NATA Aptitude Test (Part B)

Sample Paper – 5

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: $2,\ 5,\ 11,\ 23,\ 47,\ ?$

(A) 93

(B) 94

(C) 95

(D) 96

Q2. In an art studio of 600 members, 40% are painters and 25% are sculptors; the rest are photographers. How many photographers are there in the studio?

(A) 180

(B) 210

(C) 240

(D) 150

Q3. Two numbers are in the ratio $4 : 9$. If their sum is 130, what is the larger number?

(A) 40

(B) 72

(C) 81

(D) 90

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

(A) 50

(B) 53

(C) 55

(D) 48

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

(A) 420 km

(B) 360 km

(C) 400 km

(D) 480 km

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

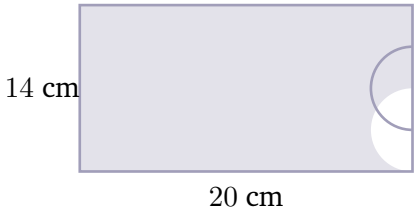
(A) Rs. 2000

(B) Rs. 2100

(C) Rs. 2050

(D) Rs. 1000

Q7. In the figure below, a rectangle of length 20 cm and breadth 14 cm has a semicircle removed from one short side (radius $= 7$ cm). Using $\pi = \frac{22}{7}$, find the area of the shaded region.



(A) 203 cm^2

(B) 280 cm^2

(C) 210 cm^2

(D) 197 cm^2

Q8. If $\cos\theta = \frac{5}{13}$ and θ is acute, what is the value of $\tan\theta$?

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

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

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

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

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

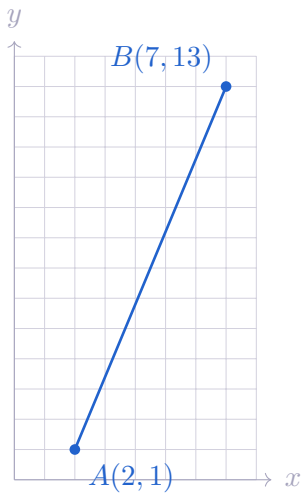
(A) -4 and -5

(B) 4 and 5

(C) 2 and 10

(D) 1 and 20

Q10. Find the distance between the points $A(2, 1)$ and $B(7, 13)$ shown on the grid below.



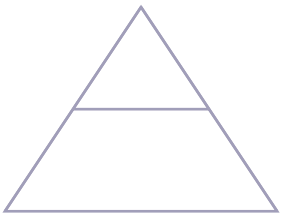
(A) 17

(B) 12

(C) 13

(D) 15

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



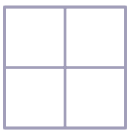
(A) 3

(B) 4

(C) 5

(D) 6

Q12. How many squares (of all sizes) are there in the 2×2 grid shown below?



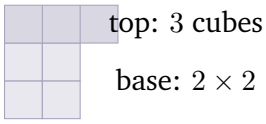
(A) 4

(B) 5

(C) 6

(D) 8

Q13. The solid below is built from identical unit cubes stacked as a 2×2 base with a smaller block on top. How many unit cubes are used in all?



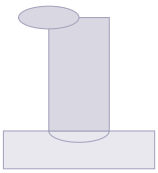
(A) 6

(B) 8

(C) 9

(D) 7

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



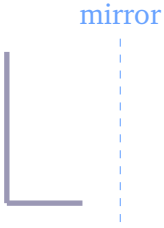
(A) A single plain square

(B) A circle inside a square

(C) Two squares side by side

(D) A triangle inside a square

Q15. When the capital letter **L** (shown below) is held up to a vertical mirror placed to its right, which way does the foot of its reflection point?



(A) The foot points to the left and the vertical stroke is on the right

(B) The foot still points 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, as suggested below. 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 above and below the horizontal centre line

(C) Four holes in a square pattern

(D) Two holes side by side

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?

