Greece has temples like the Parthenon; (B) Iraq has ziggurats; (C) Mexico's pyramids are stepped, not smooth-sided like these.

Final Answer: The pyramids are in Egypt $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q36

Q37.

Solution

Concept — A square monument with four minarets: A square building pierced by four grand arches, with a slender minaret rising at each corner, is a unique civic emblem.

Step 1 — Recall the city: This is the **Charminar**, built in 1591, the emblem of **Hyderabad**.

Why other options are wrong:

- (A) Lucknow's emblem is the Rumi Darwaza; (C) Bhopal and (D) Jaipur have different landmarks.

Final Answer: The Charminar is the emblem of Hyderabad $\Rightarrow$ B

Answer: (B) Go Back to Q37

Q38.

Solution

Concept — Architects and their works: A few houses are landmarks of modern design tied to one architect.

Step 1 — Recall the villa: Villa Savoye (1931, Poissy near Paris) was designed by **Le Corbusier**, raised on pilotis with a free plan and a roof garden; it embodies his "Five Points of Architecture."

Why other options are wrong:

- (A) Fallingwater and (C) Robie House are by Frank Lloyd Wright; (D) Farnsworth House is by Mies van der Rohe.

Final Answer: The villa on pilotis near Paris is Villa Savoye $\Rightarrow$ B

Answer: (B) Go Back to Q38

Q39.

Solution

Concept — Indian temple styles: North and South Indian temples are grouped into named regional styles.

Step 1 — Match the feature: A temple with a tall, ornate, pyramidal gateway tower called a *gopuram*, common in Tamil Nadu (Madurai, Thanjavur), belongs to the **Dravidian** style.

Why other options are wrong:

- (A) Nagara is the North Indian style with a curving shikhara; (B) Vesara is a Deccan hybrid; (D) Gothic is European.

Final Answer: A gopuram-fronted South Indian temple is Dravidian $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) Go Back to Q39

Q40.

Solution

Concept — Structural terms: Different members are named by where they sit and how they carry load.

Step 1 — Define the term: A **cantilever** is a beam or slab fixed at one end and free at the other, projecting beyond its support, as in a balcony or a diving board.

Why other options are wrong:

- (A) Lintel spans an opening with support at both ends; (C) Plinth is the base of a wall; (D) Column is a vertical compression member.

Final Answer: A beam fixed at one end only is a cantilever $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q40

Q41.

Solution

Concept — Construction abbreviations: Common site abbreviations stand for materials and systems.

Step 1 — Expand PCC: PCC stands for **Plain Cement Concrete** – a concrete of cement, sand and aggregate without steel reinforcement, used for levelling courses and bedding below footings.

Why other options are wrong:

- (A), (C) and (D) are invented expansions; only "Plain Cement Concrete" is the standard meaning.

Final Answer: PCC = Plain Cement Concrete $\Rightarrow$ B

Answer: (B) Go Back to Q41

Q42.

Solution

Concept — Major prizes by field: Certain prizes are top honours within a single discipline.

Step 1 — Identify the field: The **Aga Khan Award for Architecture**, established in 1977 and given every three years, recognises excellence in **architecture**, especially projects serving Muslim communities.

Why other options are wrong:

- (B) Cinema, (C) Sculpture and (D) Poetry have their own honours, not the Aga Khan Award.

Final Answer: The Aga Khan Award is for architecture $\Rightarrow$ A

Answer: (A) Go Back to Q42

Q43.

Solution

Concept — Percentage: $x\%$ of a number N is $\frac{x}{100} \times N$. **Step 1 — Compute:**

$$\frac{12}{100} \times 400 = 48.$$

Final Answer: $\Rightarrow \boxed{48}$

Answer: (48) Go Back to Q43

Q44.

Solution

Concept — Area of a rectangle: area $=$ length $\times$ breadth. **Step 1 — Compute:**

$$15 \times 8 = 120 \text{ cm}^2.$$

Final Answer: $\Rightarrow \boxed{120}$

Answer: (120) Go Back to Q44

Q45.

Solution

Concept — Ratio split: the shares are $\frac{3}{8}$ and $\frac{5}{8}$ of the total. **Step 1 — Larger share:**

$$\frac{5}{8} \times 104 = 65.$$

Final Answer: $\Rightarrow \boxed{65}$

Answer: (65) Go Back to Q45

Q46.

Solution

Concept — Compound interest: amount $= P\left(1+\frac{R}{100}\right)^T$. **Step 1 — Compute:**

$$7000 \times (1.1)^2 = 7000 \times 1.21 = 8470.$$

Final Answer: $\Rightarrow \boxed{8470}$

Answer: (8470) Go Back to Q46

Q47.

Solution

Concept — Speed: speed $= \dfrac{\text{distance}}{\text{time}}$. **Step 1 — Compute:**

$$\frac{200}{4} = 50 \text{ km/h}.$$

Final Answer: $\Rightarrow \boxed{50}$

Answer: (50) Go Back to Q47

Q48.

Solution

Concept — Number series: each term is a multiple of 3 $(3 \times 1,\ 3 \times 2, \ldots)$. **Step 1 — Next term:**

$$3 \times 6 = 18.$$

Final Answer: $\Rightarrow \boxed{18}$

Answer: (18) Go Back to Q48

Q49.

Solution

Concept — Average: average $= \dfrac{\text{sum}}{\text{count}}$. **Step 1 — Compute:**

$$\frac{260}{5} = 52.$$

Final Answer: $\Rightarrow \boxed{52}$

Answer: (52) Go Back to Q49

Q50.

Solution

Concept — Angle sum of a triangle: the three angles add to 180°. **Step 1 — Compute:**

$$180 - 60 - 65 = 55.$$

Final Answer: $\Rightarrow \boxed{55}$

Answer: (55) Go Back to Q50

Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	B	3	B	4	D	5	B
6	B	7	A	8	B	9	C	10	C
11	B	12	C	13	C	14	B	15	A
16	B	17	B	18	B	19	A	20	A
21	B	22	C	23	A	24	A	25	C
26	B	27	B	28	D	29	B	30	B
31	C	32	C	33	C	34	D	35	A
36	D	37	B	38	B	39	C	40	B
41	B	42	A	43	48	44	120	45	65
46	8470	47	50	48	18	49	52	50	55