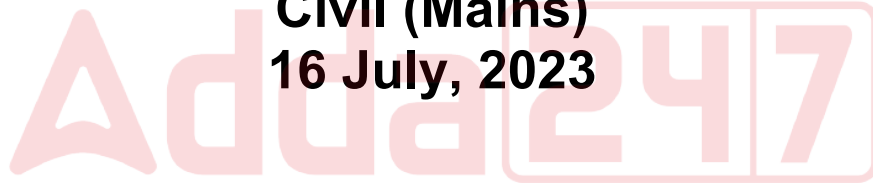


OSSC JE

Previous Year Paper

Civil (Mains)
16 July, 2023



Adda247

Test Prime

ALL EXAMS, ONE SUBSCRIPTION



1,00,000+
Mock Tests



**Personalised
Report Card**



**Unlimited
Re-Attempt**



600+
Exam Covered



25,000+ Previous
Year Papers



500%
Refund



ATTEMPT FREE MOCK NOW

1. A pipe of 30 cm diameter carries water at a velocity of 20 m/s. At a point A on the pipe, measured pressure and elevation is 360 kN/m^2 and 30.5 m. What is the pressure head at A?
($g = 10 \text{ m/s}^2$)
 - (a) 76.5 m
 - (b) 86.5 m
 - (c) 65.5 m
 - (d) 50.5 m
2. If 5 m^3 of a certain oil weighs 40 kN, what is specific weight and mass density respectively? ($g = 10 \text{ m/sec}^2$)
 - (a) 8000 N/m^3 and 800 N/m^3
 - (b) 8000 N/m^3 and 800 kg/m^3
 - (c) 8000 kg/m^3 and 800 kg/m^3
 - (d) 20000 N/m^3 and 8000 kg/m^3
3. The pressure in meters of oil (of specific gravity 0.8), equivalent to 80 m of water is :
 - (a) 64
 - (b) 80
 - (c) 100
 - (d) 88
4. Relationship between duty and delta, if duty is D and base period is B, is :
 - (a) $\Delta = 864 B/D$ in meter
 - (b) $\Delta = 8.64 B/D$ in centimeter
 - (c) $\Delta = 8.64 B/D$ in meter
 - (d) $B = 8.64 D/\Delta$ in meter
5. Calculate the delta for a crop, if duty for a base period of 120 days is 1728 hectares ?
 - (a) 1.2 m
 - (b) 0.12 m
 - (c) 0.6 m
 - (d) 6 m
6. Trapezoidal channel having bed width 8 m, flow depth 3 m, side slope $2H:1.5V$, Manning's rugosity coefficient 0.025 and bed slope 1 in 10000, is having velocity of :
(assume $2.0^{667} = 1.6$)
 - (a) 0.64 m/s
 - (b) 0.75 m/s
 - (c) 1.05 m/s
 - (d) 0.9 m/s
7. A canal carrying discharge of 20 cumec has a Culturable Command Area (CCA) of 20,000 hectares with intensity of rabi crop of 80% and base period of 120 days. What is the duty of canal ?
 - (a) 1000 hectares /cumec
 - (b) 800 hectares /cumec
 - (c) 1200 hectares/cumec
 - (d) 1600 hectares/cumec
8. In a catchment area of 5 square km, intensities of rainfall per hour for a five hours duration storm are :
10mm, 15mm, 20mm, 22mm and 5 mm
respectively. What is the total volume of rainfall over the catchment ?
 - (a) $450 \times 10^3 \text{ m}^3$
 - (b) $500 \times 10^3 \text{ m}^3$
 - (c) $400 \times 10^3 \text{ m}^3$
 - (d) $360 \times 10^3 \text{ m}^3$

9. If the reduced bearing of a line AB is $N60^\circ W$ and length is 100 m, then the latitude and departure respectively of the line AB will be :

(a) + 50 m, + 86.6 m
(b) + 86.6 m, - 50 m
(c) + 50 m, - 86.6 m
(d) + 70.7 m, - 50 m