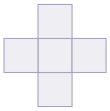
(A) 45° clockwise

(B) 90° anticlockwise

(C) 45° anticlockwise

(D) 180°

Q18. The flat figure of squares shown below has exactly five squares arranged in a cross-like "T". When folded along the edges, which solid does it form?



(A) A closed cube

(B) An open box (a cube missing its top face)

(C) A pyramid

(D) A flat sheet that cannot be folded

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

(A) V

(B) U

(C) W

(D) T

Q20. In a certain code each letter is replaced by its position number in the alphabet ($A = 1, B = 2, \ldots, Z = 26$). In this code, how is the word **ART** written?

(A) 1-18-20

(B) 1-17-20

(C) 1-18-19

(D) 1-19-20

Q21. Pointing to a man, Meera said, "He is the son of my mother's only sister." How is the man related to Meera?

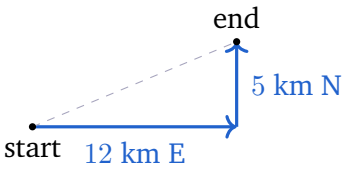
(A) Brother

(B) Cousin

(C) Uncle

(D) Nephew

Q22. A person walks 12 km East, then turns left and walks 5 km North, as traced below. How far is she from her starting point, and in which general direction?



(A) 17 km, North-East

(B) 7 km, East

(C) 13 km, North-East

(D) 15 km, North

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

(A) All sketches are art

(B) All art is sketches

(C) Some drawings are not art

(D) No sketch is art

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

(A) Z

(B) Y

(C) W

(D) Cannot be determined

Q25. What is the angle between the hour hand and the minute hand of a clock at exactly 6:30?

(A) 0°

(B) 15°

(C) 30°

(D) 45°

Q26. Find the odd one out: $16,\ 49,\ 81,\ 64,\ 121$.

(A) 49

(B) 64

(C) 81

(D) 121

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

(A) Bright

(B) Faded

(C) Plain

(D) Silent

Q28. Complete the analogy: **Painter** is to **Canvas** as **Sculptor** is to _____.

(A) Gallery

(B) Brush

(C) Clay

(D) Viewer

Q29. Choose the word that best completes the sentence: "The art studio was admired for its _____ layout, which let every easel catch the morning light."

(A) cluttered

(B) thoughtful

(C) gloomy

(D) cramped

Q30. On the standard artists' colour wheel, mixing the two primary colours **blue** and **yellow** produces which secondary colour?

(A) Orange

(B) Violet

(C) Green

(D) Brown

Q31. In an art studio, a wall display arranges its objects evenly around a central point, like petals around the centre of a flower. This kind of visual balance is called:

(A) Symmetrical (formal) balance

(B) Asymmetrical balance

(C) Radial balance

(D) No balance

Q32. Three of the following are art media that an artist applies wet and lets dry, and one is a dry medium. Pick the **odd one out**.

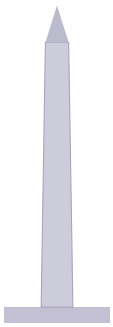
(A) Oil paint

(B) Charcoal

(C) Watercolour

(D) Acrylic paint

Q33. The tall, four-sided tapering stone shaft shown below, capped by a small pyramid, is a national monument. In which country does it stand?



(A) France

(B) Egypt

(C) United States of America

(D) Italy

Q34. The ancient temple shown below, a row of columns crowned by a triangular pediment, stands on a hilltop citadel. In which country is it located?

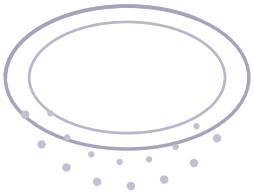
(A) Italy

(B) Greece

(C) Turkey

(D) Egypt

Q35. The large elliptical ringed structure shown below, with tiers of arches and one side broken away, was built in ancient Rome. What kind of building was it?



