

IDA CLASSES

Institute of Design & Art, Bhubaneswar

UCEED — Mock Paper 1

Following the UCEED pattern: Part A (NAT + MSQ + MCQ) + Part B (Drawing & Design Aptitude)

Instructions: Part A is computer-based (120 minutes, 200 marks): NAT questions have no negative marking, MSQ has partial marking with -1 for wrong selections, and MCQ has -0.71 negative marking per wrong answer. Part B is offline, pen-and-paper (60 minutes, 100 marks: 2 questions of 50 marks each), evaluated only if Part A is cleared. Attempt this mock under timed conditions before reviewing with your mentor.

PART A — Computer-Based Test

Numerical Answer Type (NAT) — no negative marking

Q1. A cube of side 6 cm is painted on all faces and cut into smaller cubes of side 2 cm. How many smaller cubes will have exactly one face painted?

Q2. If a rectangle's length is increased by 20% and its width is decreased by 20%, by what percentage does its area change? (Enter negative value if it decreases)

Multiple Select Questions (MSQ) — one or more correct options

Q3. Which of the following shapes have at least one line of symmetry? (Select all that apply)

(a) Scalene triangle (b) Isosceles triangle (c) Square (d) Regular hexagon (e) Parallelogram

Q4. Which of the following are renewable sources of energy? (Select all that apply)

(a) Solar energy (b) Coal (c) Wind energy (d) Natural gas (e) Tidal energy

Multiple Choice Questions (MCQ) — single correct option

Q5. If a 3D object is rotated 90° clockwise about a vertical axis, which view would previously have been on the left now appear at the front?

(a) Back view (b) Left view (c) Right view (d) Top view

Q6. Which of the following best describes 'visual hierarchy' in design?

(a) Arranging elements randomly for variety (b) Arranging elements to guide the viewer's attention in order of importance (c) Using only one color throughout a design (d) Making all elements the same size

Q7. Which Indian city recently expanded its metro rail network, reflecting urban design and infrastructure growth?

(a) Bhubaneswar (b) Pune (c) Kochi (d) All of the above may apply depending on the year

Answer Key (Part A): Q1: 6 Q2: -4 Q3: (b), (c), (d) Q4: (a), (c), (e) Q5: (b) Q6: (b) Q7: (d)

PART B — Drawing & Design Aptitude

Part B Q1. Perspective Drawing

50 marks

Draw a two-point perspective view of a small footbridge crossing a narrow canal, with at least two people walking across it. Pay attention to proportion, vanishing points, and shading.

Part B Q2. Design Thinking & Storytelling

50 marks

A city wants to encourage more people to cycle to work. Sketch and briefly describe (in under 80 words) one product or system-level design intervention that could make cycling safer or more appealing in a crowded Indian city.

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UCEED — Mock Paper 2

Following the UCEED pattern: Part A (NAT + MSQ + MCQ) + Part B (Drawing & Design Aptitude)

Instructions: Part A is computer-based (120 minutes, 200 marks): NAT questions have no negative marking, MSQ has partial marking with -1 for wrong selections, and MCQ has -0.71 negative marking per wrong answer. Part B is offline, pen-and-paper (60 minutes, 100 marks: 2 questions of 50 marks each), evaluated only if Part A is cleared. Attempt this mock under timed conditions before reviewing with your mentor.

PART A — Computer-Based Test

Numerical Answer Type (NAT) — no negative marking

Q1. A wire is bent into a square of side 11 cm. If the same wire is bent into a circle instead, find the radius of the circle (use $\pi = 22/7$). Round to the nearest whole number, in cm.

Q2. In a group of 40 students, 25 like sketching and 20 like painting. If 10 students like both, how many students like neither?

Multiple Select Questions (MSQ) — one or more correct options

Q3. Which of the following materials are commonly considered eco-friendly or biodegradable? (Select all that apply)

(a) Bamboo (b) Polystyrene (Thermocol) (c) Jute (d) Single-use plastic (e) Cotton

Q4. Which of the following are examples of 'form follows function' in design? (Select all that apply)

(a) A chair designed purely for decoration with no seating comfort (b) An ergonomic pair of scissors shaped to fit the hand (c) A kettle spout designed to control the flow of water (d) A door handle designed only to match wall color

Multiple Choice Questions (MCQ) — single correct option

Q5. A cube is viewed such that three faces are visible: top, front, and right. If the cube is now rotated 180° about the vertical axis, which face becomes visible in place of the front face?

(a) Top face (b) Back face (c) Bottom face (d) Left face

Q6. Which of the following best defines 'negative space' in a visual composition?

