

# CUET PG 2026 Architecture and Planning Question Paper with Solutions(Memory Based)

Time Allowed :1 Hours 30 min | Maximum Marks :300 | Total Questions :75

## General Instructions

1. The exam lasts 90 minutes (1 hour 30 minutes).
2. There are 75 Multiple Choice Questions (MCQs) to be answered.
3. +4 marks for every correct answer. -1 mark (negative marking) for every incorrect answer. 0 marks for unanswered or un-attempted questions.
4. For any discrepancy in questions, the English version is considered final (except for language-specific papers).
5. Click one of the four options to choose an answer.
6. You must click "Save & Next" to confirm your response. Only saved answers are considered for evaluation.
7. Use "Mark for Review & Next" to flag a question for later. You can unselect or change your answer using the "Clear Response" button.
8. All calculations must be done on the Rough Sheets provided at the centre. These must be returned to the invigilator after the exam.

1. What is the mathematically constant "Golden Mean Ratio" often used in architectural proportions?

- (A) 1.414
- (B) 1.618
- (C) 2.718
- (D) 3.142

**Correct Answer:** (B) 1.618

**Solution:**

**Concept:** The **Golden Mean Ratio** (also known as the Golden Ratio) is a special mathematical constant, denoted by the Greek letter  $\phi$  (phi). It is approximately equal to 1.618 and is widely used in art, architecture, and design due to its aesthetically pleasing proportions. Mathematically, it is defined such that:

$$\frac{a+b}{a} = \frac{a}{b} = \phi \approx 1.618$$

**Step 1:** Understand its significance.

The Golden Ratio appears in:

- Classical architecture (e.g., Parthenon proportions)
- Renaissance art

- Natural patterns (spirals, shells, etc.)

**Step 2: Identify the correct value.**

Among the options:

- 1.414 –  $\sqrt{2}$
- 1.618 – Golden Ratio (correct)
- 2.718 – Euler’s number ( $e$ )
- 3.142 –  $\pi$

**Step 3: Select the correct answer.**

Thus, the Golden Mean Ratio is approximately 1.618.

#### Quick Tip

Golden Ratio  $\approx 1.618$  is often remembered as a symbol of “perfect proportion” in art and architecture.

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**2. Which architect is renowned for the design of the ”Chandigarh Capitol Complex” in India?**

- (A) Charles Correa
- (B) Le Corbusier
- (C) Louis Kahn
- (D) B. V. Doshi

**Correct Answer:** (B) Le Corbusier

**Solution:**

**Concept:** The **Chandigarh Capitol Complex** is one of the most iconic examples of modernist architecture in India. It represents a bold vision of urban planning and architectural design after India’s independence.

**Step 1: Understand the project.**

The Capitol Complex includes:

- High Court
- Legislative Assembly
- Secretariat

It is recognized as a UNESCO World Heritage Site.

**Step 2: Identify the architect.**

The complex was designed by the renowned Swiss-French architect **Le Corbusier**, who played a major role in planning the city of Chandigarh.

**Step 3: Analyze the options.**

- Charles Correa – known for Indian modern architecture

- Le Corbusier – designer of Chandigarh (correct)
- Louis Kahn – designed IIM Ahmedabad
- B. V. Doshi – prominent Indian architect

**Step 4: Conclusion.**

Thus, Le Corbusier is the architect associated with the Chandigarh Capitol Complex.

**Quick Tip**

Le Corbusier is often called the “father of modern architecture” and is closely associated with the planning of Chandigarh.

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**3. What is the sum of the interior angles of a regular pentagon?**

- (A)  $360^\circ$
- (B)  $540^\circ$
- (C)  $720^\circ$
- (D)  $900^\circ$

**Correct Answer:** (B)  $540^\circ$

**Solution:**

**Concept:** The sum of the interior angles of a polygon with  $n$  sides is given by the formula:

$$(n - 2) \times 180^\circ$$

**Step 1: Identify the number of sides.**

A pentagon has  $n = 5$  sides.

**Step 2: Apply the formula.**

$$(5 - 2) \times 180^\circ = 3 \times 180^\circ = 540^\circ$$

**Step 3: Select the correct answer.**

Thus, the sum of the interior angles of a pentagon is  $540^\circ$ .

**Quick Tip**

Remember:  $(n - 2) \times 180^\circ$  — a quick formula for any polygon’s interior angle sum.

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**4. Which theory, proposed by Alfred Wegener in 1912, describes the movement of the Earth’s continents?**

- (A) Plate Tectonics Theory
- (B) Continental Drift Theory
- (C) Big Bang Theory
- (D) Seafloor Spreading Theory

**Correct Answer:** (B) Continental Drift Theory

**Solution:**

**Concept:** In 1912, **Alfred Wegener** proposed the **Continental Drift Theory**, which suggested that the continents were once part of a single supercontinent called *Pangaea* and have gradually drifted apart over geological time.

**Step 1: Understand the main idea.**

The theory states that:

- Continents were once joined together
- They slowly moved to their present positions

**Step 2: Supporting evidence.**

Wegener used:

- Fossil similarities across continents
- Matching geological formations
- Fit of continental coastlines

**Step 3: Analyze the options.**

- Plate Tectonics – modern theory developed later
- Continental Drift – proposed by Wegener (correct)
- Big Bang – origin of universe
- Seafloor Spreading – later supporting concept

**Step 4: Conclusion.**

Thus, the theory is the Continental Drift Theory.

#### Quick Tip

Wegener's idea was initially rejected but later became the foundation for modern plate tectonics.

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**5. In urban planning, what does the abbreviation 'FAR' stand for?**

- (A) Floor Area Ratio
- (B) Functional Area Regulation
- (C) Facility Access Rule
- (D) Floor Allocation Rate

**Correct Answer:** (A) Floor Area Ratio

**Solution:**

**Concept:** **FAR (Floor Area Ratio)** is an important parameter in urban planning and

building regulations. It defines the ratio between the total built-up area of a building and the area of the plot on which it is constructed.

Mathematically:

$$\text{FAR} = \frac{\text{Total Floor Area of Building}}{\text{Plot Area}}$$

**Step 1: Understand its purpose.**

FAR helps in:

- Controlling building density
- Regulating urban growth
- Ensuring proper infrastructure planning

**Step 2: Interpret its implication.**

A higher FAR allows more construction on a given plot, while a lower FAR restricts building size.

**Step 3: Analyze the options.**

- Floor Area Ratio – correct
- Functional Area Regulation – incorrect expansion
- Facility Access Rule – unrelated
- Floor Allocation Rate – incorrect term

**Step 4: Conclusion.**

Thus, FAR stands for Floor Area Ratio.

#### Quick Tip

FAR is a key tool for city planners to balance population density with available infrastructure.

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**6. Which layer of the Earth's atmosphere contains the ozone layer, crucial for environmental design?**

- (A) Troposphere
- (B) Stratosphere
- (C) Mesosphere
- (D) Thermosphere

**Correct Answer:** (B) Stratosphere

**Solution:**

**Concept:** The Earth's atmosphere is divided into several layers based on temperature and altitude. The **ozone layer**, which protects life by absorbing harmful ultraviolet (UV) radiation from the sun, is located in the **stratosphere**.

**Step 1: Understand atmospheric layers.**

- Troposphere – lowest layer, weather occurs here
- Stratosphere – contains ozone layer
- Mesosphere – meteors burn here
- Thermosphere – very high temperatures, includes ionosphere

**Step 2: Identify the correct layer.**

The ozone layer is concentrated in the stratosphere at an altitude of about 10–50 km above Earth’s surface.

**Step 3: Importance of ozone layer.**

- Absorbs harmful UV-B and UV-C radiation
- Protects living organisms
- Plays a role in environmental and climatic balance

**Step 4: Conclusion.**

Thus, the correct answer is the Stratosphere.

**Quick Tip**

Remember: “Strato = shield” — the stratosphere shields Earth from harmful UV radiation via the ozone layer.

**7. What is the term for the process of collecting and storing rainwater for reuse on-site?**

- (A) Water recycling
- (B) Rainwater harvesting
- (C) Groundwater recharge
- (D) Water conservation

**Correct Answer:** (B) Rainwater harvesting

**Solution:**

**Concept: Rainwater harvesting** is the process of collecting, storing, and utilizing rainwater for various purposes such as irrigation, groundwater recharge, and domestic use. It is an important sustainable practice in urban planning and environmental management.

**Step 1: Understand the process.**

Rainwater harvesting involves:

- Collection of rainwater from rooftops or surfaces
- Storage in tanks or reservoirs
- Reuse for domestic or agricultural purposes

**Step 2: Differentiate from related terms.**

- Water recycling – reuse of treated wastewater
- Rainwater harvesting – direct collection of rainwater (correct)
- Groundwater recharge – replenishing aquifers
- Water conservation – general reduction in water usage

**Step 3:** Select the correct answer.

Thus, the correct term is rainwater harvesting.

#### Quick Tip

Rainwater harvesting helps reduce dependence on municipal water supply and prevents urban flooding.

**8. Which structural member is primarily designed to resist loads applied laterally to the member's axis?**

- (A) Column
- (B) Beam
- (C) Slab
- (D) Footing

**Correct Answer:** (B) Beam

**Solution:**

**Concept:** Structural members are designed based on the type of loads they resist. Loads can be axial (along the axis) or lateral (perpendicular to the axis).

- **Columns** resist axial compressive loads
- **Beams** resist loads applied perpendicular (lateral) to their axis
- **Slabs** distribute loads to beams
- **Footings** transfer loads to the ground

**Step 1:** Understand lateral loads.

Lateral loads act perpendicular to the length (axis) of a structural member, causing bending.

**Step 2:** Identify the appropriate member.

Beams are specifically designed to:

- Resist bending moments
- Carry transverse (lateral) loads
- Transfer loads to columns or supports

**Step 3:** Analyze the options.

- Column – axial load member

- Beam – resists lateral loads (correct)
- Slab – surface element distributing loads
- Footing – foundation element

**Step 4: Conclusion.**

Thus, beams are primarily designed to resist loads applied laterally to their axis.

**Quick Tip**

Think: Columns = compression (vertical), Beams = bending (horizontal loads).

**9. What is the value of the 'U-value' in the context of building insulation and thermal performance?**

- (A) Measure of heat stored in a material
- (B) Measure of thermal transmittance through a building element
- (C) Measure of sound insulation
- (D) Measure of structural strength

**Correct Answer:** (B) Measure of thermal transmittance through a building element

**Solution:**

**Concept:** The **U-value** (overall heat transfer coefficient) is a key parameter in building physics that measures the rate at which heat passes through a building element such as a wall, roof, or window.

It is expressed as:

$$\text{U-value} = \frac{\text{Heat transfer per unit time}}{\text{Area} \times \text{Temperature difference}}$$

**Step 1: Understand its meaning.**

U-value indicates how well a building component conducts heat:

- Lower U-value → better insulation
- Higher U-value → more heat loss

**Step 2: Interpret its importance.**

It helps in:

- Designing energy-efficient buildings
- Reducing heating and cooling loads
- Improving thermal comfort

**Step 3: Analyze the options.**

- Heat stored – refers to thermal capacity
- Thermal transmittance – correct definition

- Sound insulation – unrelated
- Structural strength – unrelated

**Step 4: Conclusion.**

Thus, U-value measures thermal transmittance through a building element.

**Quick Tip**

Always remember: Lower U-value = better insulation = more energy-efficient building.

**10. Which Indian city’s master plan was significantly influenced by the concepts of Charles Correa?**

- (A) Chandigarh
- (B) Gandhinagar
- (C) Navi Mumbai
- (D) Jaipur

**Correct Answer:** (C) Navi Mumbai

**Solution:**

**Concept:** Charles Correa was one of India’s most influential architects and urban planners. He played a major role in shaping modern urban design in India, particularly through his ideas on decentralization, human-scale planning, and sustainable urban growth.

**Step 1: Understand his contribution.**

Correa was closely associated with the planning and development of **Navi Mumbai**, a planned satellite city designed to reduce congestion in Mumbai.

**Step 2: Key planning principles used.**

- Polycentric development
- Efficient transport networks
- Balanced distribution of residential and commercial zones

**Step 3: Analyze the options.**

- Chandigarh – designed by Le Corbusier
- Gandhinagar – planned by H.K. Mewada and Prakash Apte
- Navi Mumbai – influenced by Charles Correa (correct)
- Jaipur – historic planned city (pre-modern)

**Step 4: Conclusion.**

Thus, Navi Mumbai is the city influenced by Charles Correa’s planning concepts.

### Quick Tip

Charles Correa is often associated with humane and climate-responsive urban design in India.

**11. The 'Garden City' concept in urban planning was originally pioneered by whom?**

- (A) Le Corbusier
- (B) Ebenezer Howard
- (C) Patrick Geddes
- (D) Frank Lloyd Wright

**Correct Answer:** (B) Ebenezer Howard

**Solution:**

**Concept:** The **Garden City** concept was introduced by **Ebenezer Howard** in 1898 through his book *To-Morrow: A Peaceful Path to Real Reform*. It aimed to combine the advantages of both urban and rural environments.

**Step 1: Understand the idea.**

The Garden City model proposed:

- Self-contained communities
- Green belts surrounding cities
- Balanced distribution of residences, industries, and agriculture

**Step 2: Purpose of the concept.**

It aimed to:

- Reduce overcrowding in cities
- Provide healthy living conditions
- Integrate nature with urban life

**Step 3: Analyze the options.**

- Le Corbusier – modernist urban planning
- Ebenezer Howard – Garden City pioneer (correct)
- Patrick Geddes – regional planning
- Frank Lloyd Wright – Broadacre City concept

**Step 4: Conclusion.**

Thus, Ebenezer Howard pioneered the Garden City concept.

### Quick Tip

Garden City = “Town + Country” — Howard’s vision of blending urban efficiency with rural beauty.

