

1. The flow in open channel is turbulent if the Reynolds Number is : [SSC-2010]
  - (a) 2000
  - (b) more than 2000
  - (c) more than 4000
  - (d) 4000
2. The pitot tube is used to measure: [SSC-2010]
  - (a) Velocity at stagnation point
  - (b) Stagnation pressure
  - (c) Static pressure
  - (d) Dynamic pressure
3. The maximum permissible limit for fluoride in drinking water is [SSC-2010]
  - (a) 0.1 mg/l
  - (b) 1.5 mg/l
  - (c) 5 mg/l
  - (d) 10 mg/l
4. The shearing strength of a cohesionless soil depends on: [SSC-2010]
  - (a) Dry density
  - (b) Rate of loading
  - (c) Confining pressure
  - (d) All the above
5. Dry rot: [SSC-2010]
  - (a) cracks the timber
  - (b) reduces the timber to powder
  - (c) reduces the strength of timber
  - (d) shrinks the timber
6. Resins are : [SSC-2010]
  - (a) not soluble in water
  - (b) soluble in spirit
  - (c) used in varnishes
  - (d) left behind on evaporation of oil
7. For a tachometer the additive and multiplying constants are : [SSC-2010]
  - (a) 0 and 100
  - (b) 100 and 0
  - (c) 0 and 0
  - (d) 100 and 100
8. The relation between coefficient of consolidation  $C_v$ , time factor  $T_v$ , drainage path  $d$  and time  $t$ , is given by: [SSC-2010]
  - (a)  $C_v = \frac{d^2 T_v}{t}$
  - (b)  $C_v = \frac{d^2 t}{T_v}$
  - (c)  $C_v = \frac{t \cdot T_v}{d^2}$
  - (d)  $C_v = \frac{T_v}{t \cdot d^2}$
9. Age of a tree may be ascertained by: [SSC-2010]
  - (a) radius of its stem
  - (b) circumference of its stem
  - (c) number of branches
  - (d) number of annual rings
10. The main ingredients of Portland cement are: [SSC-2010]
  - (a) lime and silica
  - (b) lime and alumina
  - (c) silica and alumina
  - (d) all the above
11. Flow of fluid takes place due to its: [SSC-2010]
  - (a) Viscosity
  - (b) Compressibility
  - (c) Surface tension
  - (d) Deformation under shear force
12. Bitumen emulsion is [SSC-2010]
  - (a) a liquid containing bitumen in suspension
  - (b) a paint
  - (c) used as anti-corrosive paint
  - (d) all the above
13. Primary treatment of sewage consists of : [SSC-2010]
  - (a) Removal of floating materials
  - (b) Removal of sand and grit
  - (c) Removal of organic materials
  - (d) All the above
14. The accuracy of measurement in chain surveying, does not depend upon: [SSC-2010]
  - (a) length of the offset
  - (b) scale of the plotting
  - (c) importance of the features
  - (d) general layout of the chain lines
15. Air valves in a distribution system are provided at : [SSC-2010]
  - (a) Dead ends in the water distribution system
  - (b) Junction of main and branch pipes
  - (c) Summit points on water mains
  - (d) Places where the pressure is minimum
16. The ratio of liquid limit to plasticity index for a soil mass is called: [SSC-2010]
  - (a) liquidity index
  - (b) shrinkage ratio
  - (c) consistency index
  - (d) none of the above

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17. If the diameter of a capillary tube is doubled, the capillary rise will be : [SSC-2010]  
(a) unaffected (b) doubled  
(c) halved (d) none of the above
18. Uniformity coefficient of a soil is: [SSC-2010]  
(a) always less than 1 (b) always equal to 1  
(c) equal to or less than 1 (d) equal to or greater than 1
19. To measure static pressure in pipe, one uses a pressure guage connected to a: [SSC-2010]  
(a) Pilot tube (b) Venturimeter  
(c) Orificemeter (d) Pictometer Tapping
20. Standard penetration resistance in very stiff clays lies between : [SSC-2010]  
(a) 2 and 4 (b) 4 and 8  
(c) 8 and 15 (d) 15 and 30
