

# Interview Questions

HOME Interview Questions MCQs \*LAB VIVA CLASS NOTES SEMINAR TOPICS  
ONLINE TEST GATE CAT Internship ABOUT US Privacy Policy

[Home](#) » [CONCRETE TECHNOLOGY and Design of Concrete Structures Questions](#) » **300+ TOP CONCRETE TECHNOLOGY & Design of Concrete Structures MCQs**

## 300+ TOP CONCRETE TECHNOLOGY & Design of Concrete Structures MCQs

Search  
Here for  
Skill

Scalr  
Bre

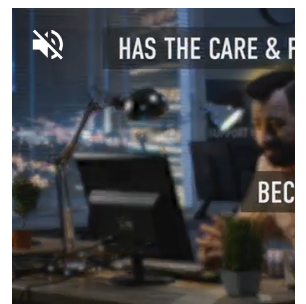
Scalr

10x-60x Faster

Ingest all the data you

In modern stacks, data is  
exponentially growing with micro  
& the cloud

Scalr



Download

### Concrete Technology and Design of Concrete Structures Questions :-

**1. To determine the modulus of rupture, the size of test specimen used is**

- a) 150 x150 x500 mm
- b) 100 x100 x700 mm
- c) 150 x150 x700 mm
- d) 100 x100 x500 mm

Ans: c

**2. The property of fresh concrete, in which the water in the mix tends to rise to the surface while placing and**

**compacting, is called**

- a) segregation
- b) bleeding
- c) bulking
- d) creep

Ans: b

**3. Select the incorrect statement**

- a) Lean mixes bleed more as compared to rich ones.
- b) Bleeding can be minimized by adding pozzuolana finer aggregate.
- c) Bleeding can be increased by addition 'of calcium chloride.
- d) none of the above

Ans: d



Cases, Protectors & More  
Mobile Mate

**4. The property of the ingredients to separate from each other while placing the concrete is called**

- a) segregation
- b) compaction
- c) shrinkage
- d) bulking

Ans: a

**5. Workability of concrete is directly proportional to**

- a) aggregate cement ratio
- b) time of transit
- c) grading of the aggregate
- d) all of above

Ans: c

**6. Workability of concrete is inversely proportional to**

- a) time of transit
- b) water-cement ratio
- c) the air in the mix
- d) size of aggregate

Ans: a

**7. Approximate value of shrinkage strain in concrete, is**

- a) 0.003
- b) 0.0003
- c) 0.00003
- d) 0.03

Ans: b

**8. Air entrainment in the concrete increases**

- a) workability
- b) strength
- c) the effects of temperature variations
- d) the unit weight

Ans: a

**9. The relation between modulus of rupture  $f_{cr}$ , splitting strength  $f_{cs}$  and direct tensile strength  $f_{ct}$  is given by**

- a)  $f_{cr} - f_{cs} = f_{ct}$
- b)  $f_{cr} > f_{cs} > f_{ct}$
- c)  $f_{cr} < f_{cs} < f_{ct}$
- d)  $f_{cs} > f_{cr} > f_{ct}$

Ans: b

Cases, Protectors & More

Mobile Mate

**10. The approximate value of the ratio between direct tensile strength and flexural strength is**

- a) 0.33
- b) 0.5
- c) 0.75
- d) 1.0

Ans: b

11. Strength of concrete increases with

- a) increase in water-cement ratio
- b) increase in fineness of cement
- c) decrease in curing time
- d) decrease in size of aggregate

Ans: b

12. The relation between modulus of rupture  $f_{cr}$  and characteristic strength of concrete  $f_{ck}$  is given by

- a)  $f_{cr} = 0.35\sqrt{f_{ck}}$
- b)  $f_{cr} = 0.57\sqrt{f_{ck}}$
- c)  $f_{cr} = 0.7\sqrt{f_{ck}}$
- d)  $f_{cr} = 1.2\sqrt{f_{ck}}$

where  $f_{cr}$  and  $f_{ck}$  are in  $N/mm^2$

Ans: c

13. The compressive strength of 100 mm cube as compared to 150 mm cube is always

- a) less
- b) more
- c) equal
- d) none of the above

Ans: b

14. According to IS : 456 -1978, the modulus of elasticity of concrete  $E_c$  (in  $N/mm^2$ ) can be taken as

- a)  $E_c = 5700$
- b)  $E_c = 570$
- c)  $E_c = 5700\sqrt{f_{ck}}$
- d)  $E_c = 5700\sqrt{f_{ck}}$  where  $f_{ck}$   $N/mm^2 = 700$  is the characteristic strength in

Ans: a

15. Increase in the moisture content in concrete

- a) reduces the strength
- b) increases the strength
- c) does not change the strength
- d) all of the above

Ans: a

16. As compared to ordinary portland cement, use of pozzuolanic cement

- a) reduces workability
- b) increases bleeding
- c) increases shrinkage
- d) increases strength

Ans: c

17. Admixtures which cause early setting, and hardening of concrete are called

- a) workability admixtures
- b) accelerators
- c) retarders
- d) air entraining agents

Ans: b

18. The most commonly used admixture which prolongs the setting and hardening time is

- a) gypsum
- b) calcium chloride
- c) sodium silicate
- d) all of the above

Ans: a

19. The percentage of voids in cement is approximately

- a) 25%
- b) 40%
- c) 60%
- d) 80%

Ans: b

20. The strength of concrete after one year as compared to 28 days strength is about

- a) 10 to 15% more
- b) 15 to 20% more
- c) 20 to 25% more
- d) 25 to 50% more

Ans: c

21. As compared to ordinary portland cement, high alumina cement has

- a) higher initial setting time but lower final setting time
- b) lower initial setting time but higher final setting time
- c) higher initial and final setting times
- d) lower initial and final setting times