10. If whole circle bearing of a line is 210° degree, then its reduced bearing is :

(a) $N30^\circ E$
(b) $S60^\circ E$
(c) $N30^\circ W$
(d) $S30^\circ W$

11. Fore Bearing of a line is $96^\circ 30'$ and Back Bearing is $276^\circ 00'$. Then, the adjusted bearing should be :

(a) $96^\circ 30'$ and $276^\circ 00'$
(b) $96^\circ 45'$ and $276^\circ 15'$
(c) $96^\circ 15'$ and $276^\circ 15'$
(d) $96^\circ 30'$ and $276^\circ 30'$

12. Identify the type of truss shown in the given figure :



(a) Space truss
(b) Deficient truss
(c) Redundant truss
(d) Perfect truss

13. The bearings of the lines AB and BC are $146^\circ 30'$ and $68^\circ 30'$. The included angle ABC is :

(a) 102°
(b) 78°

(c) 45°
(d) None of these

14. Staff held at Bench mark of 140.5 m RL reads 1.65 m from the levelling instrument station X. If staff reading cited at station A is 1.545 m taken from X, what is the RL of station A?

(a) 140.605
(b) 141.05
(c) 140.5
(d) 140.65

15. Overtaking time required for a vehicle with design speed 25 m/s and overtaking acceleration 1.0 m/sec^2 to overtake a vehicle moving at a speed 15 m/s, is :

(a) 12.0 secs
(b) 8.12 secs
(c) 15.48 secs
(d) 10 secs

16. If the width of carriage way is 12.5 metres ; outer edge 50 cm higher than the inner edge, the required super elevation is :

(a) 50 cm
(b) 1 in 25
(c) 1 in 400
(d) 1 in 40

17. If the coefficient of friction on the road surface is 0.20 and a maximum super-elevation 1 in 15 is provided, the maximum speed of the vehicles on a curve of 100 metre radius, is :

(a) 32.39 km / hour
(b) 42.39 km / hour
(c) 52.39 km / hour
(d) 62.44 km / hour

18. For the construction of water bound Macadam roads, the correct sequence of operations after spreading coarse aggregates is :
- Dry rolling, wet rolling, application of screening and application of filler
 - Dry rolling, application of filler, wet rolling and application of screening
 - Dry rolling, application of screening, wet rolling and application of filler
 - Dry rolling, application of screening, application of filler and wet rolling
19. If degree of a road curve is defined by assuming the standard length of an arc as 30 metres, then the radius of 1° curve is equal to :
- 1720 m
 - 1146 m
 - 1046 m
 - 1620 m
20. What is the number of sleepers required for constructing a railway track of 100 meters long for BG track using a sleeper density of $M+5$?
- 144
 - 158
 - 162
 - 120
21. The steepest gradient permissible on a 2.5° curve for B.G. line having ruling gradient of 1 in 200 is :
- 1 in 235
 - 1 in 220
 - 1 in 275
 - 1 in 250
22. If G is gauge in metres, V is speed of trains in km/hour and R is radius of a curve in metres, the equilibrium super elevation is :
- $\frac{GV^2}{R}$
 - $\frac{GV^2}{17R}$
 - $\frac{GV^2}{127R}$
 - $\frac{GV^2}{130R}$
23. **Assertion A :** For determining uniaxial compressive strength of concrete, cube is a better test specimen compared to cylinder.
- Reason R :** Stress distribution is more uniform over the cross section of a cylinder as compared to cube.
- Select your answer based on options given below :
- Both A and R are true and R is correct explanation of A.
 - Both A and R are true but R is not correct explanation of A
 - A is true but R is false
 - A is false but R is true

24. A short column of 300 mm × 300 mm square cross section is reinforced with 4 numbers of 20 mm bars longitudinally, which are bound together with lateral ties. What is the safe axial load this column can carry ?