(A) An amphitheatre for public games

(B) A royal palace

(C) A temple to the gods

(D) A public bath house

Q36. The stone clock tower shown below, with a large clock face near its top and a steep pinnacle roof, is a famous landmark. In which city does it stand?

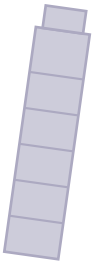
(A) London

(B) Paris

(C) Vienna

(D) Edinburgh

Q37. The tilted cylindrical tower shown below, ringed by tiers of small columns, stands beside a cathedral. What is its actual function?



(A) It is the bell tower (campanile) of the cathedral

(B) It is a lighthouse for ships

(C) It is a defensive watchtower

(D) It is a water-storage tower

Q38. The minimalist motto "Less is more" is most closely associated with which modern architect?

(A) Walter Gropius

(B) Mies van der Rohe

(C) Louis Kahn

(D) Frank Lloyd Wright

Q39. A South Indian temple whose entrance gateway rises as a tall, ornate, pyramidal tower covered in sculpture is in which architectural style? (The gateway tower is called a *gopuram*.)

(A) Nagara

(B) Vesara

(C) Dravidian

(D) Gothic

Q40. A beam or slab that projects out horizontally from a support at one end only, with the other end free, is called a:

(A) Lintel

(B) Cantilever

(C) Plinth

(D) Column

Q41. In building drawings, the abbreviation **FSI** (used in town planning) stands for which of the following?

(A) Final Site Inspection

(B) Floor Space Index

(C) Fixed Steel Insert

(D) Free Surface Indicator

Q42. The Aga Khan Award is one of the world's leading honours recognising outstanding work in which field?

(A) Architecture

(B) Cinema

(C) Music

(D) Medicine

Part B2: Numerical Answer Questions

Q43. What is 28% of 400? *(Numerical Answer Type: write your answer as a number.)*

Q44. A rectangular sheet measures 18 cm by 8 cm. Find its area (in square cm). *(Numerical Answer Type: write your answer as a number.)*

Q45. An amount of Rs. 128 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. 10000 for 2 years at 10% per annum, compounded annually. *(Numerical Answer Type: write your answer as a number.)*

Q47. A vehicle covers 260 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: $6,\ 12,\ 18,\ 24,\ 30,\ ?$ *(Numerical Answer Type: write your answer as a number.)*

Q49. Find the average of the five numbers $60,\ 62,\ 64,\ 66,\ 68$. *(Numerical Answer Type: write your answer as a number.)*

Q50. Two angles of a triangle measure 60° and 50°. Find the third angle (in degrees). *(Numerical Answer Type: write your answer as a number.)*

Detailed Solutions

Q1.

Solution

Concept — Number series with a multiply-then-add rule: Test whether each term is built from the previous one by a multiply step followed by an add step.

Step 1 — Find the rule: $2\times2+1=5$, $5\times2+1=11$, $11\times2+1=23$, $23\times2+1=47$. Each term is "previous $\times2$, then $+1$."

Step 2 — Apply it:

$$47 \times 2 + 1 = 94 + 1 = 95.$$

Why other options are wrong:

- (A) 93 and (D) 96 miss the rule; (B) 94 is only 47×2 without the $+1$.

Final Answer: The next term is $95 \Rightarrow$ C

Answer: (C) Go Back to Q1

Q2.

Solution

Concept — Percentages of a whole: The parts must add to 100%; photographers make up whatever remains after painters and sculptors.

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

Step 2 — Compute the number:

$$35\% \text{ of } 600 = \frac{35}{100} \times 600 = 210.$$

Why other options are wrong:

- (A) 180 is 30%; (C) 240 is 40%; (D) 150 is 25% — none is 35% of 600.

Final Answer: There are 210 photographers $\Rightarrow$ 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 $= 4 + 9 = 13$, so one part $= \frac{130}{13} = 10$.

