

UCEED Sample Paper

Duration: 180 Minutes

Maximum Marks: 300

Instructions

- This is a full-length UCEED practice paper. **Part A** (Q1–Q57, 200 marks, computer-based) has three sections: **Section 1** NAT, Numerical Answer Type (Q1–Q14); **Section 2** MSQ, Multiple Select Questions (Q15–Q29); **Section 3** MCQ, Multiple Choice Questions (Q30–Q57). **Part B** (Q58–Q59, 100 marks, pen and paper) tests drawing and design aptitude.
- **Marking - Part A:** NAT: +4, no negative marking. MSQ: +4 if all correct options and no wrong option are chosen; +1 for each correct option chosen when no wrong option is chosen; –1 if any wrong option is chosen. MCQ: +3 for correct, –0.71 for wrong.
- **Marking - Part B:** each of the two questions carries **50 marks**, evaluated on your drawing and design response. There is no negative marking in Part B.
- Tap **View Solution** (Part A) or **View Model Approach** (Part B) under any question to jump to its worked explanation. Calculators and electronic gadgets are not allowed.

Section 1: Numerical Answer Type (NAT)

Q1. A rectangular poster measures 60 cm by 90 cm. A uniform margin of 5 cm is left blank on all four sides. What is the area, in square centimetres, of the inner printable region?

(Numerical Answer Type - enter a numerical value; no options.)

[View Solution](#)



Q2. In typography, 1 pica equals 12 points. A text column is set to a width of 30 picas. How many points wide is the column?

(Numerical Answer Type - enter a numerical value; no options.)

[View Solution](#)

Q3. Find the next term in the sequence: 2, 6, 12, 20, 30, ...

(Numerical Answer Type - enter a numerical value; no options.)

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Q4. A total of 200 people were surveyed for newspaper readership. It was found that 100 people read publication X, 120 people read publication Y and 50 people do not read either X or Y. What is the total number of people who read either publication X or publication Y but not both?

(Numerical Answer Type - enter a numerical value; no options.)

[View Solution](#)

Q5. A designer mixes a paint by combining white and blue in the ratio 3 : 5. To prepare 4 litres of this mixture, how many litres of white paint are needed?

(Numerical Answer Type - enter a numerical value; no options.)

[View Solution](#)

Q6. A product is priced at Rs 250. The price is first increased by 20%, then the new price is decreased by 10%. What is the final price in rupees?

(Numerical Answer Type - enter a numerical value; no options.)

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Q7. A wooden cube of side 6 cm is painted on all its faces and then cut into 1 cm cubes. How many of the small cubes have exactly two painted faces?

(Numerical Answer Type - enter a numerical value; no options.)

[View Solution](#)

Q8. An image is to be printed at 300 dpi (dots per inch). If the printed width is 2 inches, how many pixels wide must the image be?

(Numerical Answer Type - enter a numerical value; no options.)

[View Solution](#)

Q9. A circle is inscribed in a square of side 14 cm, touching all four sides. Taking $\pi = \frac{22}{7}$, what is the area of the circle in square centimetres?

(Numerical Answer Type - enter a numerical value; no options.)

[View Solution](#)

Q10. A scale model of a building is made at a scale of 1 : 50. If the actual building is 30 m tall, what is the height of the model in centimetres?

(Numerical Answer Type - enter a numerical value; no options.)

[View Solution](#)

Q11. Find the next term in the sequence: 5, 11, 23, 47, ...

(Numerical Answer Type - enter a numerical value; no options.)

[View Solution](#)

Q12. A chair has a list price of Rs 1800. A shop offers two successive discounts of 10% and 15%. What is the final price in rupees?



(Numerical Answer Type - enter a numerical value; no options.)

[View Solution](#)

- Q13.** A cylindrical tin has radius 7 cm and height 10 cm. Taking $\pi = \frac{22}{7}$, what is its curved (lateral) surface area in square centimetres?

(Numerical Answer Type - enter a numerical value; no options.)

[View Solution](#)

- Q14.** A rectangle follows the proportion 1 : 1.6 (short side : long side). If the short side is 20 cm, what is the length of the long side in centimetres?

(Numerical Answer Type - enter a numerical value; no options.)

[View Solution](#)

Section 2: Multiple Select Questions (MSQ)

- Q15.** P, Q, R, S, T, U and V are bees living in separate cells of a 2D hive made of hexagonal cells. T and V are neighbours of P. R and S are neighbours of U. V does not share a wall with T, U or R. Q, being the queen, shares a wall with everyone. Which of the options must be TRUE?

(One or more options may be correct.)

- (A) S and V are neighbours
- (B) R and T are neighbours
- (C) P and U share a wall
- (D) S and T are not neighbours

[View Solution](#)

- Q16.** In the traditional RYB (artists' subtractive) colour model, which of the following are primary colours?



(One or more options may be correct.)

- (A) Green
- (B) Red
- (C) Yellow
- (D) Blue

[View Solution](#)

Q17. Which of the following traditional Indian craft techniques use resist dyeing (blocking parts of the cloth or yarn from taking the dye)?

(One or more options may be correct.)

- (A) Bandhani
- (B) Batik
- (C) Ikat
- (D) Madhubani

[View Solution](#)

Q18. Which of the following digital image file formats support transparency (an alpha channel or transparent pixels)?

(One or more options may be correct.)

- (A) JPEG
- (B) PNG
- (C) GIF
- (D) SVG

[View Solution](#)



Q19. Which of the following buildings in India were designed by the architect Le Corbusier?

(One or more options may be correct.)

- (A) Palace of Assembly, Chandigarh
- (B) Lotus Temple, New Delhi
- (C) Mill Owners' Association Building, Ahmedabad
- (D) Sanskar Kendra museum, Ahmedabad

[View Solution](#)

Q20. On a colour wheel, which of the following are considered warm colours?

(One or more options may be correct.)

- (A) Orange
- (B) Red
- (C) Blue
- (D) Yellow

[View Solution](#)

Q21. Which of the following is a serif typeface?

(One or more options may be correct.)

- (A) Helvetica
- (B) Futura
- (C) Garamond
- (D) Gill Sans

[View Solution](#)



Q22. Which of the following artists are associated with the Bengal School of Art?

(One or more options may be correct.)

- (A) Abanindranath Tagore
- (B) M. F. Husain
- (C) Nandalal Bose
- (D) S. H. Raza

[View Solution](#)

Q23. Which of the following are joinery techniques used in wood and furniture making?

(One or more options may be correct.)

- (A) Mortise and tenon
- (B) Dovetail
- (C) Dado
- (D) Finger (box) joint

[View Solution](#)

Q24. On the colour wheel, which of the following are considered cool colours?

(One or more options may be correct.)

- (A) Red
- (B) Green
- (C) Orange
- (D) Violet



[View Solution](#)

Q25. Which of the following are UNESCO World Heritage Sites in India?

(One or more options may be correct.)

- (A) Khajuraho Group of Monuments
- (B) Marina Beach, Chennai
- (C) Group of Monuments at Hampi
- (D) Marine Drive, Mumbai

[View Solution](#)

Q26. Which of the following relate to vector graphics rather than raster (bitmap) graphics?

(One or more options may be correct.)

- (A) Pixel
- (B) Bezier curve
- (C) SVG file format
- (D) EPS file format

[View Solution](#)

Q27. Which of the following is Bidriware, a traditional Indian metal craft in which silver is inlaid into a blackened zinc-copper alloy?

(One or more options may be correct.)