- (a) 1250.45 kN
- (b) 1069.23 kN
- (c) 1029.56 kN
- (d) 1169 kN

25. The main objective of compaction of concrete is :

- (a) To eliminate air holes
- (b) To achieve maximum density
- (c) To provide intimate contact between the concrete and embedded materials
- (d) All of these

26. Longitudinal reinforcements in column as per code 456 : 2000 is :

- (a) Minimum 0.8 percent of c/s area of column
- (b) Maximum 6 percent of c/s area of column
- (c) Maximum 4 percent of c/s area of column
- (d) Both (a) and (b) are true

27. In a built up beam, actual bending compressive stress f_{bc} is given by (where y is the distance of the edge of the beam from the neutral axis) :

(a) $f_{bc} = \left(\frac{M}{I_{xx}} \right) \times y$

(b) $f_{bc} = \left(\frac{I_{xx}}{M} \right) \times y$

(c) $f_{bc} = \left(\frac{I_{xx}}{M} \right) + y$

(d) $f_{bc} = \left(\frac{M}{I_{xx}} \right) + y$

28. The central deflection of a simply supported steel beam of length L with a concentrated load W at the centre, is :

- (a) $WL^3 / 3EI$
- (b) $WL^4 / 3EI$
- (c) $WL^3 / 48EI$
- (d) $5WL^4 / 384EI$

29. Load Factor is :

- (a) Ultimate load / Yield load
- (b) Yield load / Working load
- (c) Ultimate load / Working load
- (d) None of these

30. A steel plate is 300 mm wide and 10 mm thick. One rivet of nominal diameter 18 mm is driven. What is the net sectional area of plate ?

- (a) 1800 mm²
- (b) 2805 mm²
- (c) 2820 mm²
- (d) 3242 mm²

$\frac{\pi}{4} \times 18^2 \times 10$
 $\frac{1}{2} \times 22$

$2 \times \frac{22}{7} \times 18$
 $\frac{22}{7} \times 18$

$\frac{3000 \times 10}{2520}$
 $\frac{3000}{150}$

$\frac{3000}{2520}$
 $\frac{3000}{2520}$
 0.95

31. Calculate population of 2030 using the following data, by arithmetic increase method :

Year	Population
1980	25000
1990	34000
2000	42000
2010	49000
2020	55000

- (a) 82500
(b) 65000
(c) 62500
(d) 60500

32. 3 day BOD of a waste water sample is 250 mg/L at 20° C. What is the 5 day BOD in mg/L at same temperature ?

[K_d at 20° C = 0.1. Assume values $10^{(-0.3)} = 0.5$ and $10^{(-0.5)} = 0.316$]

- (a) 346
(b) 442
(c) 342
(d) 242

33. The bacteria which require free oxygen for their survival, are called :

- (a) Aerobic bacteria
(b) Anaerobic bacteria
(c) Facultative bacteria
(d) None of these

34. Which of the following is a typical sequence of waste water treatment ?

- (a) Screening – aerobic oxidation – sedimentation – disinfection – discharge
(b) Screening – sedimentation – aerobic oxidation – disinfection – discharge

- (c) Screening – discharge – aerobic oxidation – sedimentation – disinfection
(d) Screening – disinfection – aerobic oxidation – sedimentation – discharge

35. Activated sludge process is a :

- (a) Compression process
(b) Fixed film process
(c) Endogenous growth process
(d) Suspended growth process

36. In the mid-section formula :

- (a) The mean depth is the average of depths of two consecutive sections
(b) The area of mid-sections is calculated by using mean depth
(c) The volume of the earth work is calculated by multiplying the mid-section area by the distance between the two original sections
(d) All of these

37. Pick up the correct statement regarding the centre line method of estimating a building :

- (a) Product of the centre line of the walls and area of cross-section of any item, gives total quantity of the item
(b) The centre line is worked out separately for different sections of walls of a building
(c) The centre line length is reduced by half the layer of main wall joining the partition wall
(d) All of these