Step 2 — Larger number: The larger share has 9 parts:

$$9 \times 10 = 90.$$

Why other options are wrong:

- (A) 40 is the smaller number (4 parts); (B) 72 and (C) 81 do not fit the $4 : 9$ split of 130.

Final Answer: The larger number is $90 \Rightarrow \boxed{\text{D}}$

Answer: (D) 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) 50, (C) 55, (D) 48: none equals $265 \div 5$.

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

Answer: (B) 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:

- (B) 360 km, (C) 400 km and (D) 480 km use the wrong speed or time.

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

Answer: (A) 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; (B) Rs. 2100 over-counts; (D) Rs. 1000 is one year only.

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

Answer: (C) Go Back to Q6

Q7.

Solution

Concept — Composite area: Shaded area = rectangle area − semicircle area.

Step 1 — Rectangle: $20 \times 14 = 280$ cm^2.

Step 2 — Semicircle (radius 7):

$$\tfrac{1}{2}\pi r^2 = \tfrac{1}{2} \times \tfrac{22}{7} \times 7^2 = \tfrac{1}{2} \times \tfrac{22}{7} \times 49 = 77 \text{ cm}^2.$$

Step 3 — Subtract: $280 - 77 = 203$ cm^2.

Why other options are wrong:

- (B) 280 ignores the cut; (C) 210 and (D) 197 use a wrong semicircle area.

Final Answer: The shaded area is 203 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 $= 5$, hyp $= 13$: opp $= \sqrt{13^2 - 5^2} = \sqrt{144} = 12$.

Step 2 — Form the tangent:

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

Why other options are wrong:

- (A) $\frac{12}{13} = \sin\theta$; (B) $\frac{13}{12}$ and (D) $\frac{5}{12}$ invert or mislabel the sides.

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

Answer: (C) 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; (C) $2, 10$ and (D) $1, 20$ give product 20 but sum $\neq 9$.

Final Answer: The roots are 4 and $5 \Rightarrow$ B

Answer: (B) 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: $\Delta x = 7 - 2 = 5$, $\Delta y = 13 - 1 = 12$.

Step 2 — Apply the formula:

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

Why other options are wrong:

- (A) $17 = 5 + 12$ adds the legs; (B) 12 and (D) 15 ignore the right-triangle relation.

Final Answer: The distance $AB = 13 \Rightarrow$ C

Answer: (C) Go Back to Q10

Q11.

Solution

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

Step 1 — Read the figure: The big triangle has a horizontal line joining the midpoints of its two slanted sides, cutting off a small top triangle.

Step 2 — Tally: The small top triangle (1), the lower trapezium is not a triangle, and the whole big triangle (1). The midpoint line also makes the upper small triangle and, with each slant, no extra full triangle. Counting the small top, the whole, and the two part-triangles formed with the base corners gives 5 in all.

Why other options are wrong:

- (A) 3 and (B) 4 miss a composite triangle; (D) 6 double-counts a region.

Final Answer: There are 5 triangles $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) 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 $n = 2$:

$$1^2 + 2^2 = 1 + 4 = 5.$$

Step 2 — Interpret: 4 unit squares plus 1 large 2×2 square give 5 in total.

Why other options are wrong:

- (A) 4 counts only unit squares; (C) 6 and (D) 8 over-count.

Final Answer: There are 5 squares $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q12

Q13.

Solution

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

Step 1 — Base layer: A 2×2 arrangement uses $2 \times 2 = 4$ cubes.

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

Step 3 — Total:

$$4 + 3 = 7.$$

Why other options are wrong:

- (A) 6 under-counts the top; (B) 8 and (C) 9 add too many.

Final Answer: 7 unit cubes are used $\Rightarrow$ D

Answer: (D) 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 is a large square; the cylinder standing on it appears as a circle inside that square outline.

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

Why other options are wrong:

- (A) ignores the cylinder; (C) two squares is a side-style view; (D) a triangle would need a cone or pyramid, not a cylinder.

