



- Notes :
1. All questions carry marks as indicated.
 2. Solve Question 1 OR Questions No. 2.
 3. Solve Question 3 OR Questions No. 4.
 4. Solve Question 5 OR Questions No. 6.
 5. Solve Question 7 OR Questions No. 8.
 6. Solve Question 9 OR Questions No. 10.
 7. Solve Question 11 OR Questions No. 12.
 8. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Enlist different methods of plumbing. Discuss in detail. 7
- b) Write short note on:
- i) Water closet 6
 - ii) Pedestal wash basin

OR

2. a) Discuss the system of discharge disposal preferred in the case of Municipal under ground sewage system. 7
- b) Explain different system of drainage for removing discharge from the residential building. 6
3. a) Write in detail the necessity of acoustic treatment in building. 7
- b) Discuss the selection of acoustic materials. 7

OR

4. Enumerate various applicable standards for the acoustic design. Discuss the acoustic design approach. 14
5. a) Discuss requirement & types of electricity distribution in multi-storeyed building. 8
- b) Explain how the building is protected against the lightning ? Enlist various fixtures. 6

OR

6. Write note on **any three**. 14
- i) Need of earthing.
 - ii) Difference between fuse & MCB.
 - iii) Layout of electrical installation.
 - iv) Different types of wiring.
 - v) Electric substation.

7. Write the importance of ventilation in a building. What provisions are made for fresh air movement. **13**

OR

8. Write detailed note on **any three**. **13**

- i) Convective cooling.
- ii) Physiological cooling.
- iii) Gross Ventilation.
- iv) Air conditioning system.
- v) Refrigeration effect.

9. Discuss the installation of Lift. What are the different security & alarm system used in lifts. **13**

OR

10. Explain the process of escalator installation. Discuss the significance of escalator for physically handicapped people. **13**

11. What planning considerations are to be made for the fire safety in a building ? Discuss various non-combustible material used. **13**

OR

12. Write detailed note on **any three**. **13**

- i) Means of Escapes.
- ii) Fire Alarm System.
- iii) Fire fighting System.
- iv) Heat & Smoke detectors.
- v) Automatic Sprinkler.
