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25226

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Illustrate your answers with neat sketches wherever necessary.
 - (3) Figures to the right indicate full marks.
 - (4) Assume suitable data, if necessary.
 - (5) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following :

2 × 5 = 10

- (a) Enlist any four types of building services.
- (b) Define escalator and ramp.
- (c) Enlist four components of a lift.
- (d) Name any four materials used for a fire resistant building.
- (e) Write any two provisions for evacuation.
- (f) Define gray water and reclaimed water.
- (g) Define Solar water heating system
 - (i) active
 - (ii) passive

2. Attempt any THREE of the following :

4 × 3 = 12

- (a) Write classification of building as per NBC.
- (b) Enlist types of plumbing fixtures.
- (c) Explain piped gas supply system & state its advantages.
- (d) Differentiate between lift and escalators.



3. Attempt any THREE of the following :**4 × 3 = 12**

- (a) Explain design steps of ramp as per Indian design standard.
- (b) Write design steps for calculation of space requirement of lifts.
- (c) Explain special features provided for physically handicapped and elderly persons for construction of ramps.
- (d) Enlist the Necessity of vertical communication in building.

4. Attempt any THREE of the following :**4 × 3 = 12**

- (a) Explain the importance of fire safety system.
- (b) Write salient features of Maharashtra Fire Prevention and Life Safety Act, 2006.
- (c) Enlist four causes of fire in building and four preventive measures taken for fire protection in multistoreyed building.
- (d) Enlist the properties of fire resisting material.
- (e) List all fire safety equipment and systems.

5. Attempt any TWO of the following :**6 × 2 = 12**

- (a) Explain P.M. Surya Ghar : Muft bijli yojana and specify its benefits.
- (b) Explain rain water harvesting and state its advantages.
- (c) State and explain design principles for solar water heating system.

6. Attempt any TWO of the following :**6 × 2 = 12**

- (a) Explain smart Gates and list its type.
- (b) Discuss the significance of HVAC system in a building.
- (c)
 - (i) State factors affecting the brightness of a room.
 - (ii) State the need for light control systems and name any two types of light control.
