

22604

21222

3 Hours / 70 Marks

Seat No.

--	--	--	--	--	--	--	--	--

15 minutes extra for each hour

- Instructions :**
- (1) All Questions are *compulsory*.
  - (2) Answer each next main Question on a new page.
  - (3) Illustrate your answers with neat sketches wherever necessary.
  - (4) Figures to the right indicate full marks.
  - (5) Assume suitable data, if necessary.

**Marks**

**1. Attempt any FIVE of the following :**

**10**

- (a) Define Building Management Services (BMS).
- (b) State the requirements of a 'Smart Building'.
- (c) State the importance of fire safety system in building.
- (d) Enlist any four component parts of Lift and state its uses.
- (e) List any four types of building services.
- (f) State the necessity of ramps.
- (g) Enlist fire resistant building materials.

**2. Attempt any THREE of the following :**

**12**

- (a) Discuss the working principle of wet fire sprinkler system.
- (b) Discuss the different types of escalators & its uses.
- (c) State the general fire exist requirements as per National Building Code.
- (d) Draw sketches of Gully Trap and Intercepting Trap.

- 3. Attempt any THREE of the following :** **12**
- (a) State the need & advantages of Rainwater harvesting.
  - (b) State applications of Solar Water Heating System.
  - (c) Enlist any eight plumbing fixtures.
  - (d) Explain method of estimating rainwater harvesting potential for a given structure.
- 4. Attempt any THREE of the following :** **12**
- (a) Explain factors affecting selection of artificial lighting.
  - (b) State objectives of Building Accoustics.
  - (c) Explain Solar Water Heating System design principles.
  - (d) Define ventilation and state its need.
  - (e) Explain the significance of Air-conditioning system in buildings.
- 5. Attempt any TWO of the following :** **12**
- (a) Draft the specification required for ramp for physically handicapped person at Hospital building.
  - (b) Explain requirements of fire protection system in educational buildings as per National Building Code (NBC).
  - (c) Discuss safety measures required for installing escalators and list in a given structure.
- 6. Attempt any TWO of the following :** **12**
- (a) Describe in brief with neat sketch two pipe system.
  - (b) Draw a typical sketch of Rainwater Harvesting system for residential building.
  - (c) Discuss the different valves used in Plumbing & state their suitability.
-