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 L: The letter L normally has its vertical stroke on the left and its foot pointing right. A mirror on the right reverses left-right, so the vertical stroke moves to the right and the foot points left.

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

Why other options are wrong:

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

Final Answer: Foot points 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 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 down-right ($-45°$), then straight down ($-90°$). Each step is a turn of $45°$ in the clockwise sense.

Step 2 — Next term: Continuing $45°$ clockwise, the arrow would point down-left.

Why other options are wrong:

- (B) $90°$ anticlockwise turns the wrong way and too far; (C) $45°$ anticlockwise is the wrong direction; (D) $180°$ skips steps.

Final Answer: The arrow turns $45°$ clockwise each step $\Rightarrow$ A

Answer: (A) Go Back to Q17

Q18.

Solution

Concept — Folding a net: A flat arrangement of squares folds into a box only when its faces wrap up without overlap. Count the squares to see what solid can form.

Step 1 — Count the squares: The figure has five squares: a central one with squares above, below, left and right of it (a plus shape with one arm missing the sixth square).

Step 2 — Fold it: With only five faces, the four side squares fold up around the central base square, leaving the top open. This makes an **open box** (a cube with no top face).

Why other options are wrong:

- (A) a closed cube needs six squares; (C) a pyramid needs triangular faces; (D) the squares clearly do fold up.

Final Answer: Five squares fold into an open box $\Rightarrow$ 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) $T = 20$ falls short.

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

Answer: (A) Go Back to Q19

Q20.

Solution

Concept — Coding by alphabet position: Replace each letter by its place number in the alphabet ($A = 1, B = 2, \ldots, Z = 26$).

Step 1 — Convert each letter: $A = 1$, $R = 18$, $T = 20$.

Step 2 — Write the code: ART becomes

$$1\text{-}18\text{-}20.$$

Why other options are wrong:

- (B) uses 17 for R (that is Q); (C) uses 19 for T (that is S); (D) uses 19 for R.

Final Answer: ART is coded as $1\text{-}18\text{-}20 \Rightarrow$ 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 — "My mother's only sister": The only sister of Meera's mother is Meera's aunt (maternal aunt).

Step 2 — "The son of my aunt": The son of Meera's aunt is Meera's cousin.

Why other options are wrong:

- (A) Brother would be her mother's own son; (C) Uncle and (D) Nephew are the wrong generation.

Final Answer: The man is Meera's cousin $\Rightarrow$ 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:

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

Step 2 — Direction: Moving East then North lands her to the North-East of the start.

Why other options are wrong:

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

Final Answer: She is 13 km away, to the North-East $\Rightarrow$ 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 $\subseteq$ art, so every sketch is art.

Step 2 — Check direction: The reverse (all art is 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 art $\Rightarrow$ $\boxed{\text{A}}$

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: W is immediately right of X. Facing the centre, the only other neighbour of X is on X's left.

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

Why other options are wrong:

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

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

Answer: (A) Go Back to Q24

Q25.

Solution

Concept — Clock angles: The minute hand moves 6° per minute; the hour hand moves 0.5° per minute (and the dial has 30° between hour marks).

Step 1 — Hand positions at 6:30**:** Minute hand at 30 min $= 6 \times 30 = 180^\circ$. Hour hand at $6{:}30 = 6 \times 30 + 30 \times 0.5 = 180 + 15 = 195^\circ$.

Step 2 — Compute the angle:

$$195^\circ - 180^\circ = 15^\circ.$$

Why other options are wrong:

- (A) 0° forgets the hour hand has moved past 6; (C) 30° and (D) 45° misplace the hour hand.

Final Answer: The angle is $15^\circ \Rightarrow \boxed{\text{B}}$

Answer: (B) Go Back to Q25

Q26.