Ans: a

22. Modulus of rupture of concrete is a measure of

- a) flexural tensile strength
- b) direct tensile strength
- c) compressive strength
- d) split tensile strength

Ans: a

23. In order to obtain the best workability of concrete, the preferred shape of aggregate is

- a) rounded
- b) elongated
- c) angular
- d) all of the above

Ans: a

24. The effect of adding calcium chloride in concrete is

- i) to increase shrinkage
- ii) to decrease shrinkage

iii) to increase setting time

iv) to decrease setting time

The correct answer is

a) (i) and (iii)

b) (i) and (iv)

c) (ii) and (iii)

d) (ii) and (iv)

Ans: b

25. Bulking of sand is maximum if moisture content is about

a) 2 %

b) 4%

c) 6%

d) 10%

Ans: b

26. Finer grinding of cement

a) affects only the early development of strength

b) affects only the ultimate strength

c) both (a) and (b)

d) does not affect the strength

Ans: a

27. Poisson's ratio for concrete

a) remains constant

b) increases with richer mixes

c) decreases with richer mixes

d) none of the above

Ans: b

28. 1% of voids in a concrete mix would reduce its strength by about

a) 5%

b) 10 %

c) 15%

d) 20%

Ans: a

29. The fineness modulus of fine aggregate is in the range of

a) 2.0 to 3.5

b) 3.5 to 5.0

c) 5.0 to 7.0

d) 6.0 to 8.5

Ans: a

30. The factor of safety for

- a) steel and concrete are same
- b) steel is lower than that for concrete
- c) steel is higher than that for concrete
- d) none of the above

Ans: b

31. Examine the following statements :

- i) Factor of safety for steel should be based on its yield stress,
- ii) Factor of safety for steel should be based on its ultimate stress,
- iii) Factor of safety for concrete should be based on its yield stress,
- iv) Factor of safety for concrete should be based on its ultimate stress.

The correct statements are

- a) (i) and (iii)
- b) (i) and (iv)
- c) (ii) and (iii)
- d) (ii) and (iv)

Ans: b

32. For a reinforced concrete section, the shape of shear stress diagram is

- a) wholly parabolic
- b) wholly rectangular
- c) parabolic above neutral axis and rectangular below neutral axis
- d) rectangular above neutral axis and parabolic below neutral axis

Ans: c

33. Diagonal tension in a beam

- a) is maximum at neutral axis
- b) decreases below the neutral axis and increases above the neutral axis
- c) increases below the neutral axis and decreases above the neutral axis
- d) remains same

Ans: c



34. If a beam fails in bond, then its bond strength can be increased most economi-cally by

- a) increasing the depth of beam
- b) using thinner bars but more in number
- c) using thicker bars but less in number
- d) providing vertical stirrups

Ans: b

35. If nominal shear stress  $t_v$  exceeds the design shear strength of concrete  $x_c$ , the nominal shear reinforcement as per IS : 456-1978 shall be provided for carrying a shear stress equal to

- a)  $x_v$
- b)  $x_c$
- c)  $x_v - T_c$
- d)  $T_v + T_c$

Ans: c

36. If the depth of actual neutral axis in a beam is more than the depth of critical neutral axis, then the beam is called

- a) balanced beam
- b) under-reinforced beam
- c) over-reinforced beam
- d) none of the above

Ans: c

37. If the depth of neutral axis for a singly reinforced rectangular section is represented by  $k_d$  in working stress design, then the value of  $k$  for balanced section

- a) depends on  $a_s$ , only
- b) depends on  $a_c b_c$  only
- c) depends on both  $a_s$  and  $a_c b_c$
- d) is independant of both  $a_s$  and  $a_c b_c$  where  $d$  is the effective depth,  $a_s$  is per-missible stress in steel in tension and  $a_c b_c$  is permissible stress in concrete in bend-ing compression.

Ans: a

38. If the permissible stress in steel in tension is  $140 \text{ N/mm}^2$ , then the depth of neutral axis for a singly reinforced rectangular balanced section will be

- a)  $0.35 d$
- b)  $0.40 d$

- c) 0.45 d
- d) dependent on grade of concrete also

Ans: b

39. Modulus of elasticity of steel as per IS : 456-1978 shall be taken as

- a) 20 kN/cm<sup>2</sup>
- b) 200 kN/cm<sup>2</sup>
- c) 200kN/mm<sup>2</sup>
- d) 2x10<sup>6</sup>N/cm<sup>2</sup>

Ans: c

40. Minimum grade of concrete to be used in reinforced concrete as per IS:456-1978 is

- a) M15
- b) M20
- c) M 10
- d) M25

Ans: a

41. For concreting of heavily reinforced sections without vibration, the workability of concrete expressed as compacting factor should be

- a) 0.75-0.80
- b) 0.80-0.85
- c) 0.85 – 0.92
- d) above 0.92

Ans: d

42. Maximum quantity of water needed per 50 kg of cement for M 15 grade of concrete is

- a) 28 liters
- b) 30 liters
- c) 32 liters
- d) 34 liters

Ans: c

43. In case of hand mixing of concrete, the extra cement to be added is

- a) 5%
- b) 10%

- c) 15%
  - d) 20%
- Ans: b

44. For walls, columns and vertical faces of all structural members, the form work is generally removed after

- a) 24 to 48 hours
- b) 3 days
- c) 7 days
- d) 14 days

Ans: a

45. The individual variation between test strength of sample should not be more than

- a)  $\pm 5\%$  of average
- b)  $\pm 10\%$  of average
- c)  $\pm 15\%$  of average
- d)  $\pm 20\%$  of average