(a) The darkest color used in a composition (b) The empty or background space around and between the subject(s) (c) A mistake in the composition that should be avoided (d) The area of a composition with the most detail

Q7. The Namami Gange programme, often referenced in environmental awareness sections, primarily aims to address which issue?

(a) Air pollution in Delhi (b) Cleaning and conservation of the Ganga river (c) Renewable energy in Rajasthan (d) Forest conservation in the Northeast

Answer Key (Part A): Q1: 7 Q2: 5 Q3: (a), (c), (e) Q4: (b), (c) Q5: (b) Q6: (b) Q7: (b)

PART B — Drawing & Design Aptitude

Part B Q1. Object Drawing

50 marks

Draw a detailed pencil sketch of an old wooden ladder leaning against a wall, capturing texture, proportion, and shadow accurately from a three-quarter angle.

Part B Q2. Situation-Based Design Problem

50 marks

During heavy rains, a residential society's parking area frequently gets waterlogged. Sketch and briefly describe (in under 80 words) a simple design intervention that could reduce waterlogging without major construction.

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UCEED — Mock Paper 3

Following the UCEED pattern: Part A (NAT + MSQ + MCQ) + Part B (Drawing & Design Aptitude)

Instructions: Part A is computer-based (120 minutes, 200 marks): NAT questions have no negative marking, MSQ has partial marking with -1 for wrong selections, and MCQ has -0.71 negative marking per wrong answer. Part B is offline, pen-and-paper (60 minutes, 100 marks: 2 questions of 50 marks each), evaluated only if Part A is cleared. Attempt this mock under timed conditions before reviewing with your mentor.

PART A — Computer-Based Test

Numerical Answer Type (NAT) — no negative marking

Q1. A ladder 13 m long leans against a wall such that its foot is 5 m from the wall's base. How high up the wall (in meters) does the ladder reach?

Q2. A shape has 8 vertices and 12 edges. Using Euler's formula ($V - E + F = 2$), find the number of faces F .

Multiple Select Questions (MSQ) — one or more correct options

Q3. Which of the following are considered principles of good design as per common design theory? (Select all that apply)

(a) Balance (b) Randomness (c) Contrast (d) Clutter (e) Proportion

Q4. Which of the following are passive cooling techniques used in traditional Indian architecture? (Select all that apply)

(a) Jaali (perforated screens) (b) Air conditioning units (c) Courtyards for ventilation (d) Thick mud walls (e) Sealed glass facades

Multiple Choice Questions (MCQ) — single correct option

Q5. When an object is viewed from directly above, this view is called the:

(a) Front view (b) Plan/Top view (c) Side view (d) Isometric view

Q6. Which of the following color combinations is considered complementary on the color wheel?

(a) Red and Green (b) Red and Orange (c) Blue and Purple (d) Yellow and Orange

Q7. The 'Swachh Bharat Abhiyan' is primarily associated with which of the following goals?

(a) Promoting digital literacy (b) Cleanliness and sanitation across India (c) Rural electrification (d) Women's skill development

Answer Key (Part A): Q1: 12 Q2: 6 Q3: (a), (c), (e) Q4: (a), (c), (d) Q5: (b) Q6: (a) Q7: (b)

PART B — Drawing & Design Aptitude

Part B Q1. Imaginative Drawing

50 marks

Draw an imaginative scene titled 'A City Built Inside a Giant Tree.' Include at least three man-made structures integrated with the natural form of the tree.

Part B Q2. Product Redesign for Accessibility

50 marks

Sketch a redesigned door handle that would be easier to use for someone with limited hand strength (e.g., elderly users or arthritis patients). Briefly explain (in under 80 words) your design reasoning.

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UCEED — Mock Paper 4

Following the UCEED pattern: Part A (NAT + MSQ + MCQ) + Part B (Drawing & Design Aptitude)

Instructions: Part A is computer-based (120 minutes, 200 marks): NAT questions have no negative marking, MSQ has partial marking with -1 for wrong selections, and MCQ has -0.71 negative marking per wrong answer. Part B is offline, pen-and-paper (60 minutes, 100 marks: 2 questions of 50 marks each), evaluated only if Part A is cleared. Attempt this mock under timed conditions before reviewing with your mentor.

PART A — Computer-Based Test

Numerical Answer Type (NAT) — no negative marking

- Q1. A rectangular sheet of paper measuring 16 cm by 9 cm is rolled to form a cylinder using the longer side as the circumference. Find the height of the cylinder in cm.
- Q2. If the scale of a model is 1:50 and the actual height of a building is 15 m, what is the height of the model in cm?