38. For 12 mm thick cement plastering of 1 : 6 on 100 sq.m new brick work, what is the quantity of cement required ?
- 0.200 m³
 - 0.237 m³
 - 0.274 m³
 - 0.315 m³
39. The original cost of an equipment is Rs. 10,000. Its salvage value at the end of its total useful life of five years is Rs. 1,000. Its book value at the end of two years of its useful life (as per straight line method of evaluation of depreciation) will be :
- Rs. 8,800
 - Rs. 7,600
 - Rs. 6,400
 - Rs. 5,000
40. If the gross vehicle weight of a truck is 30 tonne and rolling resistance is 30 kg/tonne, then the tractive effort required to keep the truck moving at a uniform speed is :
- 30 kg
 - 300 kg
 - 900 kg
 - 1000 kg
41. If the excavation of Earth is done manually, then it costs Rs. 10 per cum. A machine can excavate at a fixed cost of Rs. 4000 plus a variable cost of Rs. 2 per cum. The quantity of earth for which the cost of excavation by machine will be equal to the cost of manual excavation is :
- 500 cum
 - 1000 cum
 - 1500 cum
 - 2000 cum
42. For testing compressive and tensile strength of cement, the cement mortar is made by mixing cement and standard sand in the respective proportions of :
- 1 : 2
 - 1 : 3
 - 1 : 4
 - 1 : 6
43. Soundness of cement is tested by :
- Vicat's apparatus
 - Le-Chatelier apparatus
 - Compressive strength testing apparatus
 - None of these
44. Plywood is made by bonding together thin layers of wood in such a way that the angle between grains of any layer to grains of adjacent layers is :
- 0°
 - 30°
 - 45°
 - 90°
45. The initial setting time for ordinary Portland cement as per BIS specifications should not be less than :
- 10 minutes
 - 30 minutes
 - 60 minutes
 - 600 minutes

46. A stair should have suitable pitch of :
- 25° to 60°
 - 30° to 60°
 - 25° to 40°
 - 50° to 90°
47. Deflection of a simply supported beam at center of span, carrying a uniform load of w per unit run over entire span with uniform flexural rigidity is :
- $\left(\frac{5}{384}\right) wL^4/EI$
 - $\left(\frac{1}{48}\right) wL^4/EI$
 - $\left(\frac{5}{384}\right) wL^3/EI$
 - $\left(\frac{3}{84}\right) wL^3/EI$
48. What will be the tensile force required to cause an elongation of 0.045 mm in a steel rod of 1000 mm length and 12 mm diameter, (where $E = 2 \times 10^6 \text{ kg/cm}^2$) ?
- 166 kg
 - 102 kg
 - 204 kg
 - 74 kg
49. A Cantilever carries a uniformly distributed load W over its whole length and a force W acts at its free end upward. The net deflection of the free end will be:
- Zero
 - $(5/24) (WL^3/EI)$ upward
 - $(5/24) (WL^3/EI)$ downward
 - None of these
50. A mild steel rod of 14 mm diameter and 154 mm length elongates 0.025 mm under an axial pull of 10 kN. What is the Young's modulus of the material ?
- $2 \times 10^4 \text{ N/mm}$
 - $4 \times 10^4 \text{ N/mm}$
 - $8 \times 10^4 \text{ N/mm}$
 - $4 \times 10^5 \text{ N/mm}$
51. For a simply supported beam which statement is true :
- Bending moment is maximum at center
 - Shear force is maximum at center
 - Bending moment is zero at support
 - Bending moment is maximum where shear force is zero
- Only 1 is true
 - Only 2 is true
 - Both 3 and 4 are true
 - All are true
52. A triaxial shear test is preferred to direct shear test, because :
- It can be performed under all three drainage conditions with complete control
 - Precise measurement of pore pressure and change in volume during test, is not possible
 - Stress distribution on the failure plane, is non-uniform
 - None of these

53. For determining the moisture content of a soil sample, the following data is available :

- Weight of container = 260 g,
- Weight of soil sample and container = 320 g,
- Weight of soil sample (dried) and container = 310 g.

What is the moisture content of the soil sample?

- (a) 15 %
- (b) 18 %
- (c) 20 %
- (d) 25 %

54. Which is the correct equation of shear stress on soil ?

- (a) $\tau = c - \sigma \cdot \tan \phi$
- (b) $\tau = \sigma + c \cdot \tan \phi$
- (c) $\tau = c + \sigma \cdot \tan \phi$
- (d) $\tau = c \tan \phi + \sigma$

55. What is the intensity of active Earth pressure at a depth of 10 metres in dry cohesionless sand with an angle of internal friction of 30° and with a weight of 1.8 t/m^3 ?