Ans: c

46. One of the criteria for the effective width of flange of T-beam is

$$b_f = b_w + 6D_f$$

In above formula,  $l_0$  signifies

- a) effective span of T-beam
- b) distance between points of zero moments in the beam
- c) distance between points of maximum moments in the beam
- d) clear span of the T-beam

Ans: b

47. For a cantilever of effective depth of 0.5m, the maximum span to satisfy vertical deflection limit is

- a) 3.5 m
- b) 4 m
- c) 4.5 m
- d) 5 m

Ans: a

48. For a simply supported beam of span 15m, the minimum effective depth to satisfy the vertical deflection limits should be

- a) 600 mm
- b) 750 mm

- c) 900 mm
- d) more than 1 m

Ans: b

49. For a continuous slab of 3 m x 3.5 m size, the minimum overall depth of slab to satisfy vertical deflection limits is

- a) 50 mm
- b) 75 mm
- c) 100 mm
- d) 120 mm

Ans: b

50. According to IS : 456-1978, the flexural strength of concrete is

- a) directly proportional to compressive strength
- b) inversely proportional to compressive strength
- c) directly proportional to square root of compressive strength
- d) inversely proportional to square root of compressive strength

Ans: c

51. According to IS : 456-1978, the column or the strut is the member whose effective length is greater than

- a) the least lateral dimension
- b) 2 times the least lateral dimension
- c) 3 times the least lateral dimension
- d) 4 times the least lateral dimension

Ans: c

52. According to IS : 456-1978, minimum slenderness ratio for a short column is

- a) less than 12
- b) less than 18
- c) between 18 and 24
- d) more than 24

Ans: a

53. Lap length in compression shall not be less than

- a)  $15d$
- b)  $20d$
- c)  $24d$
- d)  $30d$

where (j) is diameter of bar

Ans: c

54. The minimum cover in a slab should neither be less than the diameter of bar nor less than

- a) 10 mm
- b) 15 mm
- c) 25 mm
- d) 13 mm

Ans: b

55. For a longitudinal reinforcing bar in a column, the minimum cover shall neither be less than the diameter of bar nor less than

- a) 15 mm
- b) 25 mm
- c) 30 mm
- d) 40 mm

Ans: d

56. The ratio of the diameter of reinforcing bars and the slab thickness is

- a) 1/4
- b) 1/5
- c) 1/6
- d) 1/8

Ans: d

57. According to IS: 456-1978, the maximum reinforcement in a column is

- a) 2 %
- b) 4%
- c) 6 %
- d) 8 %

Ans: c

58. The percentage of reinforcement in case of slabs, when high strength deformed bars are used is not less than

- a) 0.15
- b) 0.12
- c) 0.30

d) 1.00

Ans: b

59. Which of the following statements is incorrect ?

- a) Minimum cross sectional area of longitudinal reinforcement in a column is 0.8%.
- b) Spacing of longitudinal bars measured along the periphery of column should not exceed 300 mm.
- c) Reinforcing bars in a column should not be less than 12 mm in diameter.
- d) The number of longitudinal bars provided in a circular column should not be less than four.

Ans: d

60. Which of the following statements is incorrect ?

- a) Higher Vee-Bee time shows lower workability.
- b) Higher slump shows higher workability.
- c) Higher compacting factor shows higher workability.
- d) none of the above

Ans: d

61. Minimum pitch of transverse reinforcement in a column is

- a) the least lateral dimension of the member
- b) sixteen times the smallest diameter of longitudinal reinforcement bar to be tied
- c) forty-eight times the diameter of transverse reinforcement
- d) lesser of the above three values

Ans: d

62. Maximum distance between expansion joints in structures as per IS : 456 – 1978 is

- a) 20 m
- b) 30 m
- c) 45 m
- d) 60 m

Ans: c

63. A continuous beam is deemed to be a deep beam when the ratio of effective span to overall depth ( $l/D$ ) is less than

- a) 1.5

b) 2.0

c) 2.5

d) 3.0

Ans: c

64. Critical section for shear in case of flat slabs is at a distance of

a) effective depth of slab from periphery of column/drop panel

b)  $d/2$  from periphery of column/capital/ drop panel

c) at the drop panel of slab

d) at the periphery of column

Ans:b

65. Minimum thickness of load bearing RCC wall should be

a) 50 mm

b) 100 mm

c) 150 mm

d) 200 mm

Ans:b

66. If the storey height is equal to length of RCC wall, the percentage increase in strength is

a) 0

b) 10

c) 20

d) 30

Ans: b

67. In reinforced concrete footing on soil, the minimum thickness at edge should not be less than

a) 100 mm

b) 150 mm

c) 200 mm

d) 250 mm

Ans:b

68. The slab is designed as one way if the ratio of long span to short span is

a) less than 1

b) between 1 and 1.5

c) between 1.5 and 2

d) greater than 2

Ans: d

69. Ratio of permissible stress in direct compression and bending compression is

a) less than 1

b) between 1 and 1.5

c) between 1.5 and 2.0

d) greater than 2

Ans: a

70. A higher modular ratio shows

a) higher compressive strength of concrete

b) lower compressive strength of concrete

c) higher tensile strength of steel

d) lower tensile strength of steel

Ans: b

71. The average permissible stress in bond for plain bars in tension is

a) increased by 10% for bars in compression

b) increased by 25% for bars in compression

c) decreased by 10% for bars in compression

d) decreased by 25% for bars in compression

Ans: b

74. In working stress design, permissible bond stress in the case of deformed bars is more than that in plain bars by

a) 10%

b) 20%

c) 30%

d) 40%

Ans: d

75. The main reason for providing number of reinforcing bars at a support in a simply supported beam is to resist in that zone

a) compressive stress

b) shear stress

c) bond stress

d) tensile stress

Ans: c



76. Half of the main steel in a simply supported slab is bent up near the support at a distance of  $x$  from the center of slab bearing where  $x$  is equal to

- a)  $1/3$
- b)  $1/5$
- c)  $1/7$
- d)  $1/10$

where  $l$  is the span

Ans:c

77. When shear stress exceeds the permissible limit in a slab, then it is reduced by

- a) increasing the depth
- b) providing shear reinforcement
- c) using high strength steel
- d) using thinner bars but more in number

Ans: a

78. If the size of panel in a flat slab is 6m x 6m, then as per Indian Standard Code, the widths of column strip and middle strip are

- a) 3.0 m and 1.5 m
- b) 1.5 m and 3.0 m
- c) 3.0 m and 3.0 m
- d) 1.5 m and 1.5 m

Ans:c

79. For a slab supported on its four edges with corners held down and loaded uniformly, the Marcus correction factor to the moments obtained by Grashoff Rankine's theory

- a) is always less than 1
- b) is always greater than 1
- c) can be more than 1
- d) can be less than 1

Ans: a

80. The permissible diagonal tensile stress in reinforced brick work is

- a) about  $0.1 \text{ N/mm}^2$
- b) zero
- c)  $0.3 \text{ N/mm}^2$  to  $0.7 \text{ N/mm}^2$

d) about 1.0 N/mm<sup>2</sup>

Ans: a

81. The limits of percentage  $p$  of the longitudinal reinforcement in a column is given by

- a) 0.15% to 2%
- b) 0.8% to 4%
- c) 0.8% to 6%
- d) 0.8% to 8%

Ans: c

82. The minimum diameter of longitudinal bars in a column is

- a) 6 mm
- b) 8 mm
- c) 12 mm
- d) 16 mm

Ans:c

83. The minimum cover to the ties or spirals should not be less than

- a) 15 mm
- b) 20 mm
- c) 25 mm
- d) 50mm

Ans: c

84. The load carrying capacity of a helically reinforced column as compared to that of a tied column is about

- a) 5% less
- b) 10% less
- c) 5% more
- d) 10% more

Ans:c

86. The diameter of ties in a column should be

- a) more than or equal to one fourth of diameter of main bar
- b) more than or equal to 5 mm
- c) more than 5 mm but less than one-fourth of diameter of main bar
- d) more than 5 mm and also more than one-fourth of diameter of main bar

Ans: d

87. Due to circumferential action of the spiral in a spirally reinforced column

- a) capacity of column is decreased
- b) ductility of column reduces
- c) capacity of column is decreased but ductility of column increases
- d) both the capacity of column and ductility of column increase

Ans: d

88. Maximum percentage reinforcement in case of slabs is limited to

- a) 2
- b) 4
- c) 6
- d) 8

Ans: b

89. Which of the following R.C. retaining walls is suitable for heights beyond 6m?

- a) L-shaped wall
- b) T-shaped wall
- c) counterfort type
- d) all of the above

Ans: c

90. For the design of retaining walls, the minimum factor of safety against overturning is taken as

- a) 1.5
- b) 2.0
- c) 2.5
- d) 3.0

Ans: b

### ***Concrete Technology and Design of Concrete Structures Objective Questions***

91. In counterfort type retaining walls

- i) the vertical slab is designed as a continuous slab
- ii) the heel slab is designed as a continuous slab
- iii) the vertical slab is designed as a cantilever
- iv) the heel slab is designed as a cantilever

The correct answer is

- a) (i) and (ii)

- b) (i) and (iv)
- c) (ii) and (iii)
- d) (iii) and (iv)

Ans: a

92. A T-shaped retaining wall mainly consists of

- a) one cantilever
- b) two cantilevers
- c) three cantilevers
- d) four cantilevers

Ans: c

93. In T-shaped R.C. retaining walls, the main reinforcement in the stem is provided on

- a) the front face in one direction
- b) the front face in both directions
- c) the inner face in one direction
- d) the inner face in both directions

Ans: c

94. The main reinforcement in the toe of a T-shaped R.C. retaining wall is provided on

- i) top face parallel to the wall
- ii) top face perpendicular to the wall
- iii) bottom face parallel to the wall
- iv) bottom face perpendicular to the wall

The correct answer is

- a) only (ii) is correct
- b) (i) and (ii) are correct
- c) (iii) and (iv) are correct
- d) only (iv) is correct

Ans: d

95. The temperature reinforcement in the vertical slab of a T-shaped R.C. retaining wall is

- a) not needed
- b) provided equally on inner and front faces
- c) provided more on inner face than on front face
- d) provided more on front face than on inner face

Ans: d

96. The main reinforcement in the heel of a T-shaped R.C. retaining wall is provided on

- a) top face perpendicular to wall
- b) bottom face perpendicular to wall
- c) both top and bottom faces perpendicular to wall
- d) none of the above

Ans: a

97. In a counterfort retaining wall, the main reinforcement is provided on the

- i) bottom face in front counterfort
- ii) inclined face in front counterfort
- iii) bottom face in back counterfort
- iv) inclined face in back counterfort

The correct answer is

- a) (i) and (ii),
- b) (ii) and (iii)
- c) (i) and (iv)
- d) (iii) and (iv)

Ans: c

98. In counterfort retaining walls, the main reinforcement in the stem at support is

- a) not provided
- b) provided only on inner face
- c) provided only on front face
- d) provided both on inner and front faces

Ans: b

99. In the design of a front counterfort in a counterfort retaining wall, the main reinforcement is provided on

- i) bottom face near counterfort
  - ii) top face near counterfort
  - iii) bottom face near centre of span
  - iv) top face near centre of span
- The correct answer is

- a) only (i)
- b) only (ii)
- c) both (i) and (iv)
- d) both (ii) and (iii)

Ans: c

100. In a counterfort retaining wall, the main reinforcement in the stem at mid span is provided on

- a) front face only
- b) inner face only
- c) both front face and inner face
- d) none of the above

Ans: a

101. The depth of footing for an isolated column is governed by

- i) maximum bending moment
  - ii) shear force
  - iii) punching shear
- The correct answer is
- a) only (i)
  - b) (i)and(ii)
  - c) (i) and (iii)
  - d) (i), (ii) and (iii)

Ans: d

102. If the foundations of all the columns of a structure are designed on the total live and dead load basis, then

- a) there will be no settlement of columns
- b) there will be no differential settlement
- c) the settlement of exterior columns will be more than interior columns
- d) the settlement of interior columns will be more than exterior columns

Ans:c

103. To minimise the effect of differential settlement, the area of a footing should be designed for

- a) dead load only
- b) dead load + live load
- c) dead load + fraction of live load
- d) live load + fraction of dead load

Ans: c

104. The critical section for finding maximum bending moment for footing under masonry wall is located

- a) at the middle of the wall
- b) at the edge of the wall
- c) halfway between the middle and edge of the wall

d) at a distance equal to effective depth of footing from the edge of the wall

Ans: c

105. In a pile of length  $l$ , the points of suspension from ends for lifting it are located at

a)  $0.207 l$

b)  $0.25 l$

c)  $0.293 l$

d)  $0.333 l$

Ans: a

106. During erection, the pile of length  $l$  is supported by a crane at a distance of

a)  $0.207 l$

b)  $0.293 l$

c)  $0.707 l$

d)  $0.793 l$

from the driving end of pile which rests on the ground

Ans: c

107. While designing the pile as a column, the end conditions are nearly

a) both ends hinged

b) both ends fixed

c) one end fixed and other end hinged

d) one end fixed and other end free

Ans: c

108. The recommended value of modular ratio for reinforced brick work is

a) 18

b) 30

c) 40

d) 58

Ans: c

109. According to ISI recommendations, the maximum depth of stress block for balanced section of a beam of effective depth  $d$  is

a)  $0.43 d$

b)  $0.55 d$

c) 0.68 d

d) 0.85 d

Ans: a

110. Assertion A : The load factor for live load is greater than that for dead load.

Reason R : The live loads are more uncertain than dead loads.

Select your answer based on the coding system given below :

a) Both A and R are true and R is the correct explanation of A.

b) Both A and R are true but R is not the correct explanation of A.

c) A is true but R is false.

d) A is false but R is true.

Ans: a

111. The centroid of compressive force, from the extreme compression fiber, in limit state design lies at a distance of

a) 0.367  $x_u$

b) 0.416  $x_u$

c) 0.446  $x_u$

d) 0.573  $x_u$

where  $x_u$  is the depth of neutral axis at the limit state of collapse

Ans: b

112. The design yield stress of steel according to IS: 456-1978 is

a) 0.37  $f_y$

b) 0.57  $f_y$

c) 0.67  $f_y$

d) 0.87  $f_y$

where  $f_y$  is the characteristic yield strength of steel

Ans: d

113. According to Whitney's theory, ultimate strain of concrete is assumed to be

a) 0.03%

b) 0.1%

c) 0.3%

d) 3%

Ans: c

114. According to Whitney's theory, depth of stress block for a balanced section of a concrete beam is limited to



- a) 0.43 d
- b) 0.537 d
- c) 0.68 d
- d) 0.85 d

where d is effective depth of beam[ES 2k]

Ans: b

115. The load factors for live load and dead load are taken respectively as

- a) 1.5 and 2.2
- b) 2.2 and 1.5
- c) 1.5 and 1.5
- d) 2.2 and 2.2

Ans:b

116. As per Whitney's theory, the maximum moment of resistance of the balanced section of a beam of width b and effective depth d is given by

- a)  $\frac{1}{4}ac_ybd^2$
- b)  $\frac{1}{2}ac_ybd^2$
- c)  $0.185ac_ybd^2$
- d)  $0.43ac_ybd^2$

where  $a_c y$  is the cylinder compressive strength of concrete

Ans: b

127. The effect of creep on modular ratio is

- a) to decrease it
- b) to increase it
- c) either to decrease or to increase it
- d) to keep it unchanged

Ans: b

128. Shrinkage of concrete depends upon

- i) humidity of atmosphere
  - ii) passage of time
  - iii) stress The correct answer is
- a) (i) and (ii)
  - b) (ii) and (iii)
  - c) only (iii)
  - d) All (i), (ii) and (iii)

Ans: a

129. Due to shrinkage stresses, a simply supported beam having reinforcement only at bottom tends to

- a) deflect downward
- b) deflect upward
- c) deflect downward or upward
- d) none of the above

Ans: a

130. In symmetrically reinforced sections, shrinkage stresses in concrete and steel are respectively

- a) compressive and tensile
- b) tensile and compressive
- c) both compressive
- d) both tensile

Ans: b

131. A beam curved in plan is designed for

- a) bending moment and shear
- b) bending moment and torsion
- c) shear and torsion
- d) bending moment, shear and torsion

Ans: d

132. In a spherical dome subjected to concentrated load at crown or uniformly distributed load, the meridional force is always

- a) zero
- b) tensile
- c) compressive
- d) tensile or compressive

Ans: c

133. Sinking of an intermediate support of a continuous beam

- i) reduces the negative moment at support
  - ii) increases the negative moment at support
  - iii) reduces the positive moment at center of span
  - iv) increases the positive moment at center of span
- The correct answer is

- a) (i) and (iii)
- b) (i) and (iv)
- c) (ii) and (iii)

d) (ii) and (iv)

Ans: b

134. The maximum value of hoop compression in a dome is given by

a)  $wR / 4d$

b)  $wR/2d$

c)  $wR/d$

d)  $2wR/d$

where,  $w$  = load per unit area of surface of dome  $R$  = radius of curvature  $d$  = thickness of dome

Ans: b

135. In a spherical dome the hoop stress due to a concentrated load at crown is

a) compressive everywhere

b) tensile everywhere

c) partly compressive and partly tensile

d) zero

Ans:b

136. In a ring beam subjected to uniformly distributed load

i) shear force at mid span is zero

ii) shear force at mid span is maximum

iii) torsion at mid span is zero

iv) torsion at mid span is maximum The correct answer is

a) (i) and (iii)

b) (i)and(iv)

c) (ii) and (iii)

d) (ii) and (iv)

Ans:a

137. In prestressed concrete

a) forces of tension and compression change but lever arm remains unchanged

b) forces of tension and compressions remain unchanged but lever arm changes with the moment

c) both forces of tension and compression as well as lever arm change

d) both forces of tension and compression as well as lever arm remain unchanged

Ans: b

138. The purpose of reinforcement in prestressed concrete is

- a) to provide adequate bond stress
- b) to resist tensile stresses
- c) to impart initial compressive stress in concrete
- d) all of the above

Ans: c

139. Normally prestressing wires are arranged in the

- a) upper part of the beam
- b) lower part of the beam
- c) center
- d) anywhere

Ans: b

140. Most common method of prestressing used for factory production is

- a) Long line method
- b) Freyssinet system
- c) Magnel-Blaton system
- d) Lee-Macall system

Ans:a

141. Select the incorrect statement

- a) The loss of prestress is more in pre-tensioning system than in post-tensioning system.
- b) Pretensioning system has greater certainty about its durability.
- c) For heavy loads and large spans in buildings or bridges, post-tensioning system is cheaper than pretensioning system
- d) none of the above

Ans:d

142. Which of the following losses of prestress occurs only in pretensioning and not in post-tensioning ?

- a) elastic shortening of concrete
- b) shrinkage of concrete
- c) creep of concrete
- d) loss due to friction

Ans: a

143. Prestress loss due to friction occurs

- a) only in post-tensioned beams

- b) only in pretensioned beams
- c) in both post-tensioned and preten-sioned beams
- d) none of the above

Ans:a

145. Which of the following has high tensile strength ?

- a) plain hot rolled wires
- b) cold drawn wires
- c) heat treated rolled wires
- d) all have same tensile strength

Ans: b

146. High carbon content in the steel causes

- a) decrease in tensile strength but increase in ductility
- b) increase in tensile strength but decrease in ductility
- c) decrease in both tensile strength and ductility
- d) increase in both tensile strength and ductility

Ans:b

147. Stress strain curve of high tensile steel

- a) has a definite yield point
- b) does not show definite yield point but yield point is defined by 0.1% proof stress
- c) does not show definite yield point but yield point is defined by 0.2% proof stress
- d) does not show definite yield point but yield point is defined by 2% proof stress,

Ans: c

148. Select the correct statement

- a) Elastic modulus of high tensile steel is nearly the same as that of mild steel.
- b) Elastic modulus of high tensile steel is more than that of mild steel.
- c) Carbon percentage in high carbon steel is less than that in mild steel.
- d) High tensile steel is cheaper than mild steel.

Ans:a

149. Cube strength of controlled concrete to be used for pretensioned and post-tensioned work respectively should not be

less than

- a) 35 MPa and 42 MPa
- b) 42 MPa and 35 MPa
- c) 42 MPa and 53 MPa
- d) 53 MPa and 42 MPa

Ans: b

150. Ultimate strength of cold drawn high steel wires

- a) increases with increase in diameter of bar
- b) decreases with increase in diameter of bar
- c) does not depend on diameter of bar
- d) none of the above

Ans: b

151. Prestressing losses in post-tensioned and pre-tensioned beams are respectively

- a) 15% and 20%
- b) 20% and 15%
- c) 15% and 15%
- d) 20% and 20%

152. In concrete, use of angular crushed aggregate in place of natural rounded gravel affects

- a) direct tensile strength
- b) split tensile strength
- c) flexural tensile strength
- d) compressive strength

153. Ratio of compressive strength to tensile strength of concrete

- a) increases with age
- b) decreases with age
- c) remains constant
- d) none of the above

154. According to Indian Standards, the grad-ing of fine aggregates is divided into

- a) two zones
- b) three zones
- c) four zones
- d) five zones

155. Assertion A : Lightweight concrete exhibits higher shrinkage than normal weight concrete.

Reason R : Modulus of elasticity of light-weight concrete is lower, than that of normal weight concrete. Select your answer according to the coding system given below :

- a) Both A and R are true and R is the correct explanation of A
- b) Both A and R are true but R is not the correct explanation of A
- c) A is true but R is false
- d) A is false but R is true

156. Endurance limit of mild steel is approximately equal to,

- a) 0.3
- b) 0.5
- c) 0.7
- d) 0.8

Endurance limit is defined as the maximum value of the ratio of maximum stress to short time static strength, below which no failure occurs.

157. With the increase in rate of loading during testing, compressive strength of concrete

- a) increases
- b) decreases
- c) remains same
- d) none of the above

158. For a given aggregate content, increasing the water-cement ratio in concrete

- a) increases shrinkage
- b) decreases shrinkage
- c) does not change shrinkage
- d) none of the above

159. Assertion A : The net loss of strength due to air entrainment of a richer mix is higher than that of a leaner mix. Reason R : Effect of air entrainment on improving workability is smaller in richer mix than in a leaner mix. Select your answer based on the coding system given below

- a) Both A and R are true and R is the correct explanation of A
- b) Both A and R are true but R is not the correct explanation of A

- c) A is true but R is false
- d) A is false but R is true

160. The bond strength between steel reinforcement and concrete is affected by i) steel properties ii) concrete properties iii) shrinkage of concrete The correct answer is

- a) (i) and (ii)
- b) (ii) and (iii)
- c) (i) and (iii)
- d) (i), (ii) and (iii)

161. The bond strength between steel and concrete is due to

- a) friction
- b) adhesion
- c) both friction and adhesion
- d) none of the above

162. Impact strength of concrete increases by using

- i) smaller maximum size of aggregate
  - ii) aggregate with high modulus of elasticity
  - iii) aggregate with low poisson's ratio The correct answer is
- a) (i) and (ii)
  - b) (ii) and (iii)
  - c) (i) and (iii)
  - d) (i), (ii) and (iii)

163. Impact strength of concrete is greater for

- i) water stored concrete than for dry concrete
  - ii) angular crushed aggregates
  - iii) rounded aggregates The correct answer is
- a) (i) and (ii)
  - b) (i) and (iii)
  - c) only (i)
  - d) only (ii)

164. If the contributions of tricalcium silicate, dicalcium silicate, tricalcium aluminate

and terra calcium alumino ferrite to the 28 days strength of hydrated ordinary Portland cement are respectively W, X, Y and Z, then

- a)  $W > X > Y > Z$



- b)  $X > W > Y > Z$
- c)  $W > X > Z > Y$
- d)  $W > Y > X > Z$

165. The initial and final setting times for ordinary portland cement are approximately related as

- a)  $T = 530 + t$
- b)  $T = 270 + t$
- c)  $T = 90 + 1.2t$
- d)  $T = 600 - 1.2t$

where T and t are respectively final and initial setting times in minutes. \* 166 Assertion A : The presence of tricalcium aluminate in cement is undesirable. Reason R : Tricalcium aluminate in cement contributes very little to strength of cement.

Select your answer based on the coding system given below

- a) Both A and R are true and R is the correct explanation of A
- b) Both A and R are true but R is not the correct explanation of A
- c) A is true but R is false
- d) A is false but R is true

167. Amount of gypsum required to be added to the clinker depends on the following contents of cement i) tricalcium silicate ii) dicalcium silicate iii) tricalcium aluminate iv) alkali The correct answer is

- a) (i) and (ii)
- b) (ii) and (iii)
- c) (iii) and (iv)
- d) (i) and (iv)

168. The diameter of needle used in Vicat's apparatus for the determination of initial setting time is prescribed as

- a) 0.5 mm
- b) 1 mm
- c) 5 mm
- d) 10mm

169. The heat of hydration of cement can be reduced by

- a) reducing the proportions of  $C_3A$  and  $C_3S$
- b) increasing the proportions of  $C_3A$  and  $C_3S$

- c) increasing the fineness of cement
- d) both (a) and (c)

171. Assertion A : Rapid hardening cement is generally not used in mass concrete construction.

Reason R : The rate of heat development is low in rapid hardening cement. Select your answer based on the coding system given below

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.

172. If the angularity number of an aggregate is increased, then the workability of the concrete using this aggregate will

- a) increase
- b) decrease
- c) not change
- d) none of the above

173. If  $W_1$ ,  $W_2$ ,  $W_3$  and  $W_4$  are the weights of sand in oven dry, air dry, saturated but surface dry and moist conditions respectively, then the moisture content of sand is

- a)  $W_3 - W_1$ ,
- b)  $W_4 - W_2$
- c)  $W_4 - W_3$
- d)  $W_3 - W_2$

174. The ordinate of grading curve of an aggregate represents

- a) cumulative percentage passing each sieve plotted on normal scale
- b) cumulative percentage passing each sieve plotted on logarithmic scale
- c) sieve size plotted on normal scale
- d) sieve size plotted on logarithmic scale

175. Increase in fineness modulus of aggregate indicates

- a) finer grading
- b) coarser grading
- c) gap grading
- d) none of the above

176. Weight of an oven dry sand and air dry sand are 500 gm and 520 gm respectively.

If the weight of the same sand under saturated but surface dry condition is 525 gms, then the water absorption of sand is

- a) 1%
- b) 4%
- c) 4.76%
- d) 5%

177. Soundness test of cement by Le-Chatelier's apparatus gives unsoundness due to

- a) free lime only
- b) magnesia only
- c) both free lime and magnesia
- d) none of the above

178. Maximum permissible limit of magnesia content in ordinary Portland cement is

- a) 4%
- b) 6%
- c) 8%
- d) 10%

*CONCRETE TECHNOLOGY and Design of Concrete Structures  
Questions Answers pdf free download ::*

## 26 THOUGHTS ON “300+ TOP CONCRETE TECHNOLOGY & DESIGN OF CONCRETE STRUCTURES MCQS”



**sonali dattatray shinde**

NOVEMBER 26, 2017 AT 3:22 AM

sir give me question for the preparation of GATE exam

[REPLY](#)

---



**IHSAN SHAH**

FEBRUARY 18, 2017 AT 4:16 AM

Dear sir

kindly send me soil mechanics and concrete technology  
MCQs in pdf file ...

[enr.ihsanshah@gmail.com](mailto:enr.ihsanshah@gmail.com)

[REPLY](#)

---



**IHSAN SHAH**

FEBRUARY 18, 2017 AT 4:13 AM

Dear Sir  
kindly send me concrete technology and soil mechanics  
MCQs in pdf file ...I shall be thankful to your good self  
please....

[REPLY](#)

---

 **mehul**

JANUARY 6, 2017 AT 12:06 PM

Sir plz send me all civil engineering msq question  
answer. For my ID [mehulpatel8758@gmail.com](mailto:mehulpatel8758@gmail.com)

[REPLY](#)

---

 **Faarukh Shk**

DECEMBER 28, 2016 AT 12:25 AM

plz sir give me the answer of this question  
151,152,153,154,158,159 and 160...

[REPLY](#)

---

 **Faarukh Shk**

NOVEMBER 28, 2016 AT 7:44 PM

Hello Sir...

Please Will You Say Me The Answer of This Questions  
Which Is Mentioned Above In Your “180 Top Most  
Mcq’s of Concrete Technlogy” Because I Really Need It  
Sir Please Help Me Sir Please It Is My Humbly Request  
To You Sir Please...

Question Numbers:-

151, 152, 153, 154, 158, 159, 160....

Plz Sir.. Day After Tomorrow There Is My Exam I Really  
Need It Sir...!

My Email Id Is...

[faarukhshk92@gmail.com](mailto:faarukhshk92@gmail.com)

[REPLY](#)

---

**yohannes negasi**

NOVEMBER 26, 2016 AT 4:44 PM

thanks

[REPLY](#)

---

**Efosa Elvis**

NOVEMBER 26, 2016 AT 8:21 AM

I am preparing for Civil Engineering job interview, I would love if you could send me all Civil Engineering questions. Thank you sir.

[REPLY](#)

---

**Suryateja**

NOVEMBER 2, 2016 AT 5:34 PM

sir please do send me this pdf file , this is very useful for the interview purpose

[REPLY](#)

---

**Krishnaraj Khatri**

SEPTEMBER 24, 2016 AT 3:35 PM

Please upload answers of 151 to 180 👍

[REPLY](#)

---

**ilias mondal**

AUGUST 10, 2016 AT 2:23 PM

sir pls sent me c.e mcqs in PDF in my email address [iliasmondal93@gmail.com](mailto:iliasmondal93@gmail.com) .I am very thankful to u sir..

[REPLY](#)



**jeyaraj**

AUGUST 9, 2016 AT 9:21 PM

hello sir

this mcq's is very useful us...so i want a pdf material

sir,pls kindly send on my mail id sir

[civil.jeyaraj@gmail.com](mailto:civil.jeyaraj@gmail.com) this is my mail id sir please send me a mcqs.

[REPLY](#)

---



**jayabrata ghosh**

AUGUST 2, 2016 AT 4:49 PM

sir,

plz send me the pdf copy of this mcqs and other civil engg. subject mcqs to my mail id.

[REPLY](#)

---



**Gajanan**

JULY 31, 2016 AT 6:38 AM

Very Helpful, please send on my email.

[REPLY](#)

---



**Jotiba**

JULY 26, 2016 AT 9:21 AM

Thank sir

[REPLY](#)

---



**Rajesh patel**

JULY 25, 2016 AT 7:07 AM

It's very impornt for civil engg.

Because these knowledge should be every civil engg..

Thank sir

[REPLY](#)



**Joanna**

[JUNE 27, 2016 AT 2:34 AM](#)

Please send the PDF files of all questions/answers.  
Thank you so much.

[REPLY](#)

---



**mahesh**

[JUNE 22, 2016 AT 3:33 PM](#)

How can download Concrete Technology and Design of  
Concrete Structures Interview Questions in PDF  
format?

[REPLY](#)

---



**Soumyendra Nath Basu**

[AUGUST 14, 2016 AT 10:48 AM](#)

The MCQs are framed very carefully. This is very  
much useful for the students of civil engg.  
Kindly send the Questions with Ans. in my mail  
address.

Regards,

[REPLY](#)

---



**DINBERU AREGA**

[JUNE 19, 2016 AT 1:30 PM](#)

your question is very good

[REPLY](#)

---



**safer ullah**

[JUNE 11, 2016 AT 12:01 PM](#)

sir pls sent me civil engineering mcqs in pdf i'm very  
thankful to you



[REPLY](#)

---

**safeer ullah**

JUNE 11, 2016 AT 11:57 AM

sir pls sent me civil engineering mcqs in pdf i'm very thankful to you

[REPLY](#)

---

**safeer ullah**

JUNE 11, 2016 AT 11:56 AM

sir pls sent me civil engineering mcqs in pdf i'm very thankful to you

[REPLY](#)

---

**safeer ullah**

JUNE 11, 2016 AT 11:49 AM

pls Bro sent me if u have the mcqs of civil engineering in pdf. i'm very thankful to u.

[REPLY](#)

---

**rohit kumar**

MAY 29, 2016 AT 11:37 AM

very helpful

[REPLY](#)

---

**showkat ahmad lone**

MAY 8, 2016 AT 5:53 AM

very helpful  
please send on my email

[ahmadlone1453@gmail.com](mailto:ahmadlone1453@gmail.com)

[REPLY](#)

## LEAVE A REPLY

---

Your email address will not be published. Required fields are marked \*

### Comment

### Name \*

### Email \*

### Website

Copyright 2020 , Engineering Interview Questions.com , Theme by [Engineering](#) || [Privacy Policy](#) || [Terms and Conditions](#) || [ABOUT US](#) || [Contact US](#) ||

Engineering interview questions, Mcqs, Objective Questions, Class Lecture Notes, Seminar topics, Lab Viva Pdf PPT Doc Book free download. Most Asked Technical Basic CIVIL | Mechanical | CSE | EEE | ECE | IT | Chemical | Medical MBBS Jobs Online Quiz Tests for Freshers Experienced.