Multiple Select Questions (MSQ) — one or more correct options

- Q3. Which of the following are examples of universal/inclusive design? (Select all that apply)
- (a) A ramp alongside a staircase (b) A door that only opens with a key (c) Braille labels on elevator buttons (d) Signage using only small text with no icons (e) Lever-style door handles instead of knobs
- Q4. Which of the following contribute to a sustainable product design? (Select all that apply)
- (a) Using recyclable materials (b) Designing for a very short product lifespan (c) Modular repairable components (d) Excessive non-recyclable packaging (e) Local sourcing of materials

Multiple Choice Questions (MCQ) — single correct option

- Q5. A photograph taken with a wide-angle lens close to the subject typically shows which visual effect?
- (a) Flattened perspective with little depth (b) Distorted, exaggerated depth and size (c) No change in perspective (d) Only black and white tones
- Q6. In typography, the empty space inside and around letters is called:
- (a) Kerning (b) Leading (c) Counter space (d) Baseline
- Q7. Which of the following is a key focus of India's 'National Education Policy (NEP)' with respect to skill-based learning?
- (a) Reducing vocational training (b) Integrating vocational and skill education from an early stage (c) Removing arts from the curriculum (d) Making all subjects optional

Answer Key (Part A): Q1: 9 Q2: 30 Q3: (a), (c), (e) Q4: (a), (c), (e) Q5: (b) Q6: (c) Q7: (b)

PART B — Drawing & Design Aptitude

Part B Q1. Sequential Storytelling

50 marks

Using four to six frames, draw a visual story titled 'The Kite That Flew Too Far.' Focus on clear progression and expressive character poses rather than fine detail.

Part B Q2. Environmental Design Intervention

50 marks

A public park in your city has become littered with plastic waste due to lack of accessible dustbins. Sketch a simple, low-cost dustbin design that encourages proper waste disposal, and briefly explain (in under 80 words) your reasoning.

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UCEED — Mock Paper 5

Following the UCEED pattern: Part A (NAT + MSQ + MCQ) + Part B (Drawing & Design Aptitude)

Instructions: Part A is computer-based (120 minutes, 200 marks): NAT questions have no negative marking, MSQ has partial marking with -1 for wrong selections, and MCQ has -0.71 negative marking per wrong answer. Part B is offline, pen-and-paper (60 minutes, 100 marks: 2 questions of 50 marks each), evaluated only if Part A is cleared. Attempt this mock under timed conditions before reviewing with your mentor.

PART A — Computer-Based Test

Numerical Answer Type (NAT) — no negative marking

Q1. A cone has a base radius of 7 cm and a height of 24 cm. Find its slant height in cm. (Use the Pythagorean relation: $\text{slant}^2 = \text{radius}^2 + \text{height}^2$)

Q2. A photo frame increases a photo's dimensions by a uniform 2 cm border on all sides. If the original photo is 10 cm by 15 cm, what is the new area in sq. cm?

Multiple Select Questions (MSQ) — one or more correct options

Q3. Which of the following are considered elements of visual design? (Select all that apply)

- (a) Line (b) Deadline (c) Shape (d) Texture (e) Budget

Q4. Which of the following are traditional Indian dyeing or printing techniques? (Select all that apply)

- (a) Bandhani (b) Screen printing (industrial) (c) Ajrakh (d) Batik (e) Laser engraving

Multiple Choice Questions (MCQ) — single correct option

Q5. When two objects of the same size are placed such that one overlaps the other, the overlapped object is generally perceived as:

- (a) Larger (b) Farther away (c) Closer (d) Transparent

Q6. Which of the following best describes 'user-centered design'?

- (a) Designing based only on the designer's personal preference (b) Designing while prioritizing the needs, behavior, and context of the end user (c) Designing to minimize production cost only (d) Designing without any research or testing

Q7. The 'Beti Bachao Beti Padhao' scheme in India primarily focuses on:

- (a) Girl child welfare and education (b) Rural road development (c) Digital banking access (d) Renewable energy adoption

Answer Key (Part A): Q1: 25 Q2: 266 Q3: (a), (c), (d) Q4: (a), (c), (d) Q5: (b) Q6: (b) Q7: (a)

PART B — Drawing & Design Aptitude

Part B Q1. Cutaway / Cross-Section Drawing

50 marks

Draw a cross-sectional (cutaway) view of a multi-story building showing at least three floors, with basic furniture and human figures indicating scale.

Part B Q2. Empathy-Driven Design Scenario

50 marks

A visually impaired student struggles to navigate a busy college campus independently. Sketch one design solution (physical product or wayfinding system) that could help, and briefly explain (in under 80 words) how it addresses their specific challenge.