

22604

23242

3 Hours / 70 Marks

Seat No.

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- 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.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following :

10

- (a) Define Building Services.
- (b) State the responsibilities of Building Service Engineer.
- (c) Enlist any two types of Escalators and state its use.
- (d) Write any two objectives of vertical communication.
- (e) State any two fire resisting material along with their properties.
- (f) Write down classification of Building as per National Building Code.
- (g) Write any two provisions for Evacuation.

2. Attempt any THREE of the following :

12

- (a) Explain the features required for ramp for physically handicapped and elderly person.
- (b) State working principles of various fire protection system. Explain any one.
- (c) Explain Intercepting trap with neat sketch.
- (d) Explain causes of fire in building.



- 3. Attempt any THREE of the following : 12**
- (a) Compare one pipe system and two pipe system with following parameters :
 - (i) Black and grey water collection
 - (ii) Black water discharge
 - (iii) Reuse of grey water
 - (iv) Ventilating pipe
 - (b) Enlist different components of Rain Water Harvesting (RWH). Explain two component parts of RWH.
 - (c) Explain two component parts of Solar Water Heating (SWHs).
 - (d) Draw a flow diagram for RWH of a building.
- 4. Attempt any THREE of the following : 12**
- (a) Explain any four factors affecting selection of artificial lighting.
 - (b) Write a note on incandescent lamp. Highlighting its :
 - (i) Principle
 - (ii) Design Parameter
 - (iii) Function
 - (iv) Suitability
 - (c) Explain different types of lamps.
 - (d) Explain two systems of Solar Water Heating (SWH).
 - (e) Write different conditions of good acoustics in a building.
- 5. Attempt any TWO of the following : 12**
- (a) Explain design considerations for lift services.
 - (b) Justify the provisions of the fire safety system for a given type of building.
 - (c) Explain design considerations for ramp.
- 6. Attempt any TWO of the following : 12**
- (a) Enlist four types of valves used in water supply system with their suitability.
 - (b) Write four applications of Solar Water Heating System (SWHS).
 - (c) Explain different types of pipe materials with their properties used in plumbing system.
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