

- Q.13. Find tensile strength of concrete (N/mm^2) of grade M 25.
(a) 3.6 (b) 3.5 (c) 3.7 (d) 3.8
- Q.14. Find the modulus of elasticity of concrete (N/mm^2) of grade M 30.
(a) 28386 (b) 27386 (c) 29386 (d) 30386
- Q.15. Find $P_{t_{lim}}$ (%) for singly reinforced beam. Take: M 25, Fe 500.
(a) 0.94 (b) 0.95 (c) 0.96 (d) 0.97
- Q.16. Find "fcc" for concrete grade M25.
(a) 12.15 (b) 11.15 (c) 13.15 (d) 14.15
- Q.17. Find "fsc" for steel grade Fe 415. Take: ($d'/d = 0.10$)
(a) 353 (b) 355 (c) 342 (d) 329
- Q.18. Find "Ast" for beam with 4 nos. of 20 mm diameter steel bars. (mm^2)
(a) 1156 (b) 1056 (c) 1356 (d) 1256
- Q.19. Find "T" (kN) for beam with $A_{st} = 10.05 \text{ cm}^2$, Take: Fe 415.
(a) 361.85 (b) 360.85 (c) 362.85 (d) 363.85
- Q.20. Find "Mu" (kN.m) for simply supported beam with factored udl of 30 kN/m having span of 4.5 m.
(a) 74.94 (b) 76.94 (c) 75.94 (d) 77.94
- Q.21. Find "Ast-max" (mm^2) for beam of section 250 mm x 380 mm (Overall).
(a) 3800 (b) 3900 (c) 4000 (d) 4100
- Q.22. Find "Ast-min" (mm^2) for beam of section 250 mm x 340 mm (effective).
Take: Fe 415.
(a) 175.09 (b) 176.09 (c) 170.09 (d) 174.09
- Q.23. Find self weight of beam (kN/m) of section 250 mm x 500 mm (Overall). Take:
Density of concrete is 25 kN/m^3
(a) 3.125 (b) 2.125 (c) 4.125 (d) 5.125
- Q.24. Find bond stress (N/mm^2) in compression bars for M 20 and Fe 415.
(a) 1.2 (b) 1.6 (c) 2.4 (d) 1.9

- Q.25. Find bond stress (N/mm^2) in Tension bars for M 20 and Fe 415.
(a) 1.22 (b) 1.62 (c) 1.92 (d) 2.42
- Q.26. Find " L_d " (mm) for Steel bar of 16 mm diameter as Tension. Take: M 20 and Fe 250.
(a) 724 (b) 725 (c) 726 (d) 730
- Q.27. Find " L_d " (mm) for Steel bar of 16 mm diameter as Compression. Take: M 25 and Fe 415.
(a) 516 (b) 520 (c) 524 (d) 530
- Q.28. Find " L_d " (mm) for Steel bar of 10 mm diameter as Tension. Take: M 25 and Fe 500.
(a) 458 (b) 845 (c) 485 (d) 854
- Q.29. Find " L_d " (mm) for Steel bar of 10 mm diameter as Compression. Take: M 25 and Fe 500.
(a) 388 (b) 838 (c) 883 (d) 338
- Q.30. Give minimum reinforcement P_t (%) in a slab for Fe 250.
(a) 0.12 (b) 0.15 (c) 0.20 (d) 0.25
- Q.31. Find maximum spacing of bars in slab for main steel. Take: $d = 100$ mm.
(a) 300 mm (b) 450 mm (c) 100 mm (d) 250 mm
- Q.32. Find maximum spacing of bars in slab for distribution steel. Take: $d = 100$ mm.
(a) 300 mm (b) 450 mm (c) 100 mm (d) 500 mm
- Q.33. Give the value of maximum compressive strain (bending) in concrete.
(a) 0.002 (b) 0.035 (c) 0.0035 (d) 0.00035
- Q.34. Give the minimum diameter steel bars in column for main steel.
(a) 8 mm (b) 10 mm (c) 12 mm (d) 14 mm
- Q.35. Give the value of maximum percentage of steel in column for main steel.
(a) 3 % (b) 4 % (c) 5 % (d) 6 %
- Q.36. Give the minimum numbers of steel bars in square column for main steel.
(a) 3 (b) 4 (c) 5 (d) 6