- (a) 4 t/m^2
- (b) 5 t/m^2
- (c) 6 t/m^2
- (d) 7 t/m^2

56. If water content of a soil is 40 %, G is 2.70 and void ratio is 1.35, then, the degree of saturation is :

- (a) 70 %
- (b) 80 %
- (c) 75 %
- (d) 85 %

57. When a cohesionless soil attains quick condition, it loses :

- (a) Shear strength
- (b) Bearing capacity
- (c) Both (a) and (b)
- (d) Neither (a) nor (b)

58. If the natural moisture content, the liquid limit and plastic limit of a soil sample are stated as 30.5%, 42.5% and 22.5% respectively, the ratio of liquidity index and plastic index, is :

- (a) $\frac{1}{3}$
- (b) $\frac{1}{2}$
- (c) 2
- (d) $2\frac{1}{2}$

59. The essential non-metallic minerals are :

- (a) Granite, Marble, Limestone
- (b) Gold, Silver, Platinum
- (c) Iron, Aluminum, Zinc, Copper
- (d) Coal, Clay, Cement, Silica

60. Which of the following is not a measure of sustainable water management ?

- (a) Preventing leakage from dams and canals
- (b) Reducing the rate of surface run-off water
- (c) Preventing loss in the municipal pipes
- (d) Building small reservoirs in place of a few mega projects

61. If the magnetic bearing of a line is $58^{\circ} 30'$ and the magnetic declination at that place is $4^{\circ} 30'$ east, the true bearing will be :

- (a) 54 degrees
- (b) 60 degrees
- (c) 63 degrees
- (d) 58 degrees

62. If the length of the arc or chord is 20 m, then 1 degree curve will have a radius of :

- (a) 1718.9 m
- (b) 1146 m
- (c) 2865 m
- (d) 573 m

63. If the height between the floors is 3.64 m and riser is 14 cm, the number of treads will be :

- (a) 27
- (b) 26
- (c) 25
- (d) 13

64. Number of bricks of size 20 cm \times 10 cm \times 10 cm required for 100 cubic metres of masonry wall is :

- (a) 500
- (b) 5000
- (c) 50000
- (d) 500000

65. The moment of inertia of a rectangle of base b, and height h, about the base of the rectangle is :

(a) $\frac{bh^3}{12}$

(b) $\frac{bh^3}{6}$

(c) $\frac{bh^3}{3}$

(d) $\frac{bh^3}{2}$

66. A block of wood 2 m long, 2 m wide and 1 m deep is floating horizontally in water. If density of wood is 800 kg/m^3 , then the volume of water displaced will be :

- (a) 2 m^3
- (b) 2.6 m^3
- (c) 3.2 m^3
- (d) 6 m^3

67. The specific gravity of a liquid having viscosity of 0.06 Poise and kinematic viscosity of 0.025 Stokes is :

- (a) 2.2
- (b) 2.4
- (c) 2.6
- (d) 2.8

68. A dry soil has a mass specific gravity of 1.35. If the specific gravity of solids is 2.7, then the void ratio will be :

- (a) 0.5
- (b) 1.0
- (c) 0.9
- (d) 0.75

69. The natural water content of a soil sample is 40 % ; the specific gravity is 2.7 and the void ratio is 1.2 ; then the degree of saturation of the soil will be :

- (a) 69 %
- (b) 87 %
- (c) 90 %
- (d) 100 %

70. Wetted perimeter of a regime channel for a discharge of 64 cumecs as per Lacey's theory will be :
- 19 m
 - 38 m
 - 57 m
 - 76 m
71. For a tachometer, the multiplying and additive constants respectively are :
- 0 and 100
 - 100 and 0
 - 0 and 0
 - 100 and 100
72. If the radius of circular curve is five times the length of the transition curve, then the spiral angle is given by :
- 1/5 radian
 - 1/10 radian
 - 1/20 radian
 - 1/40 radian
73. For WBM roads in localities of heavy rainfall, the recommended value of camber is :
- 1 in 24
 - 1 in 30
 - 1 in 36
 - 1 in 48
74. For the design of superelevation for mixed traffic conditions, the speed is reduced by :
- 15%
 - 20%
 - 25%
 - 30%
75. The magnitude of superelevation provided for Indian railways on broad gauge (in cm) is :
- $0.415 V^2/R$
 - $0.615 V^2/R$
 - $0.815 V^2/R$
 - $1.315 V^2/R$
76. According to which principle, each group of activities with the same objective must have one head one plan ?
- Unity of Direction
 - Unity of Command
 - Unity of Discipline
 - Unity of Remuneration
77. The peak of a 4 hour flood hydrograph is $240 \text{ m}^3/\text{sec}$. If the rainfall excess is 80 mm and base flow which is constant is $40 \text{ m}^3/\text{sec}$, peak of 4 hours unit hydrograph will be :
- $20 \text{ m}^3/\text{sec}$
 - $25 \text{ m}^3/\text{sec}$
 - $30 \text{ m}^3/\text{sec}$
 - $35 \text{ m}^3/\text{sec}$
78. The development length in compression for a 20 mm diameter deformed bar of grade Fe 415 embedded in concrete of grade M 25, whose design bond stress is 1.4 N/mm^2 , is :
- 645 mm
 - 806 mm
 - 1289 mm
 - 1489 mm