Solution

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

Step 1 — Check the squares: $16 = 4^2$, $49 = 7^2$, $81 = 9^2$, $64 = 8^2$, $121 = 11^2$ are all perfect squares. Among them, 4 and 8 are even while $7, 9, 11$ are odd. So $16 = 4^2$ and $64 = 8^2$ are squares of even numbers — but 16 is also 2^4, a perfect fourth power, while $64 = 2^6$ is too. The cleanest single misfit is 64, the only number here that is a perfect cube ($64 = 4^3$) as well as a square.

Step 2 — Identify the misfit: 64 is the only term that is both a perfect square and a perfect cube; the rest are squares only.

Why other options are wrong:

- (A) $49 = 7^2$, (C) $81 = 9^2$, (D) $121 = 11^2$ are squares but not cubes.

Final Answer: The odd one out is $64 \Rightarrow \boxed{\text{B}}$

Answer: (B) Go Back to Q26

Q27.

Solution

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

Step 1 — Match the meaning: A vivid colour is strong and bright, so its synonym is **Bright**.

Why other options are wrong:

- (B) Faded and (C) Plain are opposites (antonyms); (D) Silent is unrelated to colour or brightness.

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

Answer: (A) 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 painter works on (uses as a surface) a canvas; "artist $\rightarrow$ material worked on."

Step 2 — Apply it: A sculptor works on **Clay**, matching "artist $\rightarrow$ material worked on."

Why other options are wrong:

- (A) Gallery displays art but is not the working material; (B) Brush is a tool, not a surface; (D) Viewer looks at the art.

Final Answer: Sculptor is to Clay $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) Go Back to Q28

Q29.

Solution

Concept — Sentence completion: Pick the word that fits the positive tone of "admired."

Step 1 — Read the tone: A layout that is admired and lets every easel catch good light is being praised, so a positive word is needed.

Step 2 — Best fit: "Thoughtful" (carefully planned) fits an admired layout.

Why other options are wrong:

- (A) cluttered, (C) gloomy and (D) cramped are all negative and clash with "admired."

Final Answer: The layout was admired as "thoughtful" $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q29

Q30.

Solution

Concept — Colour theory: On the artists' (subtractive) colour wheel, mixing two primaries gives a secondary colour.

Step 1 — Mix blue and yellow: Blue + yellow makes **green**.

Step 2 — Confirm: The other secondaries are orange (red + yellow) and violet (red + blue).

Why other options are wrong:

- (A) Orange is red + yellow; (B) Violet is red + blue; (D) Brown is a muddy mix of several colours, not a wheel secondary.

Final Answer: Blue + yellow makes Green $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) Go Back to Q30

Q31.

Solution

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

Step 1 — Match the description: Objects arranged evenly around a central point, like petals around a flower's centre, show **radial balance**, as in a rose window or a mandala.

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 arrangement.

Final Answer: Petals-around-a-centre is radial balance $\Rightarrow$ C

Answer: (C) Go Back to Q31

Q32.

Solution

Concept — Wet vs dry art media: Some media are applied wet and dry on the surface; others are dry sticks or powders.

Step 1 — Classify: Oil paint, watercolour and acrylic are wet media that are brushed on and left to dry. Charcoal is a dry drawing medium (a burnt-wood stick).

Step 2 — Odd one out: Charcoal is the dry medium.

Why other options are wrong:

- (A) Oil paint, (C) Watercolour and (D) Acrylic are all wet, drying paints.

Final Answer: The dry medium is Charcoal $\Rightarrow$ B

Answer: (B) Go Back to Q32

Q33.

Solution

Concept — Reading a monument's silhouette: The picture shows a single, very tall, four-sided shaft that tapers as it rises and ends in a small pyramid (pyramidion). A free-standing tapering shaft of this kind is an *obelisk*.

Step 1 — Identify the monument: This plain stone obelisk standing alone on a low base is the **Washington Monument**, honouring George Washington.

Step 2 — Recall its country: It stands on the National Mall in Washington, D.C., capital of the **United States of America**.