- Q.37. Give the minimum numbers of steel bars in circular column for main steel.
(a) 3 (b) 4 (c) 5 (d) 6
- Q.38. What is the maximum spacing of longitudinal bars measured along the periphery of the column?
(a) 300 mm (b) 400 mm (c) 500 mm (d) 600 mm
- Q.39. As per IS: 456-2000, Minimum eccentricity in column is...
(a) 10 mm (b) 20 mm (c) 30 mm (d) 40 mm
- Q.40. For any singly reinforced section, if $M_u/bd^2 = 1.65$, then $P_t \% = \underline{\hspace{2cm}}$.
Take: M 25, Fe 415.
(a) 0.512 (b) 0.499 (c) 0.491 (d) 0.482
- Q.41. What is the minimum nominal cover provided in beam?
(a) 20 mm (b) 30 mm (c) 10 mm (d) 15 mm
- Q.42. What is the minimum nominal cover provided in column?
(a) 20 mm (b) 30 mm (c) 40 mm (d) 50 mm
- Q.43. What is the minimum nominal cover provided in footing?
(a) 20 mm (b) 30 mm (c) 40 mm (d) 50 mm
- Q.44. For design of cantilever slab, (l/d) ratio = _____
(a) 7 (b) 20 (c) 26 (d) 30
- Q.45. For design of simply supported slab, (l/d) ratio = _____
(a) 7 (b) 20 (c) 26 (d) 30
- Q.46. What is the minimum grade of concrete used for PCC structures?
(a) M15 (b) M20 (c) M25 (d) M30
- Q.47. Find design shear strength of concrete for beam, if $P_t = 0.50 \%$. Take M 30.
(a) 0.40 (b) 0.50 (c) 0.60 (d) 0.70
- Q.48. Find "Xu-max" (mm) for singly reinforced beam with $d = 400$ mm. Take Fe 500.
(a) 182.4 (b) 212.4 (c) 191.6 (d) 500

- Q.61. Find the size of a square column if total cross sectional area is 62500 mm^2 .
(a) 240 mm (b) 250 mm (c) 260 mm (d) 270 mm
- Q.62. Find the diameter of lateral ties of square column with 4 nos. of 16 mm diameter as main steel.
(a) 4 mm (b) 6 mm (c) 8 mm (d) 10 mm
- Q.63. Find the minimum longitudinal steel (mm^2) for a square column of size 400 mm.
(a) 1080 (b) 1180 (c) 1280 (d) 1600
- Q.64. Find the maximum pitch for a square column of size 450 mm. It is reinforced with 4 nos. of 20 mm bars.
(a) 200 mm (b) 250 mm (c) 280 mm (d) 300 mm
- Q.65. Find the value of "fs" (N/mm^2) for a one way slab. Take: Fe 415.
(a) 240.7 (b) 145 (c) 290 (d) 361.05
- Q.66. Find the number of risers for a stair. Take: Floor height = 3.2 m and height of riser = 160 mm.
(a) 15 (b) 16 (c) 18 (d) 20
- Q.67. Find the design strength (N/mm^2) in concrete for a beam. Take: M 25.
(a) 11.15 (b) 12.15 (c) 13.15 (d) 14.15
- Q.68. Find the maximum tensile load (kN) of 1 no. of 20 mm diameter steel bar. Take: Fe 415
(a) 113.42 (b) 120.42 (c) 130.3 (d) 314.16
- Q.69. Find the maximum spacing of distribution bars in slab with $d = 100 \text{ mm}$.
(a) 300 mm (b) 400 mm (c) 450 mm (d) 500 mm
- Q.70. Find the maximum spacing of main bars in slab with $d = 120 \text{ mm}$.
(a) 200 mm (b) 300 mm (c) 400 mm (d) 500 mm
- Q.71. Find bond stress (N/mm^2) in compression bars for M 25 and Fe 500.
(a) 1.4 (b) 1.75 (c) 2.8 (d) 2.24
- Q.72. Find bond stress (N/mm^2) in Tension bars for M 25 and Fe 500.
(a) 1.4 (b) 1.75 (c) 2.24 (d) 2.8

