



Question Bank

Lecture -6-

Structural Elements - Horizontal Systems

1. Define a slab and give one example of where it is used in a building.
2. Compare a primary beam and a secondary beam.
3. Define a floor system and list two components included in it.
4. What is the difference between a flat roof and a sloped roof?
5. Define a ceiling and describe one reason interior designers use false ceilings.
6. Compare structural floor and raised floor systems.
7. What is the load transfer path? List the elements in correct order.
8. Define a lintel beam and state where it is located.
9. Compare ceramic tile flooring and carpet flooring in terms of load and comfort.
10. Explain why drilling into beams is dangerous.
11. A room is 4 m × 5 m, and the design load is 2 kN/m². Find the total load on the slab.
12. A slab transfers 36 kN to 3 beams. How much load does each beam carry?
13. Floor capacity = 3 kN/m². Heavy furniture adds 1.2 kN/m². How much capacity remains?
14. A gypsum board ceiling weighs 8 kg/m² and covers 25 m². What is the total ceiling weight?
15. A room has 30 ceiling tiles, and each tile is 0.6 m × 0.6 m. What is the total ceiling area covered?
16. A flat roof slab is 0.12 m thick and concrete density is 2400 kg/m³. Weight per m² =?
17. A bathtub weighs 400 kg and sits on an area of 2 m². Load (kN/m²) =? (Use 100 kg ≈ 1 kN)
18. Beam spacing in a hall is 2.5 m and hall length is 10 m. How many spaces and beams are needed?
19. Clear ceiling height: Floor-to-floor = 3.2 m, slab thickness = 0.15 m, drop ceiling = 0.25 m. Clear height =?
20. A room is 3 m × 6 m. Is the slab one-way or two-way? (If long side ≥ 2 × short side → one-way)