- (A) Pattachitra
- (B) Bidriware
- (C) Warli
- (D) Phad



[View Solution](#)

Q28. Which of the following are principles of design (rather than elements of design)?

(One or more options may be correct.)

- (A) Balance
- (B) Line
- (C) Contrast
- (D) Rhythm

[View Solution](#)

Q29. Which of the following are traditional Indian folk or tribal painting styles?

(One or more options may be correct.)

- (A) Madhubani
- (B) Warli
- (C) Kalamkari
- (D) Gond

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Section 3: Multiple Choice Questions (MCQ)

Q30. In a certain code, FLOWER is written as GMPXFS by shifting each letter one step forward in the alphabet. Using the same rule, how is GARDEN written?

- (A) HBSFEO
- (B) HBSEFO



(C) GBSEFO

(D) HBSEFN

[View Solution](#)

Q31. Which letter completes the series? B, D, G, K, P, ?

(A) V

(B) U

(C) W

(D) T

[View Solution](#)

Q32. Which of the options will replace the question mark in the given sequence?

F K ? U Z

(A) C

(B) O

(C) P

(D) R

[View Solution](#)

Q33. At 6:00 pm, the hour hand and the minute hand of an analog clock are at 180 degrees with each other. After approximately how much time will they be at 180 degrees with each other again?

(A) 48 minutes, 40 seconds

(B) 54 minutes, 33 seconds

(C) 60 minutes



(D) 65 minutes, 27 seconds

[View Solution](#)

Q34. A person walks 5 km towards the north, turns right and walks 3 km, then turns right again and walks 5 km. How far and in which direction is the person now from the starting point?

(A) 5 km North

(B) 3 km West

(C) 8 km East

(D) 3 km East

[View Solution](#)

Q35. Pointing to a photograph, a woman says, "She is the daughter of my grandfather's only son." How is the girl in the photograph related to the woman?

(A) Sister

(B) Mother

(C) Aunt

(D) Cousin

[View Solution](#)

Q36. On the colour wheel, what is the complementary colour of red?

(A) Blue

(B) Orange

(C) Green

(D) Yellow



[View Solution](#)

Q37. In typography, what does the term "kerning" refer to?

- (A) The height of lowercase letters
- (B) Adjusting the space between two specific letters
- (C) The space between lines of text
- (D) A decorative stroke at the end of a letter

[View Solution](#)

Q38. In typography, the term "leading" refers to:

- (A) The vertical space between lines of text
- (B) The space between two adjacent letters
- (C) The slant of italic type
- (D) The weight or boldness of a font

[View Solution](#)

Q39. The well-known painting "Bharat Mata" (1905) was created by which artist?

- (A) Raja Ravi Varma
- (B) Nandalal Bose
- (C) Jamini Roy
- (D) Abanindranath Tagore

[View Solution](#)

Q40. The Great Stupa at Sanchi, a major Buddhist monument, is located in which Indian state?



- (A) Uttar Pradesh
- (B) Madhya Pradesh
- (C) Bihar
- (D) Maharashtra

[View Solution](#)

Q41. The Bauhaus, a school that strongly shaped modern art, design and architecture, was founded in which country?

- (A) France
- (B) Italy
- (C) Germany
- (D) United States

[View Solution](#)

Q42. Which material is most suitable for a lightweight, transparent and shatter-resistant water bottle?

- (A) PET plastic
- (B) Cast iron
- (C) Terracotta
- (D) Plywood

[View Solution](#)

Q43. Which colour model is used to display colours on digital screens such as monitors and phones?

- (A) CMYK
- (B) RYB



- (C) RGB
- (D) Pantone

[View Solution](#)

Q44. Which colour model is standard for full-colour commercial printing?

- (A) RGB
- (B) RYB
- (C) Grayscale
- (D) CMYK

[View Solution](#)

Q45. What is the next number in the sequence? 3, 7, 15, 31, 63, ?

- (A) 95
- (B) 127
- (C) 111
- (D) 121

[View Solution](#)

Q46. Which of the following polygons has the greatest number of sides?

- (A) Hexagon
- (B) Pentagon
- (C) Octagon
- (D) Square

[View Solution](#)



Q47. Pashmina, the fine luxury wool used in Kashmiri shawls, is obtained mainly from which animal?

- (A) Changthangi goat
- (B) Merino sheep
- (C) Bactrian camel
- (D) Himalayan yak

[View Solution](#)

Q48. The Meenakshi Amman Temple, famous for its tall carved gopurams, is located in which city?

- (A) Thanjavur
- (B) Chennai
- (C) Kanchipuram
- (D) Madurai

[View Solution](#)

Q49. A car travels 240 km in 4 hours at a steady speed. At the same speed, how far will it travel in 6 hours?

- (A) 300 km
- (B) 360 km
- (C) 320 km
- (D) 340 km

[View Solution](#)

Q50. If 40% of a number is 80, what is the number?

- (A) 160



- (B) 240
- (C) 200
- (D) 120

[View Solution](#)

Q51. In app and website interfaces, the "hamburger" icon (three stacked horizontal lines) most commonly represents:

- (A) A navigation menu
- (B) A search bar
- (C) A shopping cart
- (D) A settings panel

[View Solution](#)

Q52. Vanishing points, where receding parallel lines appear to meet, are a key feature of which drawing method?

- (A) Orthographic projection
- (B) Isometric drawing
- (C) Exploded view
- (D) Linear perspective

[View Solution](#)

Q53. The artist Salvador Dali, known for dreamlike images such as melting clocks, is associated with which art movement?

- (A) Cubism
- (B) Surrealism
- (C) Impressionism



(D) Pop Art

[View Solution](#)

Q54. Traditional Warli painting is characterised by which of the following?

- (A) White pigment applied on an earthy red-brown background
- (B) Black pigment on a plain white ground
- (C) Bright multicolour figures on a blue ground
- (D) Gold leaf detailing on a black ground

[View Solution](#)

Q55. If today is Wednesday, what day of the week will it be after 30 days?

- (A) Thursday
- (B) Saturday
- (C) Friday
- (D) Sunday

[View Solution](#)

Q56. The perimeter of a square is 48 cm. What is its area?

- (A) 96 square cm
- (B) 144 square cm
- (C) 121 square cm
- (D) 169 square cm

[View Solution](#)

Q57. Which of the following is a neutral colour?



- (A) Cyan
- (B) Magenta
- (C) Teal
- (D) Grey

[View Solution](#)

Part B: Drawing and Design
Aptitude (Pen and Paper)

Q58. [Drawing - 50 Marks]

Imagine a crowded railway platform as a train stands at the edge. Passengers hurry with trolley bags and bundles, a family sits on a bench surrounded by luggage, a coolie carries a suitcase on his head, and a signboard hangs overhead. Overhead beams and a long roof stretch into the distance. Draw this busy platform scene, giving prominence to a tea vendor pouring steaming chai from a kettle into small cups on a tray held by a waiting passenger.

Note: Make pencil sketches only. Do not use colour.

Evaluation criteria: observation; composition; perspective and proportion; quality of lines; attention to detail.

[View Model Approach](#)

Q59. [Design Aptitude - 50 Marks]

In many Indian homes students lose study time during frequent power cuts and dim evening light. Design a portable rechargeable study lamp that gives steady, glare-free light on a desk and can also be carried around the house. Show your lamp in two states: switched off and folded flat for storage or carrying, and switched on and lighting an open book on a desk.



