Civil Engineering Objective type questions

1.The performance of a specific task in CPM is known as

a) dummy b) event

c) activity d)constant

2. The final technical authority of a project is a) Assistant Engineer b) Executive Engineer c) Superintending Engineer d) Chief Engineer

3. Time and progress chart of a construction is also known as

a) Bar chart b) Gantt chart

c) Modified milestone chart d)any of the above 4. An invar tape is made of an

a) Copper and steel b) Brass and nickel c) Brass and steel d)Nickel and steel

5. The drop manholes are generally provided in sewers for

a) industrial areas c) hilly townships d) large townships

6. The first stage of natural process of sludge digestion is

a) acid fermentation b) acid regression c) alkaline fermentation d)none of these

7. Trickling filters are used to remove a) suspended solids b) colloidal solids c) organic matter d) all these

8. The danger for workers descending in a deep sewer is due to

a) deficiency of oxygen c) inflammable gases b) toxic gases d)any of these

9. What is the detention time for the domestic septic tank?

a) 12 hours b) 24 hours

c) 28 hours d)2 hours

10. Oxygen sag curve relates to

a) aeration b) deoxygenation

c) reparation and deoxygenation d)none of these

11. The detention period for plain sedimentation tank is usually

a) 4 to 8 hours b) 8 to 12 hours

c) 16 to 24 hours d)24 to 36 hours

12. Maximum permissible colour for domestic supplies based on cobalt scale is

a) 5 ppm b) 20 ppm

c) 10 ppm d)25 ppm

13. One degree of hardness of water means a content of salts of

a) 10.25 mg/litre b) 12.25 mg/litre

c) 14.25 mg/litre d)16.25 mg/ litre

14. The fluoride limitation for drinking water is

a) 1.50 mg/litre b) 15.0 mg/litre

c) 20.0 mg/litre d)16.25 mg/ litre

15. Rate of filtration in slow sand filter is

a) 100 lit/m^2/hour b) 100 lit/m^2/minute

c) 100 lit/m^2/day d)5000 lit/m^2/hour

16. Low turbidity of water is detected by

a) turbidity tube b) Jackson turbidimeter

c) baylis turbidimeter d)hellipe turbidimeter

17. Iron and manganese can be removed from water by

a) aeration of water b) dechlorination of water

c) boiling of water d)filteration of water

18. What is the pH value for neutral water?

a) 1 b) 7

c) 10 d)14

19. The normal average annual rainfall over the whole of India is estimated as

a) 88 cm b) 119cm

c) 217 cm d)290 cm

20. Chose the non-rigid dam in the following:

a) coffer dam b) rockfill dam

c) arch dam d)buttress dam

21. The most efficient channel section is

a) semicircular b) rectangular

c) triangular d)half hexagon in the form of trapezoid

22. An earthen embankment built on each side of a river, some distance away from its banks, to control flood is called

a) dyke b) earthen dam

c) Groyne d)spur

23. The best instrument for measuring the velocity of a stream flow is

a) pitot tube b) price's current meter

c) surface float d)subsurface float

24. Mat is a shallow foundation supporting

a) only one column b) number of columns in one row

c) number of columns in more than one row d)piles

25. The maximum differential settlement in case of foundation on clayey soils is restricted to

a) 10 mm b) 20 mm

c) 30 mm d)40 mm

26. Sheet pile walls are used as

a) uplift preventing devices b) retaining walls for water front construction

c) load bearing foundations d)seepage preventing devices

27. The weight per unit volume of a sample of soil mass is called

a) dry density b) specific gravity

c) bulk density d)unsaturated density

28. Permeability of granular soil varies

a) inversely as grain size b) as grain size

c) as square of grain size d)inversely as square of grain size

29. Failure of the stability of slopes generally occurs along

a) a vertical surface b) a horizontal surface

c) a curved surface d)all the surfaces

30. The angle of internal friction of round-grained dense sand is about

a) 5^o to 25^o b) 25^o to 30^o

c) 30^o to 35^o d) 32^o to 37^o

31. Two steel parts at right angles are weided with fillet weld of 10 mm size. The throat thickness of the fillet weld should be

a) 7mm b) 10mm

c) 12mm d)5mm

32. The effective height of bearing stiffeners is

a) more than d b) less than d

c) 0.7 d d)2d

33. The minimum thickness of plates in a steel stack should be

a) 3mm b) 5mm

c) 6mm d)9mm

34. As per IS-800-1974, the maximum longitudinal pitch allowed in bolted joints of tension members is about

a) 12 times thickness of plate b) 12 times diameter of the bolt

c) 16 times thickness of plate d)16 times diameter of the bolt

35. In a prestressed member, it is advisable to use

a) low strength concrete only b) high strength concrete only

c) low strength concrete but high tensile strength d)high strength concrete and high tensile strength

