

22604

22232

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) Write any two necessities of Building Services.
- (b) List any four responsibilities of Building Service Engineer.
- (c) Write uses of lifts in buildings used for hospitals.
- (d) Define ramp and escalators.
- (e) Define fire protection system.
- (f) Define building management services.
- (g) Name any four fire extinguishing system.



- 2. Attempt any THREE of the following : 12**
- (a) Explain two component parts of escalators.
 - (b) Explain requirements of fire protection system in buildings as per National Building Code.
 - (c) Name different types of traps and draw their sketches.
 - (d) Explain procedure for carrying out fire safety inspections of existing buildings.
- 3. Attempt any THREE of the following : 12**
- (a) Explain two pipe system of drainage system.
 - (b) Write four uses of RWH.
 - (c) Explain two component parts of RWH.
 - (d) Draw cross-section of rapid sand filter.
- 4. Attempt any THREE of the following : 12**
- (a) Write four types of acoustic materials.
 - (b) Explain the significance of providing air-conditioning system in the given type of building.
 - (c) Define ventilation and explain why mechanical ventilation is necessary in modern building.
 - (d) Explain two component parts of solar water heating.
 - (e) Explain two factors affecting selection of artificial lighting.
- 5. Attempt any TWO of the following : 12**
- (a) State any six design considerations required for ramp.
 - (b) Explain how to install a fire detection and extinguishing system in a building of G + 7.
 - (c) Explain design consideration for ramp.

6. Attempt any TWO of the following :**12**

- (a) Recommended the suitability of following pipes in plumbing :
- (i) G.I. Pipe
 - (ii) Copper Pipes
 - (iii) PVC pipes
- (b) Write four uses of solar water heating system.
- (c) Recommended the suitability of following valves :
- (i) Sluice valve
 - (ii) Air valve
 - (iii) Reflux valve
 - (iv) Scour valve
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