Note: Make pencil sketches only. Do not use colour. Explain your design only through visuals and short labels; do not write separate explanations.

[View Model Approach](#)



Detailed Solutions**Q1.**

Q. A rectangular poster measures 60 cm by 90 cm. A uniform margin of 5 cm is left blank on all four sides. What is the area, in square centimetres, of the inner printable region?

Solution

Concept - Mensuration, area after a uniform border: Leaving a margin of m on every side removes $2m$ from each outer dimension.

Step 1 - Reduce each side: Printable width = $60 - 2 \times 5 = 50$ cm.
Printable height = $90 - 2 \times 5 = 80$ cm.

Step 2 - Multiply: Area = $50 \times 80 = 4000$ square cm.

Tip: Subtract twice the margin (both sides) from each dimension before finding area.

Answer: 4000 [Go Back to Q1](#)

Q2.

Q. In typography, 1 pica equals 12 points. A text column is set to a width of 30 picas. How many points wide is the column?

Solution

Concept - Design unit conversion (pica to point): The pica and point are print measurement units, with $1 \text{ pica} = 12 \text{ points}$.

Step 1 - Multiply: $30 \times 12 = 360$ points.



Tip: Remember $6 \text{ picas} = 1 \text{ inch} = 72 \text{ points}$, so a pica is always 12 points.

Answer: 360 [Go Back to Q2](#)

Q3.

Q. Find the next term in the sequence: 2, 6, 12, 20, 30, ...

Solution

Concept - Number sequence, product pattern: Each term is $n(n+1)$: $1 \times 2, 2 \times 3, 3 \times 4, \dots$

Step 1 - Check the gaps: Differences are 4, 6, 8, 10, so the next gap is 12.

Step 2 - Add: $30 + 12 = 42$, which equals 6×7 .

Tip: When differences grow by a constant, the sequence is quadratic; test $n(n+1)$.

Answer: 42 [Go Back to Q3](#)

Q4.

Q. A total of 200 people were surveyed for newspaper readership. It was found that 100 people read publication X, 120 people read publication Y and 50 people do not read either X or Y. What is the total number of people who read either publication X or publication Y but not both?

Solution



Concept - Sets, inclusion-exclusion: For two sets, $|X \cup Y| = |X| + |Y| - |X \cap Y|$. Those reading at least one equal the total minus those reading neither.

Step 1 - Readers of at least one: $|X \cup Y| = 200 - 50 = 150$.

Step 2 - Find the overlap: $150 = 100 + 120 - |X \cap Y| \Rightarrow |X \cap Y| = 70$.

Step 3 - Exactly one (not both): $|X \cup Y| - |X \cap Y| = 150 - 70 = 80$.

Tip: "Either but not both" is the union minus the intersection.

Answer: 80 [Go Back to Q4](#)

Q5.

Q. A designer mixes a paint by combining white and blue in the ratio 3 : 5. To prepare 4 litres of this mixture, how many litres of white paint are needed?

Solution

Concept - Ratio, part of a whole: Total parts = $3 + 5 = 8$; white is 3 of those parts.

Step 1 - White fraction: White = $\frac{3}{8}$ of the mixture.

Step 2 - Apply to 4 litres: $\frac{3}{8} \times 4 = 1.5$ litres.

Tip: Always add the ratio numbers first to get total parts, then scale.

Answer: 1.5 [Go Back to Q5](#)

Q6.



Q. A product is priced at Rs 250. The price is first increased by 20%, then the new price is decreased by 10%. What is the final price in rupees?

Solution

Concept - Successive percentage change: Apply each change to the value it acts on, not the original both times.

Step 1 - Increase by 20%: $250 \times 1.20 = 300$.

Step 2 - Decrease by 10%: $300 \times 0.90 = 270$.

Tip: A rise then an equal-looking fall never cancels, because they act on different bases.

Answer: 270 [Go Back to Q6](#)

Q7.

Q. A wooden cube of side 6 cm is painted on all its faces and then cut into 1 cm cubes. How many of the small cubes have exactly two painted faces?

Solution

Concept - Painted cube, edge count: Small cubes with exactly two painted faces sit along the edges but not at the corners.

Step 1 - Per edge: Each edge has $6 - 2 = 4$ such cubes (removing the two corner cubes).

Step 2 - All edges: A cube has 12 edges, so $12 \times 4 = 48$.



Tip: Two-face cubes = $12(n - 2)$ for an $n \times n \times n$ cube.

Answer: 48 [Go Back to Q7](#)

Q8.

Q. An image is to be printed at 300 dpi (dots per inch). If the printed width is 2 inches, how many pixels wide must the image be?

Solution

Concept - Design unit conversion (resolution): Pixel count = resolution in dpi $\times$ size in inches.

Step 1 - Multiply: $300 \times 2 = 600$ pixels.

Tip: Higher dpi means more pixels for the same physical size, giving sharper print.

Answer: 600 [Go Back to Q8](#)

Q9.

Q. A circle is inscribed in a square of side 14 cm, touching all four sides. Taking $\pi = \frac{22}{7}$, what is the area of the circle in square centimetres?

Solution

Concept - Inscribed circle, mensuration: A circle touching all sides of a square has diameter equal to the side, so radius is half the side.



Step 1 - Radius: $r = \frac{14}{2} = 7$ cm.

Step 2 - Area: $\pi r^2 = \frac{22}{7} \times 7 \times 7 = 154$ square cm.

Tip: With $r = 7$, $\frac{22}{7}$ cancels neatly, so keep the 7 whole.

Answer: 154 [Go Back to Q9](#)

Q10.

Q. A scale model of a building is made at a scale of 1 : 50. If the actual building is 30 m tall, what is the height of the model in centimetres?

Solution

Concept - Scale ratio with unit change: Model length = actual length $\div$ 50; convert metres to centimetres.

Step 1 - Convert: 30 m = 3000 cm.

Step 2 - Divide by the scale: $3000 \div 50 = 60$ cm.

Tip: Convert to one common unit before applying the scale factor.

Answer: 60 [Go Back to Q10](#)

Q11.

Q. Find the next term in the sequence: 5, 11, 23, 47, ...

Solution

Concept - Recursive sequence (double and add): Each term is the previous term times 2 plus 1.



Step 1 - Check the rule: $5 \times 2 + 1 = 11$, $11 \times 2 + 1 = 23$, $23 \times 2 + 1 = 47$.

Step 2 - Next term: $47 \times 2 + 1 = 95$.

Tip: When terms roughly double, test the rule $a_{n+1} = 2a_n + c$.

Answer: 95 [Go Back to Q11](#)

Q12.

Q. A chair has a list price of Rs 1800. A shop offers two successive discounts of 10% and 15%. What is the final price in rupees?

Solution

Concept - Successive discounts: Apply each discount one after another, each to the current price.

Step 1 - After 10%: $1800 \times 0.90 = 1620$.

Step 2 - After 15%: $1620 \times 0.85 = 1377$.

Tip: Two discounts of 10% and 15% are not a flat 25%; they compound to 23.5%.

Answer: 1377 [Go Back to Q12](#)

Q13.

Q. A cylindrical tin has radius 7 cm and height 10 cm. Taking $\pi = \frac{22}{7}$, what is its curved (lateral) surface area in square centimetres?

Solution

Concept - Curved surface area of a cylinder: Curved surface area



$$= 2\pi rh.$$

Step 1 - Substitute: $2 \times \frac{22}{7} \times 7 \times 10.$

Step 2 - Simplify: The 7 cancels: $2 \times 22 \times 10 = 440$ square cm.