21. A submerged weir is one in which the water level on the down streams side of the weir is: [SSC-2010]  
(a) Just at the crest level  
(b) below the crest level  
(c) above crest level  
(d) at same elevation as water surface on upstream
22. The size of modular bricks are: [SSC-2010]  
(a)  $10 \times 10 \times 9$  cm (b)  $19 \times 9 \times 9$  cm  
(c)  $22.5 \times 10 \times 8.5$  cm (d)  $22.5 \times 8.0 \times 9$  cm
23. The 'fix' of a plane table from three known points, is good, if: [SSC-2010]  
(a) middle station is nearest  
(b) middle station is farthest  
(c) either the right or left station nearest  
(d) none of these
24. The bubble tube parallel to the telescope of a theodolite should be more sensitive, since it controls: [SSC-2010]  
(a) vertical axis (b) horizontal axis  
(c) axis of bubble tube (d) none of the above
25. Crushing strength of good building stone should be more than : [SSC-2010]  
(a)  $500 \text{ kg/cm}^2$  (b)  $1000 \text{ kg/cm}^2$   
(c)  $1400 \text{ kg/cm}^2$  (d)  $2000 \text{ kg/cm}^2$
26. For determining the ultimate bearing capacity of soil the recommended size of square bearing plate used in Plate load test is 30 – 75 cm with a minimum thickness of : [SSC-2010]  
(a) 20 mm (b) 5 mm  
(c) 50 mm (d) None of the above
27. The minor loss due to sudden contraction is due to : [SSC-2010]  
(a) flow contraction  
(b) expansion of flow after sudden contraction  
(c) cavitation  
(d) boundary friction
28. Sand stone is [SSC-2010]  
(a) Sedimentary rock (b) Metamorphic rock  
(c) Igneous rock (d) Volcanic rock
29. The coefficient of curvature for a well graded soil must be in the gauge: [SSC-2010]  
(a) 0.5 – 1.0 (b) 3.0 – 4.0  
(c) 4.0 – 5.0 (d) None of these
30. A sewer which receives the discharge of a number of house sewers is called: [SSC-2010]  
(a) house sewer (b) lateral sewer  
(c) intercepting sewer (d) sub-main sewer
31. Cross staff is used for: [SSC-2010]  
(a) setting out right angles  
(b) measuring horizontal angles  
(c) both (A) and (B)  
(d) none of the above
32. Rocks having alumina or clay as their major constituent are called: [SSC-2010]  
(a) Silicious rocks (b) Argillaceous rocks  
(c) Sedimentary rocks (d) None of the above
33. The magnitude of the buoyant force can be determined by: [SSC-2010]  
(a) Newton's law of viscosity  
(b) Archimede's principle  
(c) Principles of moments  
(d) none of the above

34. Cross hairs in surveying telescopes, are fitted:[SSC-2010]  
 (a) in the objective lens  
 (b) at the center of the telescope  
 (c) at the optical centre of the eye piece  
 (d) in front of the eyepiece
35. Bernoulli's theorem deals with the law of consevation of:  
 [SSC-2010]  
 (a) mass (b) momentum  
 (c) energy (d) none of the above
36. undisturbed samples are obtained by:- [SSC-2010]  
 (a) direct excavation  
 (b) thin walled samples  
 (c) thick walled samples  
 (d) none of the above
37. Good quality cement contains higher percentage  
 [SSC-2010]  
 (a) Tricalcium Silicate (b) Tricalcium Aluminate  
 (c) Dicalcium Silicate (d) None of the above
38. The distribution system in water supplies is designed on the basis of [SSC-2010]  
 (a) average daily demand (b) peak hourly demand  
 (c) coincident of draft (d) greater of (b) and (c)
39. In levelling operation: [SSC-2010]  
 (a) The first sight on any change point is a back sight  
 (b) The second sight on any change point is a fore sight  
 (c) The line commences with a fore sight and closes with a back sight  
 (d) The line commences with a back sight and closes with a fore sight.
