

IDA CLASSES

Institute of Design & Art, Bhubaneswar

NATA — Mock Paper 1

Following the NATA pattern: Part A (Drawing & Composition) + Part B (Aptitude, Mathematics & Logical Reasoning)

Instructions: Part A is offline, pen-and-paper (90 minutes, 80 marks: 3 questions) and evaluates sketching, perspective, proportion, and composition. Part B is computer-based (90 minutes, 120 marks: MCQ/NCQ format) and evaluates mathematics, logical reasoning, visual reasoning, and architecture awareness — with no negative marking. Attempt this mock under timed conditions before reviewing with your mentor.

PART A — Drawing & Composition Test (Offline)

Q1. Object Sketch with Proportion & Shading

25 marks

Draw a study table with a lamp, a stack of books, and a chair placed beside it. Maintain accurate proportions between the objects and render shading based on a light source coming from the left.

Q2. Perspective Scene with Human Activity

25 marks

Draw a two-point perspective view of a busy tea stall on a street corner, showing at least four people engaged in different activities (serving, waiting, walking).

Q3. Memory Drawing

30 marks

From memory, sketch the interior of a typical Indian kitchen, including at least six identifiable objects (stove, utensils, shelves, etc.) with correct spatial placement and basic shading.

PART B — Aptitude, Mathematics & Logical Reasoning (CBT)

Mathematics (PCM-based)

Q1. If the sides of a triangle are 9 cm, 12 cm, and 15 cm, what type of triangle is it?

- (a) Equilateral (b) Right-angled (c) Obtuse-angled (d) Scalene acute

Q2. Simplify: $(3^2 + 4^2) \div 5$

- (a) 3 (b) 5 (c) 7 (d) 9

Logical Reasoning

Q3. Find the odd one out: Compass, Protractor, Set-square, Calculator

- (a) Compass (b) Protractor (c) Set-square (d) Calculator

Q4. If in a certain code, 'BUILD' is written as 'CVJME', how is 'HOUSE' written?

- (a) IPVTF (b) IPVTG (c) IPUTF (d) HPVTF

Visual & Spatial Reasoning

Q5. A cube is painted red on all faces and cut into 27 equal smaller cubes. How many smaller cubes will have exactly two faces painted?

- (a) 8 (b) 12 (c) 6 (d) 4

Q6. Which of the following is the top view of a cylinder standing upright?

- (a) A rectangle (b) A circle (c) A triangle (d) An oval only

General Awareness — Architecture

Q7. Which architect is known for designing the Sydney Opera House?

- (a) Frank Lloyd Wright (b) Jørn Utzon (c) Zaha Hadid (d) I. M. Pei

Q8. The Rock Garden of Chandigarh, made entirely from waste materials, was created by:

- (a) Le Corbusier (b) Nek Chand (c) Charles Correa (d) B.V. Doshi

Answer Key (Part B): Q1: (b) Q2: (b) Q3: (d) Q4: (a) Q5: (b) Q6: (b) Q7: (b) Q8: (b)

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NATA — Mock Paper 2

Following the NATA pattern: Part A (Drawing & Composition) + Part B (Aptitude, Mathematics & Logical Reasoning)

Instructions: Part A is offline, pen-and-paper (90 minutes, 80 marks: 3 questions) and evaluates sketching, perspective, proportion, and composition. Part B is computer-based (90 minutes, 120 marks: MCQ/NCQ format) and evaluates mathematics, logical reasoning, visual reasoning, and architecture awareness — with no negative marking. Attempt this mock under timed conditions before reviewing with your mentor.

PART A — Drawing & Composition Test (Offline)

Q1. Object Sketch with Proportion & Shading

25 marks

Draw a wall-mounted bookshelf holding at least eight books of varying sizes and two decorative items. Show correct proportion, overlapping, and shading with light falling from above.

Q2. Perspective Scene with Human Activity

25 marks

Draw a one-point perspective view of a long railway platform with a train on one side, showing at least three passengers with luggage.

Q3. Memory Drawing

30 marks

From memory, sketch a neighborhood grocery store from the outside, including signage, a shop shutter, at least two customers, and surrounding elements like a bicycle or cart.

PART B — Aptitude, Mathematics & Logical Reasoning (CBT)

Mathematics (PCM-based)

Q1. A ladder leans against a wall making a 60° angle with the ground. If the ladder is 10 m long, which trigonometric ratio would you use to find the height reached on the wall?

- (a) $\sin 60^\circ$ (b) $\tan 60^\circ$ only (c) $\cos 60^\circ$ only (d) None of the above

Q2. Find the value of x if $2x + 5 = 3x - 7$.

- (a) 12 (b) 10 (c) 14 (d) 8

Logical Reasoning

Q3. Complete the series: J, F, M, A, M, J, ?

- (a) A (b) J (c) S (d) N

Q4. Statement: All architects are engineers. Some engineers are designers. Conclusion: Some architects are designers. Is this conclusion definitely true?