Tip: Curved area ignores the two circular ends; add $2\pi r^2$ only for total surface area.

Answer: 440 [Go Back to Q13](#)

Q14.

Q. A rectangle follows the proportion 1 : 1.6 (short side : long side). If the short side is 20 cm, what is the length of the long side in centimetres?

Solution

Concept - Proportion in design (near golden ratio): The long side is 1.6 times the short side.

Step 1 - Multiply: $20 \times 1.6 = 32$ cm.

Tip: The 1 : 1.6 ratio approximates the golden ratio widely used in layout and product proportions.

Answer: 32 [Go Back to Q14](#)

Q15.

Q. P, Q, R, S, T, U and V are bees living in separate cells of a 2D hive made of hexagonal cells. T and V are neighbours of P. R and S are neighbours of U. V does not share a wall with T, U or R. Q, being the queen, shares a wall with everyone. Which of the options



must be TRUE?

- (A) S and V are neighbours
- (B) R and T are neighbours
- (C) P and U share a wall
- (D) S and T are not neighbours

Solution

Concept - Spatial logic on a hexagonal grid: Q touches everyone, so Q sits centrally. Place the others around Q using the neighbour clues.

Option A - S and V are neighbours: With V isolated from T, U and R, and S filling a remaining cell adjacent to V, this holds. TRUE.

Option B - R and T are neighbours: The only consistent arrangement places R next to T. TRUE.

Option C - P and U share a wall: P is fixed by T and V, and U by R and S; they do not end up adjacent. NOT necessarily true.

Option D - S and T are not neighbours: S sits on U's side and T on P's side, so they are apart. TRUE.

Tip: Fix the fully-connected node (Q) first, then seat the constrained pairs around it. Correct: A, B, D.

Answer: A, B, D [Go Back to Q15](#)

Q16.

Q. In the traditional RYB (artists' subtractive) colour model, which of the following are primary colours?



- (A) Green
- (B) Red
- (C) Yellow
- (D) Blue

Solution

Concept - Colour theory, RYB primaries: In the classic artists' model the three primaries are red, yellow and blue; green is a secondary made from yellow and blue.

Option A - Green: Secondary colour, not primary. FALSE.

Option B - Red: Primary. TRUE.

Option C - Yellow: Primary. TRUE.

Option D - Blue: Primary. TRUE.

Tip: RYB primaries differ from RGB (light) and CMY (print) primaries. Correct: B, C, D.

Answer: B, C, D [Go Back to Q16](#)

Q17.

Q. Which of the following traditional Indian craft techniques use resist dyeing (blocking parts of the cloth or yarn from taking the dye)?

- (A) Bandhani
- (B) Batik
- (C) Ikat
- (D) Madhubani



Solution

Concept - Craft, resist-dye techniques: Resist dyeing prevents dye from reaching selected areas of cloth or yarn.

Option A - Bandhani: Tie-and-dye resist made by tying tiny knots. TRUE.

Option B - Batik: Wax-resist dyeing. TRUE.

Option C - Ikat: Yarn is resist-dyed before weaving. TRUE.

Option D - Madhubani: A painting tradition, not a dyeing method. FALSE.

Tip: If dye is blocked from fabric or thread it is a resist craft; if pigment is applied on a surface it is painting. Correct: A, B, C.

Answer: A, B, C [Go Back to Q17](#)

Q18.

Q. Which of the following digital image file formats support transparency (an alpha channel or transparent pixels)?

- (A) JPEG
- (B) PNG
- (C) GIF
- (D) SVG

Solution

Concept - Image formats and transparency: Transparency lets part of an image be see-through when placed over a background.



Option A - JPEG: No transparency support; always fills the frame. FALSE.

Option B - PNG: Supports a full alpha channel. TRUE.

Option C - GIF: Supports single-colour (1-bit) transparency. TRUE.

Option D - SVG: Vector format that supports transparency. TRUE.

Tip: Choose PNG or SVG for logos that must sit on any background. Correct: B, C, D.

Answer: B, C, D [Go Back to Q18](#)

Q19.

Q. Which of the following buildings in India were designed by the architect Le Corbusier?

- (A) Palace of Assembly, Chandigarh
- (B) Lotus Temple, New Delhi
- (C) Mill Owners' Association Building, Ahmedabad
- (D) Sanskar Kendra museum, Ahmedabad

Solution

Concept - Modern architecture in India: Le Corbusier planned Chandigarh's Capitol Complex and several buildings in Ahmedabad.

Option A - Palace of Assembly, Chandigarh: Part of his Capitol Complex. TRUE.

Option B - Lotus Temple: Designed by Fariborz Sahba, not Le Corbusier. FALSE.



Option C - Mill Owners' Association Building: A Le Corbusier work in Ahmedabad. TRUE.

Option D - Sanskar Kendra museum: Designed by Le Corbusier in Ahmedabad. TRUE.

Tip: Link Le Corbusier to Chandigarh and Ahmedabad; the Lotus Temple is a separate modern icon. Correct: A, C, D.

Answer: A, C, D [Go Back to Q19](#)

Q20.

Q. On a colour wheel, which of the following are considered warm colours?

- (A) Orange
- (B) Red
- (C) Blue
- (D) Yellow

Solution

Concept - Colour temperature: Warm colours sit on the red-orange-yellow side of the wheel; cool colours on the blue-green side.

Option A - Orange: Warm. TRUE.

Option B - Red: Warm. TRUE.

Option C - Blue: Cool. FALSE.

Option D - Yellow: Warm. TRUE.



Tip: Warm colours seem to advance towards the viewer; cool colours recede. Correct: A, B, D.

Answer: A, B, D [Go Back to Q20](#)

Q21.

Q. Which of the following is a serif typeface?

- (A) Helvetica
- (B) Futura
- (C) Garamond
- (D) Gill Sans

Solution

Concept - Typography, serif vs sans-serif: Serif faces have small strokes (feet) at the ends of letters; sans-serif faces do not.

Option A - Helvetica: Sans-serif. FALSE.

Option B - Futura: Geometric sans-serif. FALSE.

Option C - Garamond: Classic old-style serif. TRUE.

Option D - Gill Sans: Humanist sans-serif. FALSE.

Tip: The name Gill Sans and Futura's clean look give away their sans-serif nature. Correct: C.

Answer: C [Go Back to Q21](#)

Q22.



Q. Which of the following artists are associated with the Bengal School of Art?

- (A) Abanindranath Tagore
- (B) M. F. Husain
- (C) Nandalal Bose
- (D) S. H. Raza

Solution

Concept - Indian art movements: The Bengal School revived Indian themes in the early 20th century; the later Progressive Artists' Group pursued modernism.

Option A - Abanindranath Tagore: Leading figure of the Bengal School. TRUE.

Option B - M. F. Husain: Progressive Artists' Group modernist. FALSE.

Option C - Nandalal Bose: Key Bengal School artist. TRUE.

Option D - S. H. Raza: Progressive Artists' Group. FALSE.

Tip: Bengal School names cluster around the Tagore circle of Santiniketan. Correct: A, C.

Answer: A, C [Go Back to Q22](#)

Q23.

Q. Which of the following are joinery techniques used in wood and furniture making?



- (A) Mortise and tenon
- (B) Dovetail
- (C) Dado
- (D) Finger (box) joint

Solution

Concept - Materials and processes, wood joints: Joinery connects two pieces of wood without relying only on nails.