79. When the area of steel, A_s is to be converted into the area of concrete A_c , then the net increase in equivalent area will be (where m is modular ratio) :
- mA_s
 - $(m - 1)A_s$
 - $A_c - A_s$
 - $A - mA_s$
80. For a simply supported beam, the maximum permitted deflection is :
- 1/300 of the span
 - 1/325 of the span
 - 1/350 of the span
 - 1/375 of the span
81. If the unsupported length of a Stanchion is 4m and least radius of gyration of its cross-section is 5 cm, the slenderness ratio of the Stanchion will be :
- 60
 - 70
 - 80
 - 100
82. Formation width for a double line broad gauge in embankment is :
- 7.32 m
 - 8.53 m
 - 10.67 m
 - 10.06 m
83. For proper drainage, the earthen road should have a minimum gradient of :
- 1 in 50
 - 1 in 80
 - 1 in 100
 - 1 in 120
84. If diameter of a sewer is 100 mm, the gradient required for generating self cleansing velocity is :
- 1 in 60
 - 1 in 100
 - 1 in 120
 - 1 in 150
85. The width of a rectangular sewer is twice its depth while discharging 1.5 m/sec. What is the width of the sewer ?
- 0.68 m
 - 0.88 m
 - 1.36 m
 - 1.76 m
86. For a slump value of 150 mm to 175 mm, the compaction factor value of concrete may be about :
- 0.6 - 0.7
 - 0.7 - 0.8
 - 0.8 to 0.9
 - above 0.9
87. The bending moment at the centre of a fixed beam of span L , carrying an uniformly distributed load w/m , is :
- $\frac{wL^2}{12}$
 - $\frac{wL^2}{24}$
 - $\frac{wL^2}{36}$
 - $\frac{wL^2}{48}$

88. If a simply supported beam of span L , carries a uniformly distributed load of $2w/m$ and the moment of inertia is I , the deflection at the centre of the beam is :

(a) $\frac{wL^4}{384 EI}$

(b) $\frac{5wL^4}{384 EI}$

(c) $\frac{wL^4}{192 EI}$

(d) $\frac{5wL^4}{192 EI}$

89. If the actual length of a Euler's column with both ends fixed is L , then, the effective length of that column will be :

(a) L

(b) $2L$

(c) $0.5L$

(d) $0.7L$

90. If a shaft rotates at 120 rpm under a torque of 1200 Nm, the power transmitted is :

(a) 15π kW

(b) 10π kW

(c) 7.5π kW

(d) 6π kW

91. If the porosity of a soil sample is 40 percent and the degree of saturation is 85 percent, then its percentage of air voids is :

(a) 10%

(b) 8%

(c) 6%

(d) 5%

92. A soil has a liquid limit of 60 %, shrinkage limit of 20 % and plastic limit of 30 %. If it has natural moisture content of 40 %, the liquidity index of the soil will be :

(a) 0.42

(b) 0.33

(c) 0.5

(d) 0.38

93. If the specific gravity of the soil is G and the void ratio is e , the hydraulic gradient will be expressed as :

(a) $\frac{G-1}{1+e}$

(b) $\frac{1-G}{1+e}$

(c) $\frac{G+1}{1-e}$

(d) $\frac{G+1}{1+e}$

94. What is the quantity of cement in kg required for preparing 1 cubic metre of wet cement mortar of 1:4 proportion?

(a) 290

(b) 312

(c) 335

(d) 374.4

$$\begin{array}{r} 1440 \text{ kg/m}^3 \\ 5/1440 \\ \underline{16} \\ 77 \\ 40 \\ \underline{70} \\ 40 \end{array}$$

