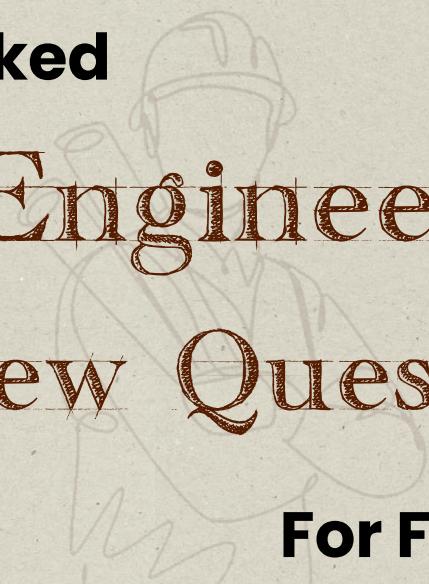


50 Most Asked
Civil Engineering
Interview Questions
For Freshers



The Civil Tales

- From the Desk of **The Civil Tales**

by D. Sourish

Engineer | Educator | Encourager



50 Interview Questions for Civil Engineering Freshers

1. What is the difference between RCC and PCC?

Answer:

RCC (Reinforced Cement Concrete) contains reinforcement (steel bars) to resist tension, while PCC (Plain Cement Concrete) is made without reinforcement and is used for flooring and levelling.

2. What is workability of concrete?

Answer:

Workability refers to the ease with which concrete can be mixed, placed, compacted, and finished without segregation.

3. What is curing?

Answer:

Curing is the process of maintaining adequate moisture, temperature, and time to allow the concrete to gain strength and durability.

4. What is the minimum curing period as per IS 456?

Answer:

The minimum curing period is 7 days for ordinary Portland cement concrete and 10 days for high-strength concrete in hot weather conditions.

5. Define compressive strength.

Answer:

Compressive strength is the ability of a material (like concrete) to withstand axial loading without breaking, usually measured in megapascals (MPa).



6. What is slump test?

Answer:

A slump test measures the consistency or workability of fresh concrete by determining the vertical drop of a conical Mold of concrete when the Mold is removed.

7. What is the purpose of a foundation?

Answer:

The foundation is designed to transfer the load of the structure to the ground. It ensures stability by preventing settlement or tilting.

8. What is the purpose of a retaining wall?

Answer:

A retaining wall is designed to hold back soil or rock from a slope, preventing erosion and maintaining structural integrity.

9. What is a concrete mix design?

Answer:

It is the process of selecting the appropriate proportions of materials (cement, aggregates, water) to achieve desired concrete strength, workability, and durability.

10. What is the difference between nominal mix and design mix concrete?

Answer:

Nominal mix is based on fixed proportions of ingredients (1:2:4, for example), while design mix is specifically calculated for each project to meet the strength requirements.



11. What is the water-cement ratio?

Answer:

The water-cement ratio is the ratio of the weight of water to the weight of cement in the concrete mix. It determines the strength and durability of concrete.

12. What is the difference between one-way slab and two-way slab?

Answer:

A one-way slab is supported by beams on two opposite sides, whereas a two-way slab is supported by beams on all four sides, carrying load in both directions.

13. Explain the term "M20 grade concrete."

Answer:

M20 is a mix design grade of concrete, with a compressive strength of 20 MPa (megapascals) after 28 days of curing.

14. What is meant by reinforcement in concrete?

Answer:

Reinforcement in concrete refers to the inclusion of steel bars (rebars) in concrete to resist tensile stresses, as concrete is strong in compression but weak in tension.

15. What is the importance of the cube test in concrete?

Answer:

The cube test determines the compressive strength of concrete, which is critical to ensuring the concrete meets the required strength and performance standards.



16. What is a structural drawing?

Answer:

Structural drawings are detailed plans and elevations that provide information about the design, dimensions, and materials to be used in the construction of a structure.

17. What is the difference between a beam and a column?

Answer:

A beam is a horizontal structural element that resists loads applied perpendicular to its length, while a column is a vertical element that carries axial loads.

18. Explain the concept of "dead load" and "live load."

Answer:

Dead load is the permanent load on a structure, such as the weight of the building materials, while live load refers to the transient loads, such as people, furniture, or snow.

19. What is the purpose of a survey in construction?

Answer:

A survey is performed to establish reference points and boundaries and to ensure proper placement of structures based on design specifications.