Option A - Mortise and tenon: A peg fits into a matching hole. TRUE.

Option B - Dovetail: Interlocking fan-shaped pins, common in drawers. TRUE.

Option C - Dado: A square groove cut across the grain to seat a shelf. TRUE.

Option D - Finger (box) joint: Interlocking square fingers at a corner. TRUE.

Tip: All four are standard cabinetmaking joints. Correct: A, B, C, D.

Answer: A, B, C, D [Go Back to Q23](#)

Q24.

Q. On the colour wheel, which of the following are considered cool colours?

- (A) Red
- (B) Green
- (C) Orange



(D) Violet

Solution

Concept - Colour temperature: Cool colours are those based on blue, green and violet.

Option A - Red: Warm. FALSE.

Option B - Green: Cool. TRUE.

Option C - Orange: Warm. FALSE.

Option D - Violet: Cool (blue-based). TRUE.

Tip: Cool colours calm a layout and appear to recede. Correct: B, D.

Answer: B, D [Go Back to Q24](#)

Q25.

Q. Which of the following are UNESCO World Heritage Sites in India?

- (A) Khajuraho Group of Monuments
- (B) Marina Beach, Chennai
- (C) Group of Monuments at Hampi
- (D) Marine Drive, Mumbai

Solution

Concept - Heritage and architecture awareness: UNESCO World Heritage Sites are places of recognised cultural or natural value.



Option A - Khajuraho: Inscribed temple group. TRUE.

Option B - Marina Beach: A public beach, not a heritage site. FALSE.

Option C - Hampi: Inscribed Vijayanagara-era monuments. TRUE.

Option D - Marine Drive: A seafront promenade, not a listed site. FALSE.

Tip: Heritage listings are usually monument or temple groups, not beaches or roads. Correct: A, C.

Answer: A, C [Go Back to Q25](#)

Q26.

Q. Which of the following relate to vector graphics rather than raster (bitmap) graphics?

- (A) Pixel
- (B) Bezier curve
- (C) SVG file format
- (D) EPS file format

Solution

Concept - Vector vs raster graphics: Vector art is defined by math paths and scales without loss; raster art is a grid of pixels.

Option A - Pixel: The basic unit of raster images. FALSE.

Option B - Bezier curve: A path defined by control points, core to vector drawing. TRUE.



Option C - SVG: Scalable Vector Graphics format. TRUE.

Option D - EPS: Encapsulated PostScript, a vector-capable format. TRUE.

Tip: If it scales to any size without blur, it is vector. Correct: B, C, D.

Answer: B, C, D [Go Back to Q26](#)

Q27.

Q. Which of the following is Bidriware, a traditional Indian metal craft in which silver is inlaid into a blackened zinc-copper alloy?

- (A) Pattachitra
- (B) Bidriware
- (C) Warli
- (D) Phad

Solution

Concept - Indian craft identification: Bidriware comes from Bidar, Karnataka, and is known for silver inlay on a dark metal body.

Option A - Pattachitra: Cloth-based scroll painting of Odisha and Bengal. FALSE.

Option B - Bidriware: The described silver-inlaid metal craft. TRUE.

Option C - Warli: Tribal wall painting of Maharashtra. FALSE.

Option D - Phad: Scroll painting of Rajasthan. FALSE.



Tip: Only Bidriware is a metalwork craft here; the others are painting traditions. Correct: B.

Answer: B [Go Back to Q27](#)

Q28.

Q. Which of the following are principles of design (rather than elements of design)?

- (A) Balance
- (B) Line
- (C) Contrast
- (D) Rhythm

Solution

Concept - Elements vs principles of design: Elements are the building blocks (line, shape, colour, texture); principles describe how those blocks are arranged.

Option A - Balance: A principle governing visual weight. TRUE.

Option B - Line: An element, not a principle. FALSE.

Option C - Contrast: A principle of arrangement. TRUE.

Option D - Rhythm: A principle of repetition and flow. TRUE.

Tip: Elements are the nouns; principles are how you organise them. Correct: A, C, D.

Answer: A, C, D [Go Back to Q28](#)

Q29.



Q. Which of the following are traditional Indian folk or tribal painting styles?

- (A) Madhubani
- (B) Warli
- (C) Kalamkari
- (D) Gond

Solution

Concept - Indian folk painting traditions: Each of these is a distinct regional painting practice.

Option A - Madhubani: Mithila painting of Bihar. TRUE.

Option B - Warli: Tribal painting of Maharashtra. TRUE.

Option C - Kalamkari: Hand-painted or block-printed cloth art of Andhra Pradesh. TRUE.

Option D - Gond: Tribal painting of central India. TRUE.

Tip: All four are living folk traditions tied to specific regions.

Correct: A, B, C, D.

Answer: A, B, C, D [Go Back to Q29](#)

Q30.

Q. In a certain code, FLOWER is written as GMPXFS by shifting each letter one step forward in the alphabet. Using the same rule, how is GARDEN written?

- (A) HBSFEO



- (B) HBSEFO
- (C) GBSEFO
- (D) HBSEFN

Solution

Concept - Letter coding, forward shift: Replace every letter by the next letter in the alphabet.

Step 1 - Shift each letter: $G \rightarrow H$, $A \rightarrow B$, $R \rightarrow S$, $D \rightarrow E$, $E \rightarrow F$, $N \rightarrow O$.

Step 2 - Read the code: HBSEFO.

Tip: Encode letter by letter so a single wrong shift does not slip through.

Answer: B [Go Back to Q30](#)

Q31.

Q. Which letter completes the series? B, D, G, K, P, ?

- (A) V
- (B) U
- (C) W
- (D) T

Solution

Concept - Letter series with growing gaps: Convert letters to positions and study the differences.

Step 1 - Positions: B(2), D(4), G(7), K(11), P(16); gaps are 2, 3,



4, 5.

Step 2 - Next term: Next gap is 6, so $16 + 6 = 22 = V$.

Tip: When letter gaps increase by 1 each time, add the next whole number.

Answer: A [Go Back to Q31](#)

Q32.

Q. Which of the options will replace the question mark in the given sequence?

F K ? U Z

- (A) C
- (B) O
- (C) P
- (D) R

Solution

Concept - Letter series, fixed step: Check the alphabet positions for a constant jump.

Step 1 - Positions: F(6), K(11), then U(21), Z(26); the step is 5.

Step 2 - Missing term: $11 + 5 = 16 = P$.

Tip: Use the outer known terms (U, Z) to confirm the step before filling the gap.

Answer: C [Go Back to Q32](#)

Q33.



Q. At 6:00 pm, the hour hand and the minute hand of an analog clock are at 180 degrees with each other. After approximately how much time will they be at 180 degrees with each other again?

- (A) 48 minutes, 40 seconds
- (B) 54 minutes, 33 seconds
- (C) 60 minutes
- (D) 65 minutes, 27 seconds

Solution

Concept - Relative speed of clock hands: The minute hand gains on the hour hand at 5.5 degrees per minute. To go from one 180-degree line-up to the next, the gap must change by a full 360 degrees.

Step 1 - Time for one full relative lap: $\frac{360}{5.5} \approx 65.45$ minutes.

Step 2 - Convert the decimal: $0.45 \times 60 \approx 27$ seconds, giving about 65 minutes 27 seconds.

Tip: A straight-line (180-degree) alignment repeats once every $\frac{360}{5.5}$ minutes, the same interval as any fixed angle repeat.

Answer: D [Go Back to Q33](#)

Q34.