- (a) True (b) False (c) Cannot be determined (d) Partially true

Visual & Spatial Reasoning

Q5. If a rectangular sheet of paper is folded in half twice and a hole is punched in the center, how many holes will appear when unfolded?

- (a) 2 (b) 3 (c) 4 (d) 1

Q6. Which view of a building shows its outline as seen from directly above, used commonly in architectural drawings?

- (a) Elevation (b) Section (c) Plan (d) Perspective

General Awareness — Architecture

Q7. The Lotus Temple in New Delhi is an example of which architectural style inspired by nature?

- (a) Gothic (b) Biomimicry/organic architecture (c) Brutalism (d) Art Deco

Q8. Who designed the city of Chandigarh's master plan?

- (a) Le Corbusier (b) Louis Kahn (c) Walter Gropius (d) Frank Gehry

Answer Key (Part B): Q1: (a) Q2: (a) Q3: (b) Q4: (c) Q5: (c) Q6: (c) Q7: (b) Q8: (a)

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NATA — Mock Paper 3

Following the NATA pattern: Part A (Drawing & Composition) + Part B (Aptitude, Mathematics & Logical Reasoning)

Instructions: Part A is offline, pen-and-paper (90 minutes, 80 marks: 3 questions) and evaluates sketching, perspective, proportion, and composition. Part B is computer-based (90 minutes, 120 marks: MCQ/NCQ format) and evaluates mathematics, logical reasoning, visual reasoning, and architecture awareness — with no negative marking. Attempt this mock under timed conditions before reviewing with your mentor.

PART A — Drawing & Composition Test (Offline)

Q1. Object Sketch with Proportion & Shading

25 marks

Draw a bicycle parked against a tree, capturing correct proportions of the wheels, frame, and handlebars, along with shading showing a light source from the right.

Q2. Perspective Scene with Human Activity

25 marks

Draw a two-point perspective view of a school playground during recess, showing at least five children engaged in different activities.

Q3. Memory Drawing

30 marks

From memory, sketch a temple courtyard, including architectural elements (pillars, a shrine, steps) and at least four devotees or visitors.

PART B — Aptitude, Mathematics & Logical Reasoning (CBT)

Mathematics (PCM-based)

Q1. The volume of a cube is 125 cm^3 . What is the length of one side?

- (a) 4 cm (b) 5 cm (c) 6 cm (d) 25 cm

Q2. If $\cos\theta = 0.5$, what is the value of θ (in degrees)?

- (a) 30° (b) 45° (c) 60° (d) 90°

Logical Reasoning

Q3. A is taller than B. C is shorter than B but taller than D. Who is the shortest?

- (a) A (b) B (c) C (d) D

Q4. Find the missing number: 4, 9, 16, 25, ?

- (a) 30 (b) 36 (c) 32 (d) 49

Visual & Spatial Reasoning

Q5. How many edges does a triangular prism have?

- (a) 6 (b) 9 (c) 12 (d) 8

Q6. When a 3D object is drawn using an axonometric projection where all three axes are equally foreshortened, it is called:

- (a) Isometric projection (b) Oblique projection (c) Orthographic projection (d) One-point perspective

General Awareness — Architecture

Q7. The Hawa Mahal in Jaipur is primarily built using which type of stone?

- (a) Red and pink sandstone (b) Marble (c) Granite (d) Limestone

Q8. Which of the following is India's first planned modern city, designed post-independence?

- (a) Bhubaneswar (b) Chandigarh (c) Gandhinagar (d) Naya Raipur

Answer Key (Part B): Q1: (b) Q2: (c) Q3: (d) Q4: (b) Q5: (b) Q6: (a) Q7: (a) Q8: (b)

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NATA — Mock Paper 4

Following the NATA pattern: Part A (Drawing & Composition) + Part B (Aptitude, Mathematics & Logical Reasoning)

Instructions: Part A is offline, pen-and-paper (90 minutes, 80 marks: 3 questions) and evaluates sketching, perspective, proportion, and composition. Part B is computer-based (90 minutes, 120 marks: MCQ/NCQ format) and evaluates mathematics, logical reasoning, visual reasoning, and architecture awareness — with no negative marking. Attempt this mock under timed conditions before reviewing with your mentor.

PART A — Drawing & Composition Test (Offline)

Q1. Object Sketch with Proportion & Shading

25 marks

Draw a hand-held umbrella, both open and closed (two separate sketches), showing correct proportion of the ribs, canopy, and handle with basic shading.

Q2. Perspective Scene with Human Activity

25 marks

Draw a one-point perspective interior view of a library reading hall with bookshelves along the walls and at least three people seated at tables.

Q3. Memory Drawing

30 marks

From memory, sketch a busy vegetable market scene, including at least three vendors, their stalls with produce, and customers, with attention to overlapping and depth.