Why other options are wrong:

- (A) France: its Paris landmark is the iron Eiffel Tower, not a stone obelisk.
- (B) Egypt: the original ancient obelisks are Egyptian, but this national monument is American.
- (D) Italy: known for the Colosseum and the Leaning Tower of Pisa.

Final Answer: The obelisk is the Washington Monument in the USA $\Rightarrow$ C

Answer: (C) Go Back to Q33

Q34.

Solution

Concept — A classical temple silhouette: The drawing shows a row of vertical columns on a stepped base carrying a horizontal beam, topped by a low triangular gable (pediment). This is the classic Greek temple form.

Step 1 — Identify the building: The most famous temple of this type, on a hilltop citadel (the Acropolis), is the **Parthenon**, dedicated to Athena.

Step 2 — Recall its country: The Parthenon stands on the Acropolis of Athens, in **Greece**.

Why other options are wrong:

- (A) Italy: Roman temples often added arches and domes; the Pantheon is in Rome.
- (C) Turkey: known for the domed Hagia Sophia, not a columned Greek temple.
- (D) Egypt: known for pyramids and massive temple pylons, a different look.

Final Answer: The Parthenon stands in Greece $\Rightarrow$ B

Answer: (B) Go Back to Q34

Q35.

Solution

Concept — An ancient public arena: The figure shows a large oval (elliptical) ring of stone with tiers of arches, part of it broken away. The Romans built such oval tiered structures to seat huge crowds around a central arena.

Step 1 — Identify the building: This is the **Colosseum** in Rome, completed around 80 CE.

Step 2 — State what it is: It is an **amphitheatre** — an oval open-air arena ringed by rising seats, where gladiator contests, animal hunts and other public games were staged.

Why other options are wrong:

- (B) A palace is a residence, not an oval public arena.
- (C) A temple houses a god's image; the Colosseum was for games.
- (D) Roman baths (thermae) were halls of pools, not tiered oval arenas.

Final Answer: The Colosseum is an amphitheatre for public games $\Rightarrow$ A

Answer: (A) Go Back to Q35

Q36.

Solution

Concept — A landmark clock tower: The drawing shows a tall, slender stone tower with a single large clock face high up and a steep pointed (pinnacle) roof. This Gothic-style clock tower is a world-famous landmark.

Step 1 — Identify the tower: This is the Elizabeth Tower of the Palace of Westminster, whose great bell and clock are popularly called **Big Ben**.

Step 2 — Recall its city: It stands beside the Houses of Parliament on the River Thames in **London**.

Why other options are wrong:

- (B) Paris: its landmark is the iron Eiffel Tower, not a stone clock tower.
- (C) Vienna and (D) Edinburgh: historic European cities, but Big Ben is in London.

Final Answer: Big Ben stands in London ⇒ A

Answer: (A) Go Back to Q36

Q37.

Solution

Concept — A tower with a job: The drawing shows a round, multi-storey tower ringed by tiers of small open columns, tilting to one side beside a cathedral. The question asks what it was actually built for.

Step 1 — Identify the tower: This is the **Leaning Tower of Pisa**, which began to tilt during construction as the soft ground settled unevenly.

Step 2 — State its function: It is the freestanding **bell tower (campanile)** of Pisa Cathedral, built to hold the cathedral's bells.

Why other options are wrong:

- (B) A lighthouse stands at a harbour, not inland beside a cathedral.
- (C) A watchtower is military; this is a religious bell tower.
- (D) Its open columned tiers hold bells, not a water tank.

Final Answer: It is the bell tower of Pisa Cathedral ⇒ A

Answer: (A) Go Back to Q37

Q38.

Solution

Concept — Mottos of the modern masters: Each leading modernist is remembered for a short saying that captures his approach.

Step 1 — Match the motto: "Less is more", expressing an architecture reduced to clean, essential forms in steel and glass, is the motto of **Mies van der Rohe**, designer of the Barcelona Pavilion and the Seagram Building.