Q. A person walks 5 km towards the north, turns right and walks 3 km, then turns right again and walks 5 km. How far and in which direction is the person now from the starting point?

- (A) 5 km North



- (B) 3 km West
 - (C) 8 km East
 - (D) 3 km East
-

Solution

Concept - Direction sense, net displacement: Track the movement along the north-south and east-west axes separately.

Step 1 - North-south: 5 km north then 5 km south cancel out, leaving zero.

Step 2 - East-west: After the first right turn the person faces east and walks 3 km, so the net position is 3 km east.

Tip: Two right turns reverse the original direction; sketch the axes to cancel opposite legs.

Answer: D [Go Back to Q34](#)

Q35.

Q. Pointing to a photograph, a woman says, "She is the daughter of my grandfather's only son." How is the girl in the photograph related to the woman?

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

Solution



Concept - Blood relations, step-by-step tracing: Work inwards from the furthest relative named.

Step 1 - Grandfather's only son: The only son of the woman's grandfather is the woman's father.

Step 2 - Daughter of the father: A daughter of the woman's father is the woman's sister.

Tip: Replace each phrase with a single relation before moving to the next clause.

Answer: A [Go Back to Q35](#)

Q36.

Q. On the colour wheel, what is the complementary colour of red?

- (A) Blue
- (B) Orange
- (C) Green
- (D) Yellow

Solution

Concept - Colour theory, complementary pairs: Complementary colours sit directly opposite each other on the colour wheel.

Step 1 - Locate red: Directly across from red is green.

Step 2 - Confirm the pairing: Red and green form a high-contrast complementary pair, as do blue-orange and yellow-violet.

Tip: Placing complementary colours side by side makes each look more vivid.



Answer: C [Go Back to Q36](#)

Q37.

Q. In typography, what does the term "kerning" refer to?

- (A) The height of lowercase letters
- (B) Adjusting the space between two specific letters
- (C) The space between lines of text
- (D) A decorative stroke at the end of a letter

Solution

Concept - Typography vocabulary: Each term describes a different measurement in type.

Step 1 - Match the terms: x-height is lowercase height, leading is line spacing, and a serif is the end stroke.

Step 2 - Define kerning: Kerning is adjusting the space between a specific pair of letters for even spacing.

Tip: Kerning is pair-by-pair; tracking adjusts spacing across a whole word or line.

Answer: B [Go Back to Q37](#)

Q38.

Q. In typography, the term "leading" refers to:

- (A) The vertical space between lines of text
- (B) The space between two adjacent letters
- (C) The slant of italic type



(D) The weight or boldness of a font

Solution

Concept - Typography vocabulary: Leading, named after strips of lead once placed between lines, controls line spacing.

Step 1 - Eliminate the others: Letter spacing is kerning or tracking; slant is italic; boldness is weight.

Step 2 - Define leading: Leading is the vertical distance from one line's baseline to the next.

Tip: Generous leading improves readability in long blocks of text.

Answer: A [Go Back to Q38](#)

Q39.

Q. The well-known painting "Bharat Mata" (1905) was created by which artist?

- (A) Raja Ravi Varma
- (B) Nandalal Bose
- (C) Jamini Roy
- (D) Abanindranath Tagore

Solution

Concept - Indian art history: "Bharat Mata" is an iconic Bengal School work.

Step 1 - Recall the artist: It was painted by Abanindranath Tagore,



a founder of the Bengal School.

Step 2 - Rule out others: Raja Ravi Varma, Nandalal Bose and Jamini Roy are distinct artists with their own famous works.

Tip: Tie "Bharat Mata" and the Bengal School revival to Abanindranath Tagore.

Answer: D [Go Back to Q39](#)

Q40.

Q. The Great Stupa at Sanchi, a major Buddhist monument, is located in which Indian state?

- (A) Uttar Pradesh
- (B) Madhya Pradesh
- (C) Bihar
- (D) Maharashtra

Solution

Concept - Architecture and heritage geography: Sanchi is famous for its hemispherical stupa and carved gateways (toranas).

Step 1 - Locate the site: Sanchi lies near Vidisha in Madhya Pradesh.

Step 2 - Confirm: It is a UNESCO World Heritage Site commissioned in the Mauryan period.

Tip: Group Sanchi, Khajuraho and Bhimbetka together as Madhya Pradesh heritage sites.

Answer: B [Go Back to Q40](#)



Q41.

Q. The Bauhaus, a school that strongly shaped modern art, design and architecture, was founded in which country?

- (A) France
- (B) Italy
- (C) Germany
- (D) United States

Solution

Concept - Design history: The Bauhaus was founded by Walter Gropius in 1919.

Step 1 - Recall the origin: It began in Weimar, Germany, later moving to Dessau.

Step 2 - Confirm its influence: Its "form follows function" ideas shaped modern product and graphic design worldwide.

Tip: Link Bauhaus, Gropius and Weimar to Germany.

Answer: C [Go Back to Q41](#)

Q42.

Q. Which material is most suitable for a lightweight, transparent and shatter-resistant water bottle?

- (A) PET plastic
- (B) Cast iron
- (C) Terracotta
- (D) Plywood



Solution

Concept - Material selection by property: Match the required properties (light, clear, unbreakable) to the material.

Step 1 - Test each option: Cast iron is heavy and opaque, terracotta is brittle and opaque, plywood is opaque.

Step 2 - Choose: PET plastic is light, transparent and does not shatter, so it fits.

Tip: In design, start from the required properties and eliminate materials that fail any one of them.

Answer: A [Go Back to Q42](#)

Q43.

Q. Which colour model is used to display colours on digital screens such as monitors and phones?

- (A) CMYK
- (B) RYB
- (C) RGB
- (D) Pantone

Solution

Concept - Additive colour for light: Screens emit light, so they mix colours additively.

Step 1 - Identify the model: Red, green and blue light combine to make screen colours, the RGB model.



Step 2 - Rule out others: CMYK is for print, RYB is the artists' model, and Pantone is a spot-colour system.

Tip: Light adds up to white (RGB); inks subtract towards black (CMYK).

Answer: C [Go Back to Q43](#)

Q44.

Q. Which colour model is standard for full-colour commercial printing?

- (A) RGB
- (B) RYB
- (C) Grayscale
- (D) CMYK

Solution

Concept - Subtractive colour for print: Printing lays down inks that absorb (subtract) light.

Step 1 - Identify the model: Cyan, magenta, yellow and key (black) inks form the CMYK model.

Step 2 - Rule out others: RGB is for screens, grayscale has no colour, and RYB is the artists' wheel.

Tip: Convert artwork from RGB to CMYK before sending it to print.

Answer: D [Go Back to Q44](#)

Q45.



Q. What is the next number in the sequence? 3, 7, 15, 31, 63, ?

- (A) 95
- (B) 127
- (C) 111
- (D) 121

Solution

Concept - Number series (double and add one): Each term is twice the previous term plus one.

Step 1 - Test the rule: $3 \times 2 + 1 = 7$, $7 \times 2 + 1 = 15$, $15 \times 2 + 1 = 31$, $31 \times 2 + 1 = 63$.

Step 2 - Next term: $63 \times 2 + 1 = 127$.

Tip: These terms are each one less than a power of 2, so $127 = 2^7 - 1$.

Answer: B [Go Back to Q45](#)

Q46.

Q. Which of the following polygons has the greatest number of sides?

- (A) Hexagon
- (B) Pentagon
- (C) Octagon
- (D) Square

Solution



Concept - Naming polygons by side count: Greek prefixes give the number of sides.