95. The quantity of plastering of two faces of a 5 m long, 3 m high and 40 cm thick wall will be :
- 30 cum
 - 6 cum
 - 12 cum
 - 30 sqm
96. If the quadrantal bearing of a line is $N20^\circ W$, then the whole circle bearing of the line is :
- $S20^\circ E$
 - 200°
 - 340°
 - 295°
97. The maximum compressive stress in concrete for design purpose is based on a partial safety factor of :
- 1.15
 - 1.50
 - 1.85
 - 2.20
98. If a square pipe of side 60 cm, carries a discharge of 3 m/sec, the velocity of flow (m/sec) in the pipe is :
- 5.67
 - 8.83
 - 8.33
 - 9.33
99. A triangular channel section is most economical, when the side slope is :
- 1 : 1
 - 1 : 2
 - 1 : 3
 - 1 : 4
100. If A is the catchment area, according to Dicken's formula for estimation of flood discharge, the peak discharge is proportional to :
- A
 - $A^{1/2}$
 - $A^{3/4}$
 - $A^{2/3}$

.....

$$5 \times 3 \times 0.4$$

$$\begin{array}{r} 2 \\ 16 \\ \cdot 7 \\ \hline 6.0 \end{array}$$

$$1.1 = 100\% \\ 400\% = \frac{400}{100} = 4.0$$

Tentative Answer-key for CTSRE Main Examination (JE Civil) -2022 held on 16-07-2023									
A	B	C	D	Correct option	A	B	C	D	Correct option
1	76	51	26	a	51	26	1	76	c
2	77	52	27	b	52	27	2	77	a
3	78	53	28	c	53	28	3	78	c
4	79	54	29	c	54	29	4	79	c
5	80	55	30	c	55	30	5	80	c
6	81	56	31	a	56	31	6	81	b
7	82	57	32	b	57	32	7	82	c
8	83	58	33	d	58	33	8	83	c
9	84	59	34	c	59	34	9	84	d
10	85	60	35	d	60	35	10	85	b
11	86	61	36	c	61	36	11	86	c
12	87	62	37	b	62	37	12	87	c
13	88	63	38	a	63	38	13	88	c
14	89	64	39	a	64	39	14	89	b
15	90	65	40	b	65	40	15	90	c
16	91	66	41	b	66	41	16	91	c
17	92	67	42	c	67	42	17	92	b
18	93	68	43	c	68	43	18	93	b
19	94	69	44	a	69	44	19	94	c
20	95	70	45	a	70	45	20	95	b
21	96	71	46	d	71	46	21	96	b
22	97	72	47	c	72	47	22	97	b
23	98	73	48	d	73	48	23	98	c
24	99	74	49	b	74	49	24	99	c
25	100	75	50	d	75	50	25	100	d
26	1	76	51	d	76	51	26	1	a
27	2	77	52	a	77	52	27	2	b
28	3	78	53	c	78	53	28	3	a
29	4	79	54	c	79	54	29	4	b
30	5	80	55	b	80	55	30	5	b
31	6	81	56	c	81	56	31	6	c
32	7	82	57	c	82	57	32	7	c
33	8	83	58	a	83	58	33	8	d
34	9	84	59	b	84	59	34	9	a
35	10	85	60	d	85	60	35	10	c
36	11	86	61	d	86	61	36	11	d
37	12	87	62	d	87	62	37	12	b
38	13	88	63	c	88	63	38	13	d
39	14	89	64	c	89	64	39	14	c
40	15	90	65	c	90	65	40	15	d
41	16	91	66	a	91	66	41	16	c
42	17	92	67	b	92	67	42	17	b
43	18	93	68	b	93	68	43	18	a
44	19	94	69	d	94	69	44	19	d
45	20	95	70	b	95	70	45	20	a
46	21	96	71	c	96	71	46	21	c
47	22	97	72	a	97	72	47	22	b
48	23	98	73	b	98	73	48	23	c
49	24	99	74	b	99	74	49	24	a
50	25	100	75	d	100	75	50	25	c