20. What is a plinth beam?

Answer:

A plinth beam is a horizontal beam provided at the plinth level, which helps in transferring loads from the walls above to the foundation below.



21. What is the difference between coarse aggregate and fine aggregate?

Answer:

Coarse aggregate consists of larger particles (typically 4.75 mm to 80 mm), while fine aggregate consists of smaller particles (less than 4.75 mm).

22. What is meant by "prestressed concrete"?

Answer:

Prestressed concrete is a type of concrete in which internal stresses are introduced to counteract the effects of external loads, making it stronger and more durable.

23. What is the role of a site engineer?

Answer:

A site engineer is responsible for overseeing construction activities, ensuring work complies with design plans, quality standards, and safety regulations.

24. What is the difference between a shear wall and a retaining wall?

Answer:

A shear wall is a vertical wall designed to resist lateral forces (such as wind or earthquake), while a retaining wall holds back soil or water and prevents erosion.

25. What is a cantilever beam?

Answer:

A cantilever beam is a beam that is fixed at one end and free at the other, designed to carry loads applied to the free end.



26. What is segregation in concrete?

Answer:

Segregation is the separation of coarse aggregates from the cement paste in concrete, leading to non-uniform composition and weak spots.

27. What is bleeding in concrete?

Answer:

Bleeding is the emergence of excess water on the surface of freshly placed concrete due to settlement of solid particles.

28. What is honeycombing in concrete?

Answer:

Honeycombing refers to voids left in concrete due to improper compaction or mix, making the surface rough and porous.

29. What are the different types of foundations?

Answer:

Common types include shallow foundation (isolated footing, combined footing, raft) and deep foundation (pile, pier, caisson).

30. What is the purpose of a column starter?

Answer:

Column starters are short vertical extensions provided during footing casting to ensure proper vertical alignment of columns above.

31. What is lap length in reinforcement?

Answer:

Lap length is the minimum overlap required between two reinforcing bars to



safely transfer stress. It depends on bar diameter and type of stress (tension or compression).

32. What is the cover block and its function?

Answer:

A cover block maintains the required spacing between the rebar and formwork to ensure concrete covers reinforcement for durability and corrosion protection.

33. What is the purpose of stirrups in beams?

Answer:

Stirrups (or shear reinforcement) resist shear and diagonal tension stresses in beams, preventing shear failure.

34. What is the standard size of a concrete cube for testing?

Answer:

The standard cube size is 150 mm × 150 mm × 150 mm.

35. What is a camber in road construction?

Answer:

Camber is the slope provided to the road surface to facilitate drainage of rainwater.

36. What is a soft story in buildings?

Answer:

A soft story is a level of a building that has significantly less stiffness (e.g., parking floors) compared to stories above it, making it vulnerable during earthquakes.



37. What is a bar bending schedule (BBS)?

Answer:

BBS is a detailed list of reinforcement bars, including type, shape, length, quantity, and bending dimensions used for estimation and cutting.

38. What are the components of a staircase?

Answer:

Tread, riser, landing, flight, baluster, handrail, and nosing.

39. What is a pile foundation?

Answer:

A pile foundation is a deep foundation that transfers building loads to deep soil layers with sufficient bearing capacity.

40. What is meant by shuttering and Centering?

Answer:

Shuttering refers to the formwork that shapes wet concrete. Centering is the support system that holds horizontal elements like slabs and beams.

41. What is the full form of NDT?

Answer:

Non-Destructive Testing – used to evaluate the strength and quality of materials without causing damage (e.g., rebound hammer test, ultrasonic pulse velocity).

42. What is the standard density of concrete?

Answer:

Around 2400 kg/m³ for normal weight concrete.



43. What is grouting?

Answer:

Grouting involves injecting a fluid material (cement or chemical) into cracks, voids, or joints to strengthen the structure or prevent leakage.

44. What is the difference between IS code and IRC code?

Answer:

IS codes are Indian Standards for general construction practices. IRC codes are Indian Road Congress standards specifically for highway engineering.

45. What is the function of expansion joints?

Answer:

Expansion joints allow movement caused by thermal expansion and contraction, preventing cracks in long concrete structures like bridges or pavements.

46. What is modular ratio?

Answer:

It is the ratio of modulus of elasticity of steel to that of concrete. It helps in transforming steel sections into equivalent concrete for analysis.

47. What is the typical slump value for M20 concrete?

Answer:

For normal construction, the slump is 75–100 mm.

48. What is the difference between development length and lap length?

Answer:

Development length is the length of bar required to develop full bond



strength; lap length is the length required to overlap two bars to transfer stress safely.

49. What are the steps in the concreting process?

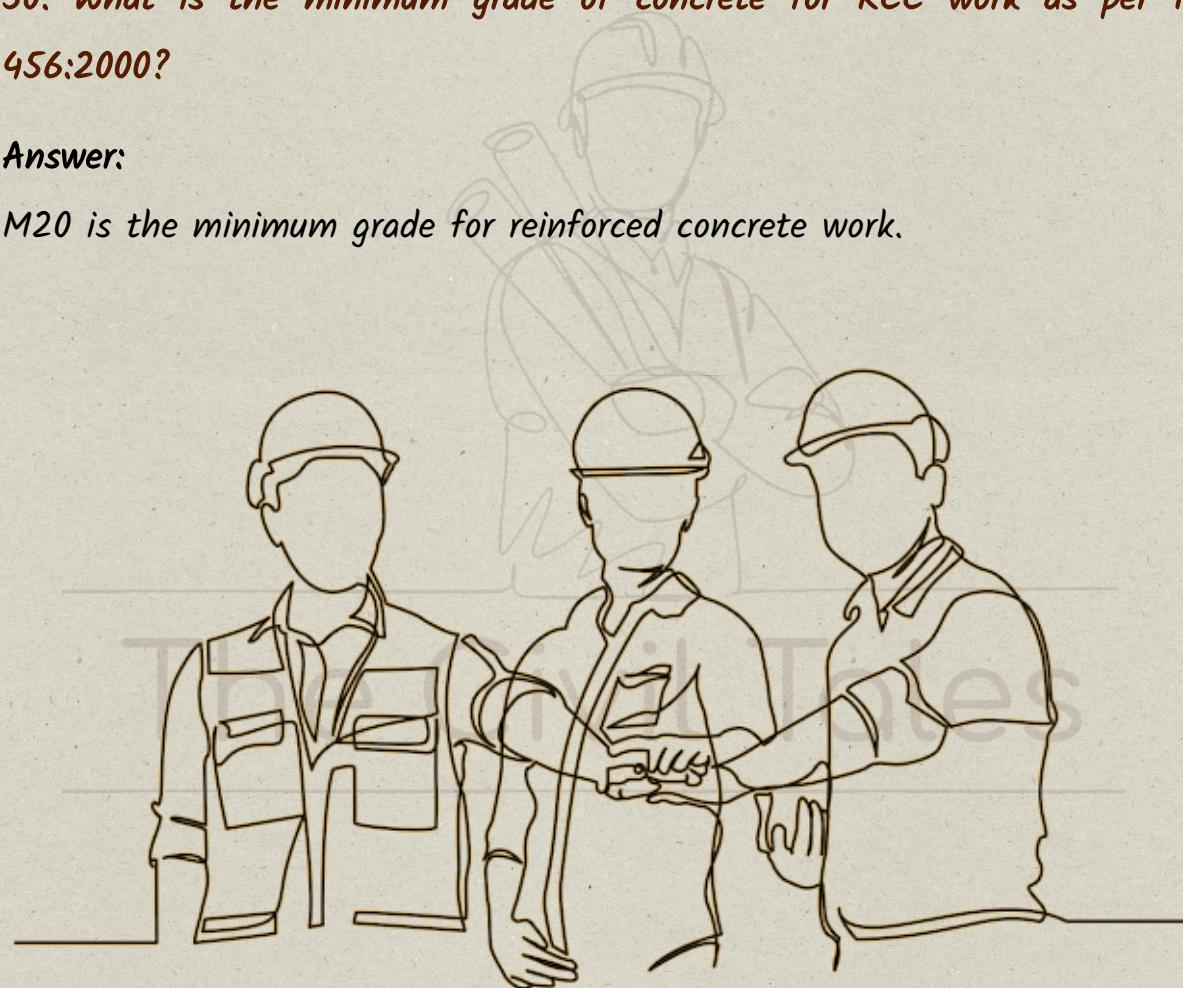
Answer:

Batching → Mixing → Transportation → Placing → Compaction → Finishing
→ Curing.

50. What is the minimum grade of concrete for RCC work as per IS 456:2000?

Answer:

M20 is the minimum grade for reinforced concrete work.



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