Step 1 - List the counts: Square 4, pentagon 5, hexagon 6, octagon 8.

Step 2 - Pick the largest: The octagon has 8 sides, the most here.

Tip: Penta-5, hexa-6, hepta-7, octa-8 is a handy prefix ladder.

Answer: C [Go Back to Q46](#)

Q47.

Q. Pashmina, the fine luxury wool used in Kashmiri shawls, is obtained mainly from which animal?

- (A) Changthangi goat
- (B) Merino sheep
- (C) Bactrian camel
- (D) Himalayan yak

Solution

Concept - Craft materials, natural fibres: Pashmina is a very fine undercoat fibre.

Step 1 - Identify the source: It comes from the Changthangi (Cashmere) goat of the Ladakh highlands.

Step 2 - Rule out others: Sheep give ordinary wool, camels and yaks give coarser hair.

Tip: Pashmina and Cashmere both trace to the fine undercoat of the mountain goat.



Answer: A [Go Back to Q47](#)

Q48.

Q. The Meenakshi Amman Temple, famous for its tall carved gopurams, is located in which city?

- (A) Thanjavur
- (B) Chennai
- (C) Kanchipuram
- (D) Madurai

Solution

Concept - Indian temple architecture: Dravidian temples are known for their towering, sculpture-covered gateways (gopurams).

Step 1 - Locate the temple: The Meenakshi temple stands in Madurai, Tamil Nadu.

Step 2 - Rule out others: Thanjavur has the Brihadeeswara temple; Kanchipuram and Chennai have their own separate temples.

Tip: Pair Meenakshi with Madurai and Brihadeeswara with Thanjavur.

Answer: D [Go Back to Q48](#)

Q49.

Q. A car travels 240 km in 4 hours at a steady speed. At the same speed, how far will it travel in 6 hours?



- (A) 300 km
- (B) 360 km
- (C) 320 km
- (D) 340 km

Solution

Concept - Speed, distance and time: First find the speed, then apply it to the new time.

Step 1 - Speed: $240 \div 4 = 60 \text{ km/h}$.

Step 2 - Distance in 6 hours: $60 \times 6 = 360 \text{ km}$.

Tip: At constant speed, distance grows in direct proportion to time.

Answer: B [Go Back to Q49](#)

Q50.

Q. If 40% of a number is 80, what is the number?

- (A) 160
- (B) 240
- (C) 200
- (D) 120

Solution

Concept - Percentage, reverse calculation: If a known percentage of a number is given, divide to recover the whole.

Step 1 - Set up: $0.40 \times N = 80$.



Step 2 - Solve: $N = \frac{80}{0.40} = 200$.

Tip: 40% is $\frac{2}{5}$, so the whole is $80 \times \frac{5}{2} = 200$.

Answer: C [Go Back to Q50](#)

Q51.

Q. In app and website interfaces, the "hamburger" icon (three stacked horizontal lines) most commonly represents:

- (A) A navigation menu
- (B) A search bar
- (C) A shopping cart
- (D) A settings panel

Solution

Concept - Interface iconography: Common icons carry widely understood meanings.

Step 1 - Recall the convention: Three stacked lines suggest a list, which stands for a hidden menu.

Step 2 - Rule out others: Search is a magnifier, the cart is a trolley, and settings is a gear.

Tip: Good icons reuse familiar shapes so users need no instructions.

Answer: A [Go Back to Q51](#)

Q52.



Q. Vanishing points, where receding parallel lines appear to meet, are a key feature of which drawing method?

- (A) Orthographic projection
- (B) Isometric drawing
- (C) Exploded view
- (D) Linear perspective

Solution

Concept - Drawing systems and depth: Different systems show depth in different ways.

Step 1 - Identify the method: Vanishing points on a horizon line define linear perspective.

Step 2 - Rule out others: Orthographic and isometric drawings keep parallel lines parallel with no vanishing point.

Tip: One-, two- and three-point perspective simply count the vanishing points used.

Answer: D [Go Back to Q52](#)

Q53.

Q. The artist Salvador Dali, known for dreamlike images such as melting clocks, is associated with which art movement?

- (A) Cubism
- (B) Surrealism
- (C) Impressionism
- (D) Pop Art



Solution

Concept - 20th-century art movements: Each movement has a distinct visual language.

Step 1 - Match the artist: Dali's dreamlike, irrational imagery is Surrealism.

Step 2 - Rule out others: Cubism fragments form, Impressionism captures light, and Pop Art uses mass-culture imagery.

Tip: Melting clocks and dream logic are signature markers of Surrealism.

Answer: B [Go Back to Q53](#)

Q54.

Q. Traditional Warli painting is characterised by which of the following?

- (A) White pigment applied on an earthy red-brown background
- (B) Black pigment on a plain white ground
- (C) Bright multicolour figures on a blue ground
- (D) Gold leaf detailing on a black ground

Solution

Concept - Indian folk art identification: Warli art of Maharashtra uses simple geometric human and nature figures.

Step 1 - Recall its palette: White rice-paste pigment is painted on mud walls of an earthy red-brown tone.



Step 2 - Rule out others: The multicolour, gold-leaf and black-on-white descriptions belong to other styles.

Tip: Warli is a two-tone style: white figures on a warm earthen background.

Answer: A [Go Back to Q54](#)

Q55.

Q. If today is Wednesday, what day of the week will it be after 30 days?

- (A) Thursday
- (B) Saturday
- (C) Friday
- (D) Sunday

Solution

Concept - Calendar and modular counting: Days of the week repeat every 7 days.

Step 1 - Find the remainder: $30 \div 7 = 4$ remainder 2.

Step 2 - Count forward: Two days after Wednesday is Friday.

Tip: Only the remainder after dividing by 7 matters for day-of-week questions.

Answer: C [Go Back to Q55](#)

Q56.



Q. The perimeter of a square is 48 cm. What is its area?

- (A) 96 square cm
- (B) 144 square cm
- (C) 121 square cm
- (D) 169 square cm

Solution

Concept - Square, perimeter to area: All four sides of a square are equal.

Step 1 - Side length: $48 \div 4 = 12$ cm.

Step 2 - Area: $12 \times 12 = 144$ square cm.

Tip: Perimeter is a length (add sides); area is a square measure (multiply sides).

Answer: B [Go Back to Q56](#)

Q57.

Q. Which of the following is a neutral colour?

- (A) Cyan
- (B) Magenta
- (C) Teal
- (D) Grey

Solution

Concept - Colour theory, neutrals: Neutral colours have little or no visible hue.



Step 1 - Test each option: Cyan, magenta and teal are all strong hues.

Step 2 - Identify the neutral: Grey (like black, white and beige) is neutral.

Tip: Neutrals work as safe backgrounds because they let brighter accent colours stand out.

Answer: D [Go Back to Q57](#)

Q58.

Q (Drawing). Imagine a crowded railway platform as a train stands at the edge. Passengers hurry with trolley bags and bundles, a family sits on a bench surrounded by luggage, a coolie carries a suitcase on his head, and a signboard hangs overhead. Overhead beams and a long roof stretch into the distance. Draw this busy platform scene, giving prominence to a tea vendor pouring steaming chai from a kettle into small cups on a tray held by a waiting passenger.

Note: Make pencil sketches only. Do not use colour.

Evaluation criteria: observation; composition; perspective and proportion; quality of lines; attention to detail.

