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

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

**Step 1: Understanding the Concept:**
The Golden Mean Ratio, represented by the Greek letter Phi ($\phi$), is a mathematical ratio often found in nature and used in art and architecture to achieve aesthetic harmony.

**Step 2: Key Formula or Approach:**
The Golden Ratio is defined as:

$$\phi = \frac{1 + \sqrt{5}}{2}$$

Calculating the numerical value:

$$\phi \approx \frac{1 + 2.236}{2} = \frac{3.236}{2} = 1.618$$

**Step 3: Detailed Explanation:**
In architectural design, this ratio is used to create pleasing proportions for building facades, floor plans, and window placements.
History shows its application in the Parthenon in Athens and the Great Pyramid of Giza.
Other constants listed:
(A) 1.414 is $\sqrt{2}$.
(C) 2.718 is Euler's number ($e$).
(D) 3.142 is Pi ($\pi$).

**Step 4: Final Answer:**
The Golden Mean Ratio is approximately 1.618.

> Quick Tip
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> To quickly remember the Golden Ratio, think of the Fibonacci sequence (0, 1, 1, 2, 3, 5, 8, 13...). As the numbers increase, the ratio of any two consecutive numbers approaches 1.618.

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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:**

**Step 1: Understanding the Concept:**
This question focuses on significant 20th-century architectural history and the development of Chandigarh as a modern Indian city.

**Step 2: Detailed Explanation:**
The Swiss-French architect Le Corbusier was commissioned by Prime Minister Jawaharlal Nehru to design Chandigarh.

The Capitol Complex is the administrative heart of the city, comprising the Legislative Assembly, the Secretariat, and the High Court.
It is celebrated for its use of raw concrete (Béton brut) and its UNESCO World Heritage status.
(A) Charles Correa is known for Navi Mumbai and the LIC Building.
(C) Louis Kahn designed IIM Ahmedabad.
(D) B. V. Doshi, a Pritzker Prize winner, worked under Le Corbusier and Kahn.

**Step 3: Final Answer:**
Le Corbusier is the architect of the Chandigarh Capitol Complex.

Quick Tip

Le Corbusier's plan for Chandigarh followed an anthropomorphic layout where the Capitol Complex represents the "Head" of the city.

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

(A) 360°
(B) 540°
(C) 720°
(D) 900°

**Correct Answer:** (B) 540°

**Solution:**

**Step 1: Understanding the Concept:**
The sum of interior angles in a polygon depends on the number of sides ($n$).

**Step 2: Key Formula or Approach:**
The formula for the sum of interior angles is:

$$\text{Sum} = (n - 2) \times 180^\circ$$

**Step 3: Detailed Explanation:**
A pentagon has 5 sides, so $n = 5$.
Plugging the value into the formula:

$$\text{Sum} = (5 - 2) \times 180^\circ$$

$$\text{Sum} = 3 \times 180^\circ$$

$$\text{Sum} = 540^\circ$$

Each individual interior angle in a "regular" pentagon would be $540^\circ/5 = 108^\circ$.

**Step 4: Final Answer:**
The sum of interior angles of a pentagon is $540^\circ$.

> Quick Tip
>
> Another way to think of this: A pentagon can be divided into exactly 3 triangles from one vertex. Since each triangle is $180^\circ$, $3 \times 180 = 540^\circ$.

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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:**

**Step 1: Understanding the Concept:**
Alfred Wegener proposed a revolutionary geological theory regarding the Earth's physical evolution.

**Step 2: Detailed Explanation:**
In 1912, Wegener proposed that all continents were once part of a single supercontinent called "Pangea."
He suggested they had "drifted" apart over millions of years. This is the Continental Drift Theory.
(A) Plate Tectonics is a modern theory that provides the mechanism for continental drift.
(C) Big Bang Theory is about the origin of the universe.
(D) Seafloor Spreading was proposed in the 1960s to support plate movements.

**Step 3: Final Answer:**
Alfred Wegener proposed the Continental Drift Theory.

Quick Tip

Evidence for this theory included the "jigsaw fit" of South America and Africa and identical fossils found on distant continents.

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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:**

**Step 1: Understanding the Concept:**
FAR is a critical urban planning metric used by local governments to regulate building density and population load on urban infrastructure.

**Step 2: Key Formula or Approach:**
The Floor Area Ratio is calculated as follows:

$$\text{FAR} = \frac{\text{Total Floor Area of all floors}}{\text{Total Area of the Plot}}$$

**Step 3: Detailed Explanation:**
FAR limits how much built-up space you can have on a specific piece of land.
For example, if the FAR is 2.0 and your plot is 1000 sq. m., you can build a total of 2000 sq. m. across any number of floors allowed by height regulations.

**Step 4: Final Answer:**
FAR stands for Floor Area Ratio.

Quick Tip

In India, FAR is also commonly referred to as FSI (Floor Space Index). They are functionally identical metrics.

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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:**

**Step 1: Understanding the Concept:**
The atmosphere consists of several layers with different properties. Environmental designers consider atmospheric protection against UV radiation.

**Step 2: Detailed Explanation:**
The stratosphere is the second layer of the atmosphere, located above the troposphere.
It contains the ozone layer ($O_3$), which absorbs the majority of the sun's harmful ultraviolet (UV) radiation.
Protecting this layer is vital for building skin design and material longevity.

**Step 3: Final Answer:**
The ozone layer is found in the Stratosphere.

Quick Tip

The Troposphere is where all weather occurs. Commercial jet planes usually fly in the lower Stratosphere to avoid weather turbulence.

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**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:**

**Step 1: Understanding the Concept:**
Modern sustainable architecture prioritizes water self-sufficiency and reducing demand on municipal supply.

**Step 2: Detailed Explanation:**
Rainwater harvesting involves catching runoff from roofs or other impervious surfaces and storing it in tanks or ponds for immediate use.
(A) Water recycling usually refers to treating greywater or sewage for non-potable use.
(C) Groundwater recharge is the specific process of redirecting water into the ground to replenish aquifers.

**Step 3: Final Answer:**
The correct term is Rainwater harvesting.

Quick Tip

Rainwater harvesting systems typically include a catchment area (roof), conduits (pipes), filters, and a storage facility (tank).

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**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:**

**Step 1: Understanding the Concept:**
Different structural elements are defined by how they carry loads relative to their geometry.

**Step 2: Detailed Explanation:**
A **Beam** is a horizontal member that resists loads applied laterally (perpendicularly) to its longitudinal axis. This creates bending and shear stress.
A **Column** is a vertical member designed primarily for axial (longitudinal) compressive loads.
A **Slab** is a planar element carrying gravity loads to beams.

**Step 3: Final Answer:**
Beams are the members designed to resist lateral loads relative to their axis.

Quick Tip

Remember: Beams "Bend" under lateral loads, while Columns "Compress" under axial loads.

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**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:**

**Step 1: Understanding the Concept:**
The U-value measures how much heat escapes through building components like walls, windows, and roofs.

**Step 2: Key Formula or Approach:**
The U-value is the inverse of the R-value (Thermal Resistance):

$$U = \frac{1}{\sum R}$$

Unit: $W/m^2K$.

**Step 3: Detailed Explanation:**
A lower U-value indicates that a material is a better insulator, meaning less heat energy is transmitted through it.
Higher U-values mean higher heat loss or gain, leading to poor energy efficiency.

**Step 4: Final Answer:**
U-value measures thermal transmittance.

Quick Tip

In hot climates like India, we want building envelopes with low U-values to keep the indoor spaces cool.

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**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:**

**Step 1: Understanding the Concept:**
Charles Correa was a pioneer of urban planning in post-independence India.

**Step 2: Detailed Explanation:**
In the early 1970s, Charles Correa, along with Shirish Patel and Pravina Mehta, proposed the planning of "New Bombay" (Navi Mumbai) as a counter-magnet to decongest South Mumbai. His vision focused on mass transport, high-density low-rise housing, and incremental building.

**Step 3: Final Answer:**
The correct city is Navi Mumbai.

Quick Tip

Correa's housing project 'Aranya' in Indore and 'Belapur' in Navi Mumbai are iconic examples of his user-centric planning philosophy.

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**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:**

**Step 1: Understanding the Concept:**
The Garden City movement aimed to combine the best aspects of both town and country living.

**Step 2: Detailed Explanation:**
Sir Ebenezer Howard published "Garden Cities of To-morrow" in 1902.
The plan envisioned a central city surrounded by self-sufficient satellite towns connected by greenbelts.
(C) Patrick Geddes focused on "Regional Surveys."
(D) Frank Lloyd Wright proposed "Broadacre City."

**Step 3: Final Answer:**
The pioneer was Ebenezer Howard.

Quick Tip

Letchworth and Welwyn Garden City in the UK were the first real-world applications of Howard's theories.

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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:**

**Step 1: Understanding the Concept:**
Shear walls are essential components in multi-story buildings for stability.

**Step 2: Detailed Explanation:**
A shear wall is a rigid vertical structural element designed to handle "in-plane" lateral forces. These forces primarily come from wind pressure or the ground acceleration of earthquakes. They provide the necessary stiffness to prevent the building from swaying excessively.

**Step 3: Final Answer:**
The function of a shear wall is to resist lateral loads like wind and earthquakes.

Quick Tip

Shear walls are typically made of reinforced concrete and are often placed as the core of the building (around elevators and stairs).

**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:**

**Step 1: Understanding the Concept:**
Gothic architecture transformed European cathedrals between the 12th and 16th centuries.

**Step 2: Detailed Explanation:**
The introduction of the **Pointed Arch** allowed for taller buildings.
**Rib Vaults** supported heavy ceilings with less material.
**Flying Buttresses** transferred roof weight to external supports, allowing walls to have massive stained-glass windows.
(A) Romanesque uses round arches and thick walls.

**Step 3: Final Answer:**
The style is Gothic architecture.

Quick Tip

Gothic architecture is often described as "architecture of light" because the structural innovations allowed for vast window areas.

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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:**

**Step 1: Understanding the Concept:**
Ergonomics and safety codes determine the dimensions of stairs to ensure comfortable climbing and descent.

**Step 2: Detailed Explanation:**
A "riser" is the vertical height between two consecutive steps.
Standard residential codes (like NBC India) recommend a riser height between 150 mm and 175 mm.
Risers higher than 175 mm are considered too steep for general comfort, while those below 150 mm are usually reserved for public buildings or elderly access.

**Step 3: Final Answer:**
The standard height is 150–175 mm.

Quick Tip

A useful rule of thumb for stair design is: $2 \times \text{Riser} + \text{Tread} = 600$ to 630 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:**

**Step 1: Understanding the Concept:**
Governance of land requires legal instruments that define what activity can happen on which plot.

**Step 2: Detailed Explanation:**
**Zoning Regulations** are the legal ordinances that divide a municipality into districts or zones.
They dictate whether a plot can be used for residential, commercial, industrial, or mixed-use development.
They also control building heights, setbacks, and density.

**Step 3: Final Answer:**
Zoning Regulations are essential for the governance of land use.

Quick Tip

While a "Master Plan" sets the long-term vision, "Zoning" is the actual legal code that enforces it on a day-to-day basis.

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