Why other options are wrong:

- (A) Walter Gropius founded the Bauhaus; (C) Louis Kahn spoke of light and materials; (D) Frank Lloyd Wright spoke of organic architecture.

Final Answer: "Less is more" belongs to Mies van der Rohe ⇒ B

Answer: (B) Go Back to Q38

Q39.

Solution

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

Step 1 — Match the feature: A temple whose tall, ornate, pyramidal gateway tower (*gopuram*) rises over the entrance, as at Madurai and Thanjavur, belongs to the **Dravidian** style of South India.

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: Members are named by how they are supported and carry load.

Step 1 — Define the term: A **cantilever** is a beam or slab fixed at one end only, projecting out with its far end free and unsupported, as in a cantilevered balcony.

Why other options are wrong:

- (A) Lintel spans an opening with supports at both ends; (C) Plinth is the base of a wall above ground; (D) Column is a vertical load-bearing 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 — Planning abbreviations: Town-planning rules use short codes for area limits.

Step 1 — Expand FSI: FSI stands for **Floor Space Index** — the ratio of the total built-up floor area to the area of the plot, which limits how much can be built on a site.

Why other options are wrong:

- (A), (C) and (D) are invented expansions; only "Floor Space Index" is the standard planning term (also called FAR).

Final Answer: FSI = Floor Space Index $\Rightarrow$ B

Answer: (B) Go Back to Q41

Q42.

Solution

Concept — Major prizes by field: Certain prizes are the top honour in a single discipline.

Step 1 — Identify the field: The **Aga Khan Award for Architecture**, given every three years, honours outstanding building projects that improve the quality of life, especially in communities with a Muslim presence. Its field is **architecture**.

Why other options are wrong:

- (B) Cinema, (C) Music and (D) Medicine have their own separate 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:**

$$\frac{28}{100} \times 400 = 112.$$

Final Answer: $\Rightarrow \boxed{112}$

Answer: (112) Go Back to Q43

Q44.

Solution

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

$$18 \times 8 = 144 \text{ cm}^2.$$

Final Answer: $\Rightarrow \boxed{144}$

Answer: (144) 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:**

$$\frac{5}{8} \times 128 = 80.$$

Final Answer: $\Rightarrow \boxed{80}$

Answer: (80) Go Back to Q45

Q46.

Solution

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

$$10000 \times (1.1)^2 = 10000 \times 1.21 = 12100.$$

Final Answer: $\Rightarrow \boxed{12100}$

Answer: (12100) Go Back to Q46

Q47.

Solution

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

$$\frac{260}{4} = 65 \text{ km/h}.$$

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

Answer: (65) Go Back to Q47

Q48.

Solution

Concept — Number series: each term is a multiple of 6 $(6 \times 1,\ 6 \times 2, \ldots)$. **Step 1 — Next term:**

$$6 \times 6 = 36.$$

Final Answer: $\Rightarrow \boxed{36}$

Answer: (36) Go Back to Q48

Q49.

Solution

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

$$\frac{320}{5} = 64.$$

Final Answer: $\Rightarrow \boxed{64}$

Answer: (64) Go Back to Q49

Q50.

Solution

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

$$180 - 60 - 50 = 70.$$

Final Answer: $\Rightarrow \boxed{70}$

Answer: (70) Go Back to Q50

Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	B	3	D	4	B	5	A
6	C	7	A	8	C	9	B	10	C
11	C	12	B	13	D	14	B	15	A
16	B	17	A	18	B	19	A	20	A
21	B	22	C	23	A	24	A	25	B
26	B	27	A	28	C	29	B	30	C
31	C	32	B	33	C	34	B	35	A
36	A	37	A	38	B	39	C	40	B
41	B	42	A	43	112	44	144	45	80
46	12100	47	65	48	36	49	64	50	70