40. The difference between face left and face right observation of a theodolite is 3'. The error is: [SSC-2010]  
 (a) 45" (b) 1' 30"  
 (c) 3' (d) 0'
41. The moisture content of a soil, below which the soil volume becomes constant, is called the: [SSC-2010]  
 (a) liquid limit (b) plastic limit  
 (c) shrinkage limit (d) none of the above
42. The commonly used thinner in oil paints, is: [SSC-2010]  
 (a) naptha (b) turpentine  
 (c) both (a) and (b) (d) neither (a) and (b)
43. A manhole is generally provided at each: [SSC-2010]  
 (a) Bend (b) Junction  
 (c) Change of gradient (d) All the above
44. The moisture content in a well seasoned timber is : [SSC-2010]  
 (a) 5 to 10% (b) 10 to 12%  
 (c) 12 to 15% (d) 30 to 50%
45. The detention period for oxidation ponds is usually kept as:  
 [SSC-2010]  
 (a) 4 – 8 hours (b) 24 hours  
 (c) 10 to 15 days (d) 3 months
46. The commonly used lime in white washing is:[SSC-2010]  
 (a) Quick lime (b) Fat lime  
 (c) Hydraulic lime (d) All the above
47. Plywood is obtained by gluing wooden sheets at a pressure of [SSC-2010]  
 (a) .....<sup>2</sup> (b) 100 to 130 N/cm<sup>2</sup>  
 (c) Both (a) and (b) (d) Neither (a) nor (b)
48. Coefficient of earth pressure at rest is given by: [SSC-2010]  
 (a)  $\frac{\mu^2}{1-\mu^2}$  (b)  $\frac{\mu}{1-\mu}$   
 (c)  $\frac{1-\mu}{\mu}$  (d)  $\frac{1-\mu^2}{\mu^2}$
49. Nitrates more than 45 mg/l water lead to disease called:  
 [SSC-2010]  
 (a) Gastroenteritis (b) Mottled teeth  
 (c) Polio (d) None of the above
50. Quick sand is a : [SSC-2010]  
 (a) type of sand  
 (b) flow condition occurring in cohesive soil  
 (c) flow conditions occuring in cohesionless soils  
 (d) all the above
51. Characteristic strength of concrete is measured at : [SSC-2010]  
 (a) 14 days (b) 28 days  
 (c) 91 days (d) 7 days

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52. In a cantilever beam, main reinforcement is provided : [SSC-2010]  
(a) above the neutral axis  
(b) as vertical stirrups  
(c) as helical reinforcement  
(d) below the neutral axis
53. The minimum grade of reinforced concrete in sea water as per IS 456 : 2000 is : [SSC-2010]  
(a) M 15 (b) M 20  
(c) M 30 (d) M 40
54. Section modulus for a rectangular section is given as: [SSC-2010]  
(a)  $bd^2/36$  (b)  $bd^3/6$   
(c)  $bd^2/6$  (d)  $bd^3/12$
55. A pre-cast pile generally used is: [SSC-2010]  
(a) circular  
(b) square  
(c) octagonal  
(d) square with corners chamfered
56. The value of ultimate creep coefficient for concrete [SSC-2010]  
(a) increases with age of loading  
(b) decreases with age of loading  
(c) remains constant  
(d) is taken as 0.0003
57. Slump test is used for : [SSC-2010]  
(a) strength (b) durability  
(c) workability (d) consistency
58. The limit of Poisson's ratio is: [SSC-2010]  
(a) 0.25 (b) 0.15  
(c) 0.50 (d) 0.65