- Q.73. Find the diameter of core of a circular column having outer diameter is 500 mm and clear cover is 40 mm.
- (a) 320 mm (b) 420 mm (c) 460 mm (d) 540 mm
- Q.74. Find the diameter of a circular column having $A_g = 70686 \text{ mm}^2$.
- (a) 300 mm (b) 310 mm (c) 320 mm (d) 330 mm
- Q.75. Find the number of treads of a staircase, if number of risers is 20.
- (a) 18 (b) 19 (c) 20 (d) 21
- Q.76. Find the M_u (kN.m) for a simply supported beam with factored u.d.l is 13.875 kN/m and span is 6 m.
- (a) 62.43 (b) 41.62 (c) 83.25 (d) 166.5
- Q.77. Find the width of flange of T-beam, if $l = 6.5 \text{ m}$, $b_w = 400 \text{ mm}$ and $D_f = 110 \text{ mm}$.
- (a) 2043 mm (b) 2143 mm (c) 2243 mm (d) 2343 mm
- Q.78. Find the minimum eccentricity of a square column of size 450 mm and unsupported length is 3.6 m.
- (a) 20.2 mm (b) 21.2 mm (c) 22.2 mm (d) 23.2 mm
- Q.79. Find the minimum percentage of steel (mm^2) in circular column of diameter 300 mm.
- (a) 565.48 (b) 570.48 (c) 580.48 (d) 590.48
- Q.80. Find " L_d " (mm) for Steel bar of 16 mm diameter as Tension. Take: M 30 and Fe 500.
- (a) 602 (b) 580 (c) 544 (d) 725
- Q.81. Find $P_{t_{lim}}$ (%) for singly reinforced beam. Take: M 30, Fe 415.
- (a) 2.64 (b) 1.43 (c) 1.13 (d) 1.19
- Q.82. Find design shear strength of concrete (N/mm^2) for beam, if $P_t = 2 \%$. Take M 25.
- (a) 0.80 (b) 0.82 (c) 0.83 (d) 0.84
- Q.83. Find the tensile stress (N/mm^2) for Fe 415 steel.
- (a) 361.05 (b) 323.7 (c) 415 (d) 500
- Q.84. Find the modulus of elasticity of concrete (N/mm^2) of grade M 40.
- (a) 31262 (b) 31666 (c) 31622 (d) 31266

- Q.96. Calculate the numbers of bars for a circular column having 25 mm diameter of steel bars. Take: $A_{sc} = 2945.24 \text{ mm}^2$
- (a) 3 (b) 4 (c) 5 (d) 6
- Q.97. For under reinforced section of a beam, which condition should be satisfied?
- (a) $X_u < X_{u-\max}$ (b) $X_u > X_{u-\max}$ (c) $X_u = X_{u-\max}$ (d) None of the above
- Q.98. For over reinforced section of a beam, which condition should be satisfied?
- (a) $X_u < X_{u-\max}$ (b) $X_u > X_{u-\max}$ (c) $X_u = X_{u-\max}$ (d) None of the above
- Q.99. For balanced reinforced section of a beam, which condition should be satisfied?
- (a) $X_u < X_{u-\max}$ (b) $X_u > X_{u-\max}$ (c) $X_u = X_{u-\max}$ (d) None of the above
- Q.100. Characteristic compressive strength of concrete is calculated at ____ Days.
- (a) 7 (b) 14 (c) 28 (d) 365

MCQ - ANSWERS (DRCS- 3360601)

1	B	26	B	51	C	76	A
2	B	27	A	52	C	77	B
3	A	28	C	53	A	78	C
4	C	29	A	54	B	79	A
5	B	30	B	55	D	80	D
6	A	31	A	56	B	81	B
7	D	32	B	57	A	82	B
8	B	33	C	58	A	83	A
9	A	34	C	59	C	84	C
10	B	35	D	60	D	85	B
11	A	36	B	61	B	86	A
12	B	37	D	62	B	87	D
13	B	38	A	63	C	88	C
14	B	39	B	64	D	89	A
15	A	40	B	65	A	90	C
16	B	41	A	66	D	91	A
17	A	42	C	67	A	92	C
18	D	43	D	68	A	93	C
19	C	44	A	69	C	94	D
20	C	45	B	70	B	95	B
21	A	46	A	71	C	96	D
22	D	47	B	72	C	97	A
23	A	48	A	73	B	98	B
24	C	49	D	74	A	99	C
25	C	50	B	75	B	100	C