Model Approach and Evaluation

Lay the long platform in perspective first, then make the tea vendor the point the eye lands on.

Step 1 - Block the layout: Draw the platform edge and roofline receding hard to one vanishing point so the train and columns



shrink into the distance. Place the tea vendor and passenger large in the near foreground, off-centre, as your focal point.

Step 2 - Build the depth: Foreground - the vendor, kettle and waiting passenger; middle ground - the seated family and coolie; background - the train, signboard and receding roof. Overlap luggage and figures for a crowded feel.

Step 3 - Give the vendor prominence: Draw the tilt of the kettle, the arc of pouring tea and the vendor's hands with the sharpest, darkest lines. Keep nearby figures crisp and let distant passengers fade to lighter strokes.

Step 4 - Add texture and finish: Suggest steam from the cups, the sheen of the metal kettle, the weight of bundles and shadows cast under the roof. Keep passengers and columns in believable proportion along the platform.

Tip: A strong single vanishing point plus foreground-midground-background layering gives depth, while your boldest lines on the pouring action make the tea vendor unmistakably the subject. [Go Back to Q58](#)

Q59.

Q (Design Aptitude). In many Indian homes students lose study time during frequent power cuts and dim evening light. Design a portable rechargeable study lamp that gives steady, glare-free light on a desk and can also be carried around the house. Show your lamp in two states: switched off and folded flat for storage or carrying, and switched on and lighting an open book on a desk.

Note: Make pencil sketches only. Do not use colour.



Explain your design only through visuals and short labels; do not write separate explanations.

Model Approach and Evaluation

Answer in two visual parts: the lamp as an object, then proof it folds away and lights a book well.

Step 1 - Nail the requirements: Keep the goals in front of you - steady glare-free light, a battery that lasts through a power cut, and a shape that folds and carries easily. Draw only features that serve these.

Step 2 - Show the two required states: On one side draw it folded flat and off with a carry handle; on the other draw it upright and on, casting light across an open book. Match the scale in both views.

Step 3 - Label features, do not write essays: Short call-outs with leader lines - bendable neck, wide diffused panel, brightness dial, charging port, folding base. One or two words each.

Step 4 - Prove it works: Add an inset of the fold-down action in two or three steps, and a small side view showing the light angled down onto the page so there is no glare in the eyes.

Tip: Suitability, ease of use, a fresh idea and clean detailing earn the marks, so let your off-and-folded and on-and-lighting views plus tight labels explain everything without paragraphs. [Go Back to Q59](#)



Answer Key (Part A)

Section 1 - NAT (Numerical Answer Type)

Q1	Q2	Q3	Q4	Q5	Q6	Q7
4000	360	42	80	1.5	270	48

Q8	Q9	Q10	Q11	Q12	Q13	Q14
600	154	60	95	1377	440	32

Section 2 - MSQ (Multiple Select - one or more correct)

Q15	Q16	Q17	Q18	Q19
A, B, D	B, C, D	A, B, C	B, C, D	A, C, D

Q20	Q21	Q22	Q23	Q24
A, B, D	C	A, C	A, B, C, D	B, D

Q25	Q26	Q27	Q28	Q29
A, C	B, C, D	B	A, C, D	A, B, C, D

Section 3 - MCQ (single correct)

Q30	Q31	Q32	Q33	Q34	Q35	Q36
B	A	C	D	D	A	C

Q37	Q38	Q39	Q40	Q41	Q42	Q43
B	A	D	B	C	A	C

Q44	Q45	Q46	Q47	Q48	Q49	Q50
D	B	C	A	D	B	C



Q51	Q52	Q53	Q54	Q55	Q56	Q57
A	D	B	A	C	B	D

Part B (Q58-Q59) is subjective; see the Model Approach for each under Detailed Solutions.

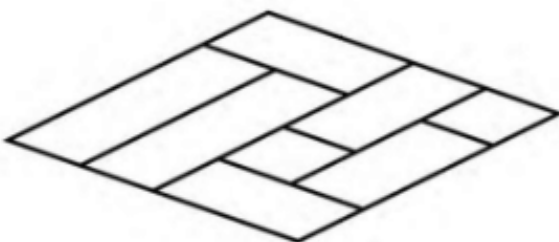


Appendix: Visual Reasoning

Practice from Past UCEED Papers

These are **real questions from past UCEED papers**, included so you can practise on the actual figure style the exam uses. They are visual-reasoning questions, so work each one out yourself - no answer key is given here (this mirrors how such questions feel in the real test). A short **How to approach** note follows each figure.

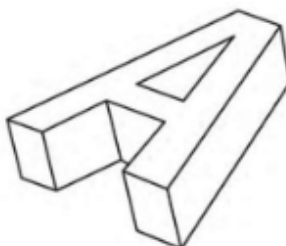
P1. (Past UCEED) Count the total number of parallelograms in the given figure.



How to approach

Study the figure carefully and note what is fixed and what changes. Break the problem into smaller parts, use any symmetry in the figure, and count or compute each part systematically before combining. A quick rough redraw usually makes the answer clear.

P2. (Past UCEED) Imagine letters are extruded into three-dimensional solids (like the block letter A shown). If the word LOVE is extruded in the same way, how many surfaces would the resulting object have?



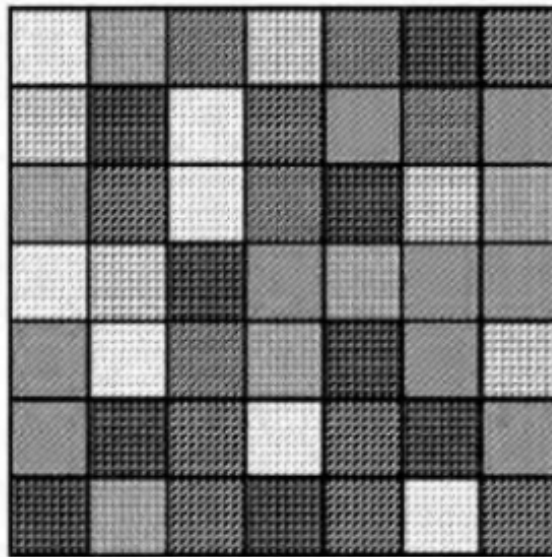
LOVE



How to approach

Track how the operation changes faces. Start from the number of faces of the original solid, then add the new faces created by the cut/drill/join and subtract any original faces that are removed or split. Visualise the top, front and side views to be sure no hidden face is missed.

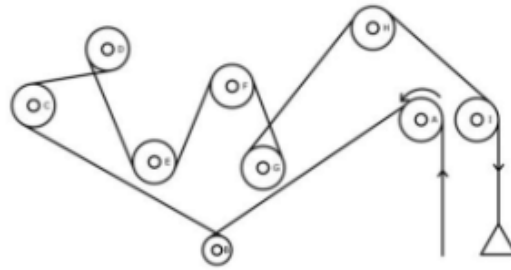
P3. (Past UCEED) Count the number of unique patterns in the given grid.

**How to approach**

Study the figure carefully and note what is fixed and what changes. Break the problem into smaller parts, use any symmetry in the figure, and count or compute each part systematically before combining. A quick rough redraw usually makes the answer clear.

P4. (Past UCEED) Shown below is a belt–pulley arrangement. How many pulleys are rotating clockwise?





How to approach

Study the figure carefully and note what is fixed and what changes. Break the problem into smaller parts, use any symmetry in the figure, and count or compute each part systematically before combining. A quick rough redraw usually makes the answer clear.