59. Shrinkage in concrete can be reduced by using: [SSC-2010]  
(a) low water cement ratio (b) less cement in the concrete  
(c) proper concrete mix (d) all the above
60. In a cantilever retaining wall, the stem designing moment is [SSC-2010]  
(a)  $K_a \gamma h^2/2$  (b)  $K_a \gamma h$   
(c)  $K_a \gamma h^3/6$  (d)  $K_a \gamma h^3/12$
61. Shear reinforcement is provided in the form of: [SSC-2010]  
(a) vertical bars  
(b) inclined bars  
(c) combination of vertical and inclined  
(d) any one of the above
62. Minimum pitch of rivets should not be less than how many times of gross diameter of rivet? [SSC-2010]  
(a) 2 times (b) 2.5 times  
(c) 3 times (d) 4 times
63. Effective throat thickness (t) and size of weld (s) are connected as : [SSC-2010]  
(a)  $t = k s^2$  (b)  $t = k s^3$   
(c)  $t = k s$  (d)  $t = k \sqrt{s}$
64. Bolts are most suitable to carry [SSC-2010]  
(a) shear (b) bending  
(c) axial tension (d) shear and bending
65. Shape factor for a circular section is equal to : [SSC-2010]  
(a) 1.00 (b) 1.50  
(c) 2.34 (d) 1.70
66. For a rivet of 36 mm diameter, the diameter of hole shall be taken as: [SSC-2010]  
(a) 37.5 mm (b) 36.0 mm  
(c) 38.0 mm (d) 38.5 mm
67. The operation of removing humps and hollows a uniform concrete surface, is known as : [SSC-2010]  
(a) floating (b) screeding  
(c) trowelling (d) finishing
68. What should be multiplied with permissible bearing stress to find out strength of rivets in bearing? [SSC-2010]  
(a)  $(p - d) t$  (b)  $\frac{\pi}{4} d^2$   
(c)  $\frac{\pi}{2} d^2$  (d)  $d \cdot t^2$
69. The minimum head room over a stair must be: [SSC-2010]  
(a) 200 cm (b) 205 cm  
(c) 210 cm (d) 220 cm
70. Bulking of sand is: [SSC-2010]  
(a) less in fine sand (b) more in coarse sand  
(c) more in medium sand (d) more in fine sand

- 71.** Pick the wrongly written assumption taken in analysis of rivetted joints. [SSC-2010]  
 (a) Friction in plates is negligible  
 (b) Uniform stress distribution in plates is not considered  
 (c) Bending moment is not taken into consideration  
 (d) Total load on the joint is equally shared by all rivets
- 72.** Partly safety for concrete and steel respectively may be taken as: [SSC-2010]  
 (a) 1.5 and 1.15 (b) 1.5 and 1.78  
 (c) 3 and 1.78 (d) 3 and 1.2
- 73.** The shear stress distribution over a beam of solid circular section is such that : [SSC-2010]  
 (a)  $q_{\max} = 2 q_{\text{mean}}$  (b)  $q_{\max} = 1.5 q_{\text{mean}}$   
 (c)  $q_{\max} = 1.33 q_{\text{mean}}$  (d)  $q_{\max} = 1.25 q_{\text{mean}}$
- 74.** According to IS : 456 – 2000, the maximum reinforcement in a column is [SSC-2010]  
 (a) 4% (b) 2%  
 (c) 6% (d) 8%
- 75.** A column is a compression member, the effective length of which exceeds three times of its least lateral dimension. This is applicable to : [SSC-2010]  
 (a) rectangular and circular sections.  