36. Partial safety factors used for steel and concrete in limit state design are

a) 1.5 and 1.5 b) 1.0 and 1.5

c) 1.15 and 1.5 d)1.0 and 1.0

37. A retaining wall retaining a surcharge, if overall height of the wall is H, then the width of the base slab would be

a) 0.70 H b) 0.55 H

c) 0.50 H d)0.40 H

38. The ratio of maximum shear stress to average shear stress of a circular beam is

a) 2/3 b) 3/2

c) 3/4 d)4/3

39. The thickness of the flange of a tee beam of a ribbed slab is generally assumed as

a) depth of the rib b) width of the rib

c) thickness of the concrete topping d)half the thickness of the rib

40. Design of R.C.C cantilever beams is based on the resultant force at

a) fixed end b) free end

c) mid-span d)mid-span and fixed support

41. Diameter of main bars in R.C.C columns shall not be less than

a) 6mm b) 8mm

c) 10mm d)12mm

42. What is the modulus of elasticity of concrete mix M 25?

a) 2500 N/mm^2 b) 5700 N/mm^2

c) 15,000 N/mm^2 d)28,500 n/mm^2

43. For concreting of heavily reinforced sections, that too without vibration, the compaction factor for concrete should be

a) 0.75 – 0.80 b) 0.80 – 0.85

c) 0.85 – 0.92 d)above 0.92

44. If the thickness is small in comparison with length and width, such structural members are called as

a) one dimensional b) two dimensional

c) three dimensional d)none of these

45. Number of unknown internal forces in each member of a rigid jointed plane frame is

a) 1 b) 2

c) 3 d)6

46. In case of eccentricity loaded struts, the section preferred is

a) solid b) hollow

c) tapering d)composite

47. Points of contraflexure are the points where

a) beam is supported b) bending moment is zero

c) shear force is zero d)bending moment changes sign

48. Geologically marble is known as

a) sedimentary rock b) igneous rock

c) metamorphic rock d)stratified rock

49. For 1 m^3 of brick masonry, number of bricks is

a) 400 b) 450

c) 500 d)550

50. The standard size of brick as per IS standard is

a) 20 X 10 X 10 cm b) 23 X 12 X 8 cm

c) 19 X 9 X 9 cm d)18 X 9 X 9 cm

51.The units of flexural stiffness are

(a) Radians per unit rotation

(b) Moment per unit rotation

(c) Force per unit deflection and rotation

(d) Extension per unit force

52. The torsional stiffness of a member can be defined as

(a) Torque for unit moment

(b) Torque for unit twist

(c) Moment for unit twist

(d) Torsion for unit twist

53.The stiffness method in structural analysis is known as

(a) Unit load method

(b) Consistent deformation method

(c) Force method

(d) Displacement method

54. The flexibility of an element can be defined as

(a) Flexural moment per unit rotation

(b) Rotation for unit moment

(c) Flexibility for unit translation

(d) none

55. The flexibility method in structural analysis starts with

(a) Compatible deformations

(b) Equilibrium of forces

(c) Force deformation relation

(d) Displacement of joints

56. Number of compatibility conditions needed in the analysis of statically determinate structure are

(a) 0 (b) 2 (c) 3 (d) 6

57. Compatibility conditions are primarily governed by

(a) Strains (b) Stresses (c) Temperature (d) Forces

58. Shape factor for circular section is

(a) 1 (b) 1.5 (c) 2 (d)2.5

59. Space trusses fall under approximation

(a) continuum (b) Framed (c) Discrete (d) Disjointed

60.The carryover factor in a prismatic member whose far end is hinged is

(a) 0 (b) ½ (c) ¾ (d) 1

61.The moment distribution in structural analysis is treated as

(a) a displacement method

(b) a force method

(c) a flexibility method

(d) none of these

62. Plastic analysis of the structures is used in

(a) Working stress design

(b) Ulitimate strength design

(c) Limit state design

(d) none of these

63. The bending moment about the hinge support must be

(a) less than zero (b) equal to zero

(c) greater than zero (c) Approximately zero

64.Minimum number of equilibrium equations required for a plane frames analysis of structure is

