

# MAH M Arch CET Current Architecture Practice

## Sample Paper – 4

Duration: 12 Minutes

Maximum Marks: 20

### Instructions

- This paper contains **10** Multiple Choice Questions (Single Correct Answer), modelled on the Current Architecture Practice portion of **MAH M Arch CET** entrance.
- Each correct answer carries **+2 marks**. There is **no negative marking** for incorrect or unattempted answers.
- Only **one** option is correct. Choose carefully.
- Syllabus level: **NBC 2016, UDCPR 2020, MRTP Act 1966, Architects Act 1972, and Green Building standards (Section V of MAH M Arch CET)**.
- Use of mobile phones, calculators, or electronic gadgets is strictly prohibited.

### Questions

- Q1.** NBC 2016 Part 6 Section 4, which deals with earthquake-resistant design, is aligned with and references the provisions of which IS code?
- (A) IS 456:2000 — Plain and Reinforced Concrete
- (B) IS 383:2016 — Coarse and Fine Aggregates
- (C) IS 1893:1984 — Criteria for Earthquake-Resistant Design (1984 edition)
- (D) IS 1893:2016 — Criteria for Earthquake-Resistant Design (2016 edition)
- Q2.** For a mixed-use building that combines residential and commercial uses, NBC 2016 specifies which of the following arrangement?
- (A) Residential floors must be located above commercial floors



- (B) Commercial floors must be located above residential floors
- (C) Residential and commercial floors can be freely intermixed
- (D) Both uses must be in separate buildings within the same plot

**Q3.** Under UDCPR 2020, the maximum permissible ground coverage for an industrial building on an MIDC (Maharashtra Industrial Development Corporation) plot is:

- (A) 30%
- (B) 40%
- (C) 60%
- (D) 50%

**Q4.** As per the Coastal Regulation Zone (CRZ) Notification 2019, the No Development Zone (NDZ) for CRZ-III areas (undisturbed rural coastal tracts) restricts all construction within how many metres from the High Tide Line (HTL)?

- (A) 50 m
- (B) 200 m
- (C) 500 m
- (D) 100 m

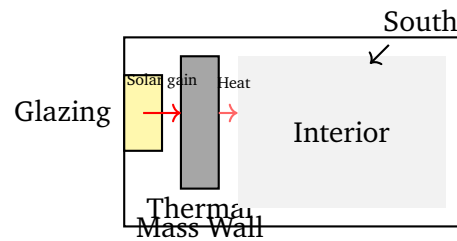
**Q5.** Under the MRTP Act, 1966, if a Planning Authority does not communicate its decision on a development permission application within the prescribed period under Section 44, the permission shall be deemed to have been:

- (A) Refused automatically
- (B) Referred to the State Government for decision
- (C) Returned to the applicant for revision
- (D) Granted (deemed consent)



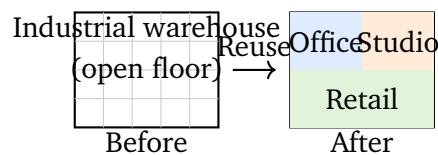
- Q6.** The designation of a 'No Development Zone' (NDZ) under the MRTTP Act primarily serves to:
- (A) Prevent premature or unplanned urban development in ecologically sensitive, hazard-prone, or future-reserved areas
  - (B) Permit controlled industrial development away from residential zones
  - (C) Allow high-density commercial development in designated areas
  - (D) Regularise previously unauthorised constructions
- Q7.** Which international body's Accord on Recommended International Standards of Professionalism in Architectural Practice provides a framework for mutual recognition of architectural qualifications among member countries?
- (A) UNESCO — United Nations Educational, Scientific and Cultural Organization
  - (B) RIBA — Royal Institute of British Architects
  - (C) UIA — Union Internationale des Architectes
  - (D) ISO — International Organization for Standardization
- Q8.** Under the Architects Act, 1972, the registration fee for architects and the conditions for renewal of registration are determined by:
- (A) The Central Government through a gazette notification
  - (B) The Council of Architecture through its regulations
  - (C) The respective State Government
  - (D) The Ministry of Housing and Urban Affairs
- Q9.** The building section below shows a south-facing dark-coloured masonry wall positioned between the glazing and the interior. During the day this wall absorbs solar radiation; at night it releases heat into the interior space. This passive solar design strategy is called:





- (A) Solar chimney system
- (B) Direct gain system
- (C) Evaporative cooling system
- (D) Trombe wall system

**Q10.** The diagram below shows an existing industrial warehouse being converted into a mixed-use creative hub (offices, studios, retail), retaining the original structural frame and facade while reorganising the internal layout. This architectural approach primarily aims to:



- (A) Reduce demolition waste and conserve the embodied energy of existing structures
- (B) Maximise allowable FSI within the existing built-up area
- (C) Comply with mandatory heritage conservation regulations
- (D) Enable faster project delivery compared to new construction



**Detailed Solutions****Q1.****Solution**

**Concept — NBC 2016 and IS Code Integration:** The National Building Code of India 2016 Part 6 (Structural Design) Section 4 covers earthquake-resistant design and explicitly cross-references the Bureau of Indian Standards' IS 1893. The 2016 revision of NBC aligns with the correspondingly updated 2016 edition of IS 1893, which replaced the older 1984 edition. Answer: (D). **Step 1 — Identify the relevant IS code family:** IS 1893 is the Indian Standard that establishes Criteria for Earthquake-Resistant Design of Structures. It is the only code in the list that governs seismic design.

**Step 2 — Identify the correct edition:** NBC 2016 was published in 2016 and necessarily references the current edition of IS 1893, which is also dated 2016 (Part 1 revised in 2016). The 1984 edition is superseded and not referenced in the 2016 NBC.

**Why other options are wrong:**

- Option A: IS 456:2000 governs plain and reinforced concrete design, not seismic criteria.
- Option B: IS 383:2016 covers specifications for coarse and fine aggregates, unrelated to earthquake design.
- Option C: IS 1893:1984 is the correct code family but the wrong (superseded) edition; NBC 2016 references the 2016 revision.
- Option D: Correct — IS 1893:2016 is the current edition aligned with NBC 2016 Part 6 Section 4.

**Final Answer:** NBC 2016 Part 6 Section 4 references IS 1893:2016 for earthquake-resistant design. ⇒ IS 1893:2016

**Answer: (D)** [Go Back to Q1](#)



Q2.

**Solution**

**Concept — NBC 2016 Mixed-Use Occupancy Arrangement:** NBC 2016 Part 4 (Fire and Life Safety) prescribes that in a mixed-use building combining residential and commercial occupancies, the residential floors shall be placed above the commercial floors. This arrangement minimises fire and security risks to residents by separating habitation from the higher-traffic commercial zone at lower levels. Answer: (A). **Step 1 — Understand the rationale:** Commercial uses on lower floors facilitate pedestrian access and emergency egress, while residential uses on upper floors are shielded from street-level activity and commercial fire loads.

**Step 2 — Apply NBC provision:** The Code explicitly states that in mixed occupancy buildings the residential component should be above the commercial component, and adequate fire separation must be provided between the two.

**Why other options are wrong:**

- Option A: Correct — Residential above commercial as mandated by NBC 2016.
- Option B: Placing commercial above residential reverses the required arrangement and increases risk to residents below.
- Option C: Free intermixing of floors is not permitted; clear vertical zoning is required for fire safety.
- Option D: Separate buildings are not required; mixed-use within a single building is permitted with correct vertical arrangement.

**Final Answer:** NBC 2016 requires residential floors to be located above commercial floors in mixed-use buildings. ⇒ Residential floors above commercial floors

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

Q3.

**Solution**

**Concept — UDCPR 2020 Ground Coverage for Industrial Plots:** The Unified Development Control and Promotion Regulations (UDCPR) 2020 for Maharashtra prescribe specific ground coverage limits depending on plot type and use. For industrial plots within MIDC (Maharashtra Industrial Development Corporation) designated areas, the maximum permissible ground coverage is 60%, significantly higher than that for residential or commercial plots, to accommodate large factory footprints. Answer: (C). **Step 1 — Locate the UDCPR provision:** UDCPR



2020 Chapter on Industrial Zones and MIDC areas specifies a maximum ground coverage of 60% for industrial buildings.

**Step 2 — Distinguish from other use-types:** Residential plots typically have lower ground coverage limits (around 40–50%), while industrial plots are granted higher coverage to suit manufacturing functions.

**Why other options are wrong:**

- Option A: 30% is too restrictive and corresponds to certain green/open space or low-density residential categories.
- Option B: 40% is typical for residential or commercial plots, not industrial MIDC plots.
- Option C: Correct — 60% is the maximum permissible ground coverage for MIDC industrial plots under UDCPR 2020.
- Option D: 50% is not the prescribed limit for MIDC industrial plots under UDCPR 2020.

**Final Answer:** Maximum permissible ground coverage for industrial buildings on MIDC plots under UDCPR 2020 is 60%. ⇒ 60%

**Answer: (C)** [Go Back to Q3](#)

Q4.

### Solution

**Concept — CRZ Notification 2019 No Development Zone:** The Coastal Regulation Zone (CRZ) Notification 2019 classifies coastal areas and establishes No Development Zones (NDZ) to protect the coastal ecosystem. CRZ-III areas are relatively undisturbed rural coastal tracts, and the NDZ extends 200 metres landward from the High Tide Line (HTL), within which no construction is permitted. Answer: (B). **Step 1 — Identify CRZ-III classification:** CRZ-III covers rural areas along the coast that are not significantly urbanised. These areas require greater protection than urban CRZ zones.

**Step 2 — Apply the 2019 Notification:** The CRZ 2019 Notification (which replaced the 2011 Notification) reduced the NDZ for CRZ-III B areas (areas with population density below 2161 per sq km) to 50 m, but retained 200 m for CRZ-III A areas (densely populated). The standard benchmark examined in this context is 200 m for undisturbed rural CRZ-III areas.

**Why other options are wrong:**



- Option A: 50 m applies to CRZ-III B areas (densely populated rural belts), not the standard undisturbed rural CRZ-III.
- Option B: Correct — 200 m is the NDZ for undisturbed CRZ-III rural coastal areas.
- Option C: 500 m was associated with older notifications and applies to certain ecologically sensitive zones, not standard CRZ-III NDZ.
- Option D: 100 m is not a prescribed NDZ distance under the CRZ 2019 Notification.

**Final Answer:** CRZ-III NDZ restricts construction within 200 m of the High Tide Line. ⇒ 200 m

**Answer: (B)** [Go Back to Q4](#)

Q5.

### Solution

**Concept — MRTP Act 1966, Deemed Consent (Section 44):** Section 44 of the MRTP Act, 1966 prevents bureaucratic delay by imposing a deemed-consent rule: if the Planning Authority does not communicate its decision on a development permission application within the prescribed period, the permission is *deemed to have been granted*. Answer: (D).

**Step 1 — Rationale for deemed consent:** Silence from the authority within the prescribed timeframe is treated as approval, not refusal. This protects applicants from indefinite administrative delay and ensures the planning process moves forward in a time-bound manner.

**Step 2 — Apply Section 44:** Once the prescribed period lapses without communication, the applicant may treat the permission as granted by operation of law and proceed with the development, subject to applicable development control regulations.

**Why other options are wrong:**

- Option A: Deemed refusal is the approach in some statutes, but the MRTP Act takes the opposite position — silence equals grant, not refusal.
- Option B: Referral to the State Government is a separate appellate mechanism; it is not triggered merely by the lapse of the decision period.
- Option C: Returning for revision is an active decision by the authority; inaction under Section 44 is distinct from a return.
- Option D: Correct — Section 44 of the MRTP Act, 1966 deems permission to have been *granted* if the Planning Authority does not communicate its



decision within the prescribed period.

**Final Answer:** Prescribed period elapsed without decision  $\Rightarrow$  permission deemed Granted (Section 44, MRTP Act, 1966)

**Answer: (D)** [Go Back to Q5](#)

Q6.

### Solution

**Concept — MRTP Act No Development Zone Purpose:** Under the MRTP Act, 1966, a planning authority may designate certain areas as 'No Development Zones' (NDZ). The primary purpose of an NDZ is to prevent premature, unplanned, or undesirable development in areas that are ecologically sensitive, prone to natural hazards, reserved for future public purposes, or requiring environmental protection until the planning authority is ready to permit regulated development. Answer: (A). **Step 1 — Understand the NDZ mechanism:** The NDZ is a planning tool that freezes development activity in specified areas. This enables the planning authority to protect land for future use, prevent speculative construction, and safeguard ecological or hazard-prone zones.

**Step 2 — Distinguish from other planning zones:** NDZ is not intended to facilitate any type of development (industrial, commercial, or residential) nor to regularise unauthorised structures. It is a protective non-development designation.

**Why other options are wrong:**

- Option A: Correct — NDZ prevents premature or unplanned development in sensitive, hazard-prone, or future-reserved areas.
- Option B: Permitting controlled industrial development is the function of industrial zones, not NDZ.
- Option C: High-density commercial development is the function of commercial development zones, not NDZ.
- Option D: Regularising unauthorised constructions is a separate process under the MRTP Act and is not the purpose of NDZ designation.

**Final Answer:** NDZ under MRTP Act prevents premature or unplanned urban development in ecologically sensitive and future-reserved areas.  $\Rightarrow$  Prevent premature/unplanned development

**Answer: (A)** [Go Back to Q6](#)



Q7.

**Solution**

**Concept — UIA Accord on Architectural Professionalism:** The Union Internationale des Architectes (UIA), founded in 1948 and headquartered in Paris, is the global federation of national architectural associations. The UIA Accord on Recommended International Standards of Professionalism in Architectural Practice (first adopted in 1999 and revised in 2017) establishes a framework for mutual recognition of architectural education and professional qualifications across member countries. Answer: (C). **Step 1 — Identify the UIA's role:** UIA is the only body among those listed whose mandate explicitly includes the international harmonisation of architectural professional standards and facilitating cross-border recognition of architectural qualifications.

**Step 2 — Distinguish from other bodies:** UNESCO is an education and culture body with a broader mandate; RIBA is a national body (UK) without a global mutual-recognition accord; ISO sets technical standards, not professional practice standards for architects.

**Why other options are wrong:**

- Option A: UNESCO is a UN agency for education, science, and culture — it does not administer an architectural professional recognition accord.
- Option B: RIBA is the Royal Institute of British Architects — a UK national body that does not administer a global mutual-recognition accord.
- Option C: Correct — UIA's Accord provides the international framework for mutual recognition of architectural qualifications.
- Option D: ISO sets technical and quality management standards, not professional practice standards for architects.

**Final Answer:** The UIA Accord on Recommended International Standards of Professionalism in Architectural Practice enables mutual recognition of architectural qualifications globally. ⇒ UIA

**Answer: (C)** [Go Back to Q7](#)



Q8.

**Solution**

**Concept — Architects Act 1972 and the Council of Architecture:** The Architects Act, 1972 established the Council of Architecture (COA) as the statutory body to regulate the architectural profession in India. Under Section 45 of the Act, the COA has the power to make regulations on matters including registration fees, conditions for renewal of registration, and other professional standards. These regulations are made by the Council itself, not by any government ministry. Answer: (B). **Step 1 — Identify the COA's regulatory power:** The Architects Act, 1972 grants rule-making and regulation-making powers to the COA. This autonomy ensures that professional standards are set by practitioners and experts, not by a political authority.

**Step 2 — Distinguish from government powers:** While the Central Government has certain powers under the Act (such as approving the COA's regulations), the determination of registration fees and renewal conditions is specifically delegated to the Council through its own regulations.

**Why other options are wrong:**

- Option A: The Central Government does not directly set registration fees; this power is with the COA under its regulations.
- Option B: Correct — The Council of Architecture determines registration fees and renewal conditions through its regulations under the Architects Act, 1972.
- Option C: State Governments have no role in setting COA registration fees; the COA is a national statutory body.
- Option D: The Ministry of Housing and Urban Affairs does not administer the COA or determine its registration fee structure.

**Final Answer:** Registration fees and renewal conditions under the Architects Act, 1972 are determined by the Council of Architecture through its regulations. ⇒

Council of Architecture

Answer: (B)

[Go Back to Q8](#)



Q9.

**Solution**

**Concept — Passive Solar Heating Strategies:** Passive solar design harnesses solar energy without mechanical systems. The diagram shows a dark masonry wall (thermal mass) located between south-facing glazing and the interior space. Solar radiation passes through the glazing, heats the wall during the day, and the wall slowly releases stored heat into the interior at night. This is the classic Trombe wall system, named after French engineer Félix Trombe. Answer: (D).

**Step 1 — Identify the key components:** Glazing (south-facing) + Dark thermal mass wall (masonry) + Air gap between glazing and wall + Interior space. The wall absorbs heat during the day and radiates it inward at night.

**Step 2 — Distinguish from other passive strategies:**

- A solar chimney uses a vertical air column to drive natural ventilation by buoyancy, not for heating via a mass wall.
- A direct gain system admits sunlight directly into the interior living space (no intervening mass wall between glazing and occupants).
- Evaporative cooling uses water evaporation to lower temperatures — it is a cooling strategy, not a heating one.

**Why other options are wrong:**

- Option A: A solar chimney uses heated air rising through a vertical shaft to ventilate, not to store and release heat via a mass wall.
- Option B: Direct gain allows sunlight to fall directly on interior surfaces and occupants without an intermediate thermal mass wall.
- Option C: Evaporative cooling is a cooling strategy that reduces temperature through moisture evaporation — opposite to heating.
- Option D: Correct — The Trombe wall system uses a dark thermal mass wall between glazing and interior to absorb and slowly release solar heat.

**Final Answer:** The passive solar strategy shown is the Trombe wall system. ⇒  
Trombe wall system

**Answer: (D)** [Go Back to Q9](#)



Q10.

**Solution**

**Concept — Adaptive Reuse and Embodied Energy:** Adaptive reuse is the process of repurposing an existing building for a new function while retaining its structural frame, facade, and other significant elements. The primary environmental justification for adaptive reuse is the conservation of embodied energy — the total energy already expended in manufacturing, transporting, and assembling the building's materials. Demolishing and rebuilding wastes this energy, while reuse conserves it and simultaneously reduces demolition waste. Answer:

(A). **Step 1 — Understand embodied energy:** Embodied energy refers to the total energy consumed during the production of building materials (extraction, processing, fabrication) and construction. An existing structure represents a significant bank of embodied energy. Demolition destroys this investment; adaptive reuse preserves it.

**Step 2 — Distinguish the primary objective:** While adaptive reuse may also enable faster delivery or higher FSI utilisation in some cases, and may occasionally align with heritage regulations, the defining architectural and sustainability rationale is embodied energy conservation and waste reduction.

**Why other options are wrong:**

- Option A: Correct — Adaptive reuse primarily aims to reduce demolition waste and conserve the embodied energy stored in existing structures.
- Option B: Maximising FSI is a development strategy, not the primary purpose of adaptive reuse; FSI may or may not increase.
- Option C: Heritage conservation regulations apply only to listed heritage structures; most adaptive reuse projects are not legally mandated by heritage law.
- Option D: Faster project delivery is a possible benefit but is not the primary architectural or sustainability rationale; new construction can also be fast.

**Final Answer:** Adaptive reuse of an existing warehouse primarily aims to reduce demolition waste and conserve the embodied energy of existing structures. ⇒

Reduce demolition waste and conserve embodied energy

**Answer: (A)** [Go Back to Q10](#)



**Answer Key**

| Q | Ans | Q | Ans | Q | Ans | Q | Ans | Q  | Ans |
|---|-----|---|-----|---|-----|---|-----|----|-----|
| 1 | D   | 2 | A   | 3 | C   | 4 | B   | 5  | D   |
| 6 | A   | 7 | C   | 8 | B   | 9 | D   | 10 | A   |