 (b) I section and circular section  
 (c) rectangular, circular and I sections  
 (d) all the shapes of sections
- 76.**  $EI (d^3y/dr^3)$  for a beam represents : [SSC-2010]  
 (a) deflection (b) slope  
 (c) moment (d) shear
- 77.** For a fixed support in a plane structure, total number of reactions is: [SSC-2010]  
 (a) 1 (b) 2  
 (c) 3 (d) 4
- 78.** Standard loads are given in : [SSC-2010]  
 (a) IS 885 (b) IS 1375  
 (c) IS 675 (d) IS 875
- 79.** The characteristic strength of concrete is defined as that strength below which not more than \_\_\_\_\_ of the test results are expected to fall. [SSC-2010]
- (a) 10 percent (b) 5 percent  
 (c) 15 percent (d) 20 percent
- 80.** Minimum thickness of main steel members, not exposed to weather, is : [SSC-2010]  
 (a) 4.5 mm (b) 6.0 mm  
 (c) 8.0 mm (d) 8.5 mm
- 81.** A rivetted joint can fail in: [SSC-2010]  
 (a) tearing of plate only  
 (b) shearing of rivet only  
 (c) bearing of plate or rivet only  
 (d) any of the above
- 82.** Euler's formula is valid for : [SSC-2010]  
 (a) short columns only  
 (b) long columns only  
 (c) both short and long columns  
 (d) none of the above
- 83.** Maximum value of slenderness ratio of lacing in the steel column is : [SSC-2010]  
 (a) 120 (b) 145  
 (c) 180 (d) 320
- 84.** A simply supported beam is considered as a deep beam if the ratio of effective span to overall depth is less than: [SSC-2010]  
 (a) 1 (b) 4  
 (c) 3 (d) 2
- 85.** The minimum thickness of a reinforced concrete wall should be [SSC-2010]  
 (a) 7.5 cm (b) 10 cm  
 (c) 15 cm (d) 12.5 cm
- 86.** The type of weld used to connect two plates at a lap joint is called : [SSC-2010]  
 (a) Butt weld (b) Slot weld  
 (c) Plug weld (d) Fillet weld
- 87.** Water required per bag of cement, is [SSC-2010]  
 (a) 7 kg (b) 14 kg  
 (c) 28 kg (d) 35 kg
- 88.** Which of the following method may be used for getting a more workable concrete? [SSC-2010]

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- (a) by increasing cement content  
(b) by decreasing water cement ratio  
(c) by using angular aggregates in place of rounded ones  
(d) by reducing the size of aggregates
89. Ductility of which of the following is the maximum? [SSC-2010]  
(a) Mild steel (b) Cast iron  
(c) Wrought iron (d) Pig iron
90. For a beam, the term [SSC-2010]  
(a) stress (b) rigidity  
(c) curvature (d) shear force
91. If lines of action of forces in a system of forces meet at a point then these forces are called as : [SSC-2010]  
(a) parallel forces (b) non-concurrent forces  
(c) concurrent forces (d) resultant forces
92. Additional cover thickness in reinforced cement concrete members totally immersed in sea water is : [SSC-2010]  
(a) 25 mm (b) 30 mm  
(c) 35 mm (d) 40 mm
93. A reinforced concrete beam supported on columns at ends has a clear span 5 m, and 0.5 m effective depth. It carries a total uniformly distributed load 100 kN/m. The design shear force for the beam is: [SSC-2010]  
(a) 250 kN (b) 200 kN  
(c) 175 kN (d) 150 kN
94. Tension bars in a cantilever beam must be enclosed in the support up to : [SSC-2010]  
(a)  $L_d$  (b)  $L_d/3$   
(c)  $12\phi$  (d)  $d$
95. strain energy stored in a solid is given as : [SSC-2010]  
(a)  $\sigma \times \epsilon \times \text{volume}$   
(b)  $\sigma \times \epsilon \times \text{area of cross section}$   
(c)  $0.5 \times \sigma \times \epsilon \times I$   
(d)  $0.5 \times \sigma \times \epsilon \times \text{volume}$
96. Relation between Young's modulus (E) and modulus of rigidity (G) is given as [SSC-2010]  
(a)  $E = 3G(1 + \nu)$  (b)  $E = 2G(1 - \nu)$   
(c)  $E = 2G(1 + \nu)$  (d)  $E = 3G(1 - \nu)$
97. The characteristic strength of concrete in the actual structure is taken as [SSC-2010]  
(a)  $f_{ck}$  (b)  $0.85 f_{ck}$   
(c)  $0.67 f_{ck}$  (d)  $0.447 f_{ck}$
98. In ordinary portland cement, the first one to react with water is: [SSC-2010]  
(a)  $C_3A$  (b)  $C_2S$   
(c)  $C_3S$  (d)  $C_4AF$
99. The purpose of lateral ties in short concrete columns is : [SSC-2010]  
(a) to avoid buckling of longitudinal bars  
(b) to facilitate construction  
(c) to facilitate compaction of concrete  
(d) to increase the load carrying capacity
100. Pozzolana are rich in: [SSC-2010]  
(a) silica  
(b) silica and alumina  
(c) silica, alