

22604

12425

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) Preferably, write the answers in sequential order.

Marks

1. Attempt any FIVE of the following :

10

- (a) State two characteristics of BMS required for given type of buildings.
- (b) Write the purpose of (i) Escalators (ii) Lifts.
- (c) List four component parts of lift.
- (d) Write two necessities of ramp.
- (e) List out two fire resisting materials with its properties.
- (f) Enlist the importance of Building services.
- (g) Give name of any four fire protection systems used in multi-storeyed building.

2. Attempt any THREE of the following :

12

- (a) Explain any two component parts of escalators.
- (b) Explain in details fire resistant construction.
- (c) Enlist any four fixtures used in plumbing with its neat sketch.
- (d) Mention four causes of fire in building and four preventive measures taken for fire protection in multi-storeyed building.



- 3. Attempt any THREE of the following : 12**
- (a) Explain and draw sketch of any two types of traps.
 - (b) Enlist the advantages of Rain Water Harvesting (RWH) in building.
 - (c) Explain the concept of Solar Water Heating (SWH) and explain its three component parts.
 - (d) Explain Rain Water Harvesting (RWH) by considering following points :
 - (i) Planning (ii) Designing (iii) Construction (iv) Maintenance
- 4. Attempt any THREE of the following : 12**
- (a) Compare (i) Natural and artificial lighting (ii) Manual switch and remote switch (any two points each).
 - (b) Explain four guidelines for lamp selection as per room size.
 - (c) Define building acoustic and write three objectives of acoustics.
 - (d) Draw a labelled sketch showing any four components of RWH system.
 - (e) Define ventilation and write necessities of ventilation in building.
- 5. Attempt any TWO of the following : 12**
- (a) Explain any three design provisions for basic size calculation of space enclosure to accommodate escalator services.
 - (b) Explain any three NBC requirements of fire protection system for the given type of multi-storeyed building.
 - (c) Explain following in detail :
 - (i) Gradient calculations for ramp (ii) Safety measures of escalators
- 6. Attempt any TWO of the following : 12**
- (a) Write any six governing principles of laying the plumbing services in the given type of buildings.
 - (b) Explain step by step (any six) procedure of estimating rain water harvesting potential for any flat R.C.C. slab house. Assume necessary data required.
 - (c) Compare with any four points one pipe system and two pipe system and draw the labelled sketches of both.
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