

B.Arch. Sixth Semester (Old)
Structure – VI : 6 SA 3

P. Pages : 1

Time : Three Hours



AV - 3244

Max. Marks : 40

- Notes :
1. Due credit will be given to neatness and adequate dimensions.
 2. Assume suitable data wherever necessary.
 3. Illustrate your answer necessary with the help of neat sketches.
 4. I.S.I. Hand book for structural Steel section, I.S. Code 800/1962 or 1964, I.S. 456 (Revised) I.S. 875 may be consulted.

1. Design RCC column footing with the following data: 13
- i) Size of column = 500mm × 500mm .
 - ii) Load on column = 1200kN
 - iii) Safe bearing capacity of soil = $200 \frac{\text{kN}}{\text{m}^2}$ Use M20 grade concrete and Fe415 steel.

OR

2. Design a simply supported T-beam with following data. 13
- Span = 10m; spacing of beam = 2.5mc/c slab thickness = 100mm; Imposed Load = $\frac{5 \text{ kN}}{\text{m}^2}$
- Use M20 grade of concrete and Fe415 steel.

3. Design a vertical wall of RCC cylindrical water tank resting on the ground. The joint between Floor and wall of the tank is to be rigid. Capacity of tank is 4,00,000 liters. Use M20 and Fe415 steel. 14

OR

4. Design a vertical wall of RCC cylindrical water tank of capacity 4,50,000 liters resting on the ground. The joint between Floor and Wall of the tank is to be flexible. Use M20 and Fe415 steel. 14

5. Explain significance seismic zoning of India with suitable sketch and examples. 13

OR

6. Explain the following terms. 13
- | | |
|--------------|-----------------|
| a) Strength | b) Stiffness |
| c) Ductility | d) Soft Storey. |