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**12. In structural design, what is the primary function of a "shear wall"?**

- (A) To support vertical loads only
- (B) To resist lateral loads such as wind and earthquakes
- (C) To provide thermal insulation
- (D) To enhance aesthetic appearance

**Correct Answer:** (B) To resist lateral loads such as wind and earthquakes

**Solution:**

**Concept:** A **shear wall** is a vertical structural element designed to resist lateral forces acting on a building, such as wind loads and seismic (earthquake) forces. It plays a crucial role in maintaining the stability and rigidity of structures.

**Step 1: Understand lateral forces.**

Buildings are subjected to:

- Wind forces
- Earthquake forces

These forces act horizontally and can cause deformation or collapse if not properly resisted.

**Step 2: Role of shear walls.**

Shear walls:

- Provide lateral strength and stiffness
- Reduce horizontal displacement (drift)
- Transfer loads safely to the foundation

**Step 3: Analyze the options.**

- Support vertical loads only – incorrect
- Resist lateral loads – correct
- Thermal insulation – unrelated
- Aesthetic appearance – secondary, not primary

**Step 4: Conclusion.**

Thus, shear walls are primarily used to resist lateral loads.

#### Quick Tip

Shear walls are essential in high-rise buildings, especially in earthquake-prone regions, for structural safety.

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**13. Which architectural style is characterized by the use of "Pointed Arches," "Rib Vaults," and "Flying Buttresses"?**

- (A) Romanesque
- (B) Gothic
- (C) Baroque
- (D) Renaissance

**Correct Answer:** (B) Gothic

**Solution:**

**Concept:** The **Gothic architectural style**, which developed in Europe during the 12th–16th centuries, is distinguished by structural innovations that allowed buildings to reach greater heights and incorporate large windows.

Key features include:

- **Pointed arches** – distribute weight more efficiently
- **Rib vaults** – framework of ribs supporting the ceiling
- **Flying buttresses** – external supports transferring loads away from walls

**Step 1: Understand structural characteristics.**

These elements together enable:

- Taller structures
- Thinner walls
- Larger stained-glass windows

**Step 2: Analyze the options.**

- Romanesque – rounded arches, thick walls
- Gothic – pointed arches, rib vaults, flying buttresses (correct)
- Baroque – decorative and dramatic style
- Renaissance – symmetry and classical revival

**Step 3: Conclusion.**

Thus, the described features belong to the Gothic style.

**Quick Tip**

Think “Gothic = Height + Light” — enabled by pointed arches and flying buttresses.

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**14. What is the standard height of a riser in a residential building’s staircase according to typical building codes?**

- (A) 50–75 mm
- (B) 100–125 mm
- (C) 150–175 mm
- (D) 200–225 mm

**Correct Answer:** (C) 150–175 mm

**Solution:**

**Concept:** In staircase design, the **riser** is the vertical portion between two consecutive steps. Its height is crucial for safety, comfort, and ease of movement.

**Step 1: Understand ergonomic considerations.**

The riser height must:

- Allow comfortable climbing
- Prevent fatigue
- Ensure safety, especially for children and elderly users

**Step 2: Standard dimensions.**

Typical building codes recommend:

- Riser height: 150–175 mm
- Tread depth: 250–300 mm

**Step 3: Analyze the options.**

- 50–75 mm – too low
- 100–125 mm – below standard
- 150–175 mm – correct standard range
- 200–225 mm – too steep and unsafe

**Step 4: Conclusion.**

Thus, the standard riser height is 150–175 mm.

#### Quick Tip

A comfortable stair follows the rule:  $2 \times \text{Riser} + \text{Tread} \approx 600 \text{ mm}$ .

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**15. Which document is essential for the legal governance of land use and development in a specific urban area?**

- (A) Building Elevation Plan
- (B) Zoning Regulations
- (C) Structural Drawing
- (D) Interior Layout Plan

**Correct Answer:** (B) Zoning Regulations

**Solution:**

**Concept: Zoning regulations** are legal tools used in urban planning to control land use and development within a specific area. They define how land can be used and what types of structures can be built.

**Step 1: Understand zoning.**

Zoning divides a city into different zones such as:

- Residential
- Commercial
- Industrial
- Institutional

**Step 2: Purpose of zoning regulations.**

They help in:

- Preventing conflicting land uses
- Ensuring orderly urban development
- Controlling building height, density, and setbacks

**Step 3: Analyze the options.**

- Building Elevation Plan – architectural drawing
- Zoning Regulations – legal control document (correct)
- Structural Drawing – construction detail
- Interior Layout Plan – internal arrangement

**Step 4: Conclusion.**

Thus, zoning regulations are essential for the legal governance of land use.

**Quick Tip**

Zoning laws ensure cities grow in an organized and sustainable way by regulating land use.