(a) 2 (b) 3 (c)5 (d)6

65. Minimum number of equilibrium equations required for a space frames analysis of structure is

(a) 3 (b)6 (c)8 (d) 9

66.The measurement of all the work and supplies are recorded in the

(a) Schedule of the rate (b)M-book

(c)Road metal rate book (d) None of these

67. Earnest money deposit is generally

(a) 3% (b)5% (c)2% (d) 6%

68.Detailed measurements are certified by

(a)Asistant Engineer (b)Junior Engineer

(c)S.D.O (d) None of them

69. Unit of Modulus of section

(a) Kg-m^3 (b)m^3 (c)m4 (d)m^2

70. Soil which contains finest grain particles

(a) coarse sand (b)Fine sand (c)silt (d) clay

71.The equation $\tau = C + \sigma \tan \Phi$ is given by

(a) Rankine (b)Coulomb (c)Culmann (d) Mohr

72. When the water table is close to the ground surface , the bearing capacity of a soil is reduced to

(a) 1/4 (b)1/2 (c)1/3 (d) ¼

73. Pile foundation is provided to

(a) Carry loads (b)Resist horizontal and uplift force

(c)Compact a loose cohesion less deposit (d) all of these

74. The efficiency of the pile group depends on

(a) soil type (b)method of pile installation (c)pile spacing (d) all of these

75. Garbage is a

(a) Dry waste (b)Semi liquid waste (c)liquid waste (d) None of these

76.Biological action is used in

(a) Screens (b)Sedimentation tanks

(c)Activated sludge treatment (d) all of these

77. The sewage is treated by aerobic action in

(a) settling tank (b)Trickling filter

(c)oxidation pond (d) all of these

78.The settling velocity , in a sewage settling tank increases due to

(a) increases in specific gravity of the solid particles

(b)decreases in the size of solid particles

(c)decrease in temperature of sewage

(d) none of these

79.The solidification of molten magma within the earth crust results in the formation of

(a) Sedimentary rocks (b)Metamorphic rocks

(c) Basalt and traps (d) Granite

80. Which constituent of the cement up on addition of water , sets and hardens first?

(a) Tricalcium silicate (b)Tricalcium aluminate

(c)Di calcium silicate (d) Free lime

81.Efflorescence in cement is caused due to an excess of

(a) alumina (b)iron oxide (c)silica (d) alkalies

82.A good brick when immersed in water bath for hours , should not observe more than

(a)20% of its saturated weight

(b)30% of its dry weight

(c)10% of its saturated weight

(d)15% of its dry weight

83. Plaster of paris can be obtained from the calcinations

(a) lime stone (b) gypsum (c)dolomite (d) bauxite

84.Refractory bricks are specially manufactured to

(a) withstand high temperature (b) with stand high crushing pressure

(c) Have high insulation against sound (d) none of these

85.If the center of the arch lies on the springing line , it is

(a) segmental arch (b) semi-circular arch (c) Bull's eye arch (d) horse shoe arch

86.As the cement sets and hardens it generates heat which is called

(a) latent heat (b) sensible heat (c) heat of humidity (d) heat of hydration

87.The steel mould for slump test is in the form of a

(a) cube (b) cylinder (c) frustum of a cone (d) none of these

88. The minimum percentage of ingredients in cement is that of

(a) lime (b)aluminum (c) silica (d) magnesium oxide

89.The test conducted by Vicat's apparatus is for

(a) fineness (b) compression (c) tensile (d) consistency

90. Le chatlier apparatus is used to perform

(a) fineness (b) soundness (c) consistency (d) compressive

91. Minimum pitch value is equal to

(a) 2.5 times the diameter of rivet hole (b) 3.0 times the diameter of rivet hole

(c) 2.0 times the diameter of rivet hole (d) 3.5 times the diameter of rivet hole

92. The slenderness ratio of masonry walls is limited to

(a) 50 (b)40 (c) 20 (d) 10

93. Fully prestressed concrete beam means

(a) no tension is permitted (b) no cracking is permitted

(c) working loads are completely resisted by prestressing force (d) none of these

94. In a moment resisting connection, the moment carrying capacity is provided by

(a) tension in rivets (b) compression in rivets

(c) shear in rivets (d) bearing strength in rivets

95. The amount of precipitation is measured by

(a) rain gauge (b) osmoscope (c) turbidimeter (d) all of these

96. The water shed channel is also called

(a) side slope channel (b)contour channel

(c) ridge channel (d) all of these

97. Gauge is slightly widened on

(a) points (b)Diamond crossing (c) curves (d) Tracks for train

98.A track is elastic mainly because of

(a) rails (b)sleepers (c) ballast (d) formation

99.The best type of ballast is

(a) Granite (b)Sand stone (c) limestone (d) Quartzite

100. The minimum water-cement ratio for obtain workable concrete is

(a) 0.60 (b)0.55 (c) 0.50 (d) 0.40

Answer Key

1. C	39. B	77. C
2. D	40. B	78. A
3. D	41. D	79. D
4. D	42. A	80. B
5. C	43. D	81. D
6. A	44. B	82. A
7. B	45. C	83. B
8. C	46. B	84. A
9. B	47. D	85. B
10. C	48. C	86. D
11. A	49. C	87. C
12. B	50. C	88. B
13. C	51. B	89. D
14. A	52. B	90. A
15. A	53. D	91.A
16. C	54. B	92.C
17. A	55. B	93. C
18. B	56. A	94. D
19. B	57. A	95. A
20. B	58. B	96. C
21. D	59. C	97. C
22. A	60. B	98. C

23. A
24. C
25. B
26. B
27. A
28. C
29. C
30. C
31. A
32. C
33. A
34. C
35. D
36. C
37. A
38. D
61. A
62. B
63. B
64. B
65. A
66. B
67. C
68. A
69. B
70. D
71. B
72. B
73. D
74. D
75. A
76. C
99. A
100. D