PART B — Aptitude, Mathematics & Logical Reasoning (CBT)

Mathematics (PCM-based)

Q1. A right circular cylinder has a radius of 7 cm and height of 10 cm. Using $\pi = 22/7$, find its curved surface area.

- (a) 220 cm² (b) 440 cm² (c) 110 cm² (d) 660 cm²

Q2. Solve: If 5 workers build a wall in 12 days, how many days will 10 workers take (assuming equal work rate)?

- (a) 4 days (b) 6 days (c) 8 days (d) 24 days

Logical Reasoning

Q3. Choose the word that does not belong: Cement, Brick, Sand, Curtain, Steel

- (a) Cement (b) Brick (c) Sand (d) Curtain

Q4. If MONDAY is coded as 123456 and TUESDAY as 785456, what does the digit '4' represent?

- (a) D (b) A (c) N (d) Y

Visual & Spatial Reasoning

Q5. If a square sheet is folded diagonally twice, what shape do you get?

- (a) A smaller square (b) A triangle (c) A rectangle (d) A pentagon

Q6. In architectural drawing, a 'section' view represents:

- (a) The building seen from outside only (b) A vertical cut through the building showing internal structure (c) Only the roof plan (d) A 3D rendered image

General Awareness — Architecture

Q7. Which UNESCO World Heritage site in Odisha is renowned for its chariot-shaped architecture?

- (a) Jagannath Temple, Puri (b) Konark Sun Temple (c) Lingaraj Temple (d) Mukteshwar Temple

Q8. The term 'cantilever' in architecture refers to:

- (a) A structure supported only at one end, projecting horizontally (b) A type of roof material (c) A decorative wall pattern (d) A method of foundation laying

Answer Key (Part B): Q1: (b) Q2: (b) Q3: (d) Q4: (b) Q5: (b) Q6: (b) Q7: (b) Q8: (a)

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NATA — Mock Paper 5

Following the NATA pattern: Part A (Drawing & Composition) + Part B (Aptitude, Mathematics & Logical Reasoning)

Instructions: Part A is offline, pen-and-paper (90 minutes, 80 marks: 3 questions) and evaluates sketching, perspective, proportion, and composition. Part B is computer-based (90 minutes, 120 marks: MCQ/NCQ format) and evaluates mathematics, logical reasoning, visual reasoning, and architecture awareness — with no negative marking. Attempt this mock under timed conditions before reviewing with your mentor.

PART A — Drawing & Composition Test (Offline)

Q1. Object Sketch with Proportion & Shading

25 marks

Draw a wooden chair from a three-quarter angle, ensuring correct proportion between the seat, backrest, and legs, with shading based on a light source from the top-right.

Q2. Perspective Scene with Human Activity

25 marks

Draw a two-point perspective view of a construction site with scaffolding, showing at least three workers engaged in different tasks.

Q3. Memory Drawing

30 marks

From memory, sketch a city bus stop during rush hour, including a bus, a shelter structure, and at least five people waiting or boarding.

PART B — Aptitude, Mathematics & Logical Reasoning (CBT)

Mathematics (PCM-based)

Q1. What is the area of a trapezium with parallel sides 8 cm and 12 cm, and height 5 cm?

- (a) 40 cm² (b) 50 cm² (c) 60 cm² (d) 45 cm²

Q2. If $\sin\theta = \cos\theta$, what is the value of θ ?

- (a) 30° (b) 45° (c) 60° (d) 90°

Logical Reasoning

Q3. Find the next term: 3, 6, 11, 18, 27, ?

- (a) 36 (b) 38 (c) 40 (d) 34

Q4. Five friends are sitting in a row. P is to the immediate right of Q. R is at one end. S is between Q and T. If R is leftmost, who is second from the left?

- (a) P (b) Q (c) S (d) T

Visual & Spatial Reasoning

Q5. A solid cube is cut by a single straight plane passing through it diagonally. What is the shape of the cross-section obtained?

- (a) Square (b) Rectangle (c) Triangle (d) Hexagon (depending on the cut, a rectangle is most common)

Q6. Which projection method shows an object's front, top, and side views separately on a flat plane, commonly used in technical drawing?

- (a) Isometric projection (b) Orthographic projection (c) Perspective projection (d) Oblique projection

General Awareness — Architecture

Q7. Which architect designed the Indian Institute of Management, Ahmedabad (IIM-A) campus?

- (a) Louis Kahn (b) B.V. Doshi (c) Charles Correa (d) Raj Rewal

Q8. The Burj Khalifa's structural design is based on which architectural concept inspired by a desert flower?

- (a) Hexagonal core (b) Buttressed core (Y-shaped plan) (c) Spiral staircase form (d) Geodesic dome

Answer Key (Part B): Q1: (b) Q2: (b) Q3: (b) Q4: (b) Q5: (b) Q6: (b) Q7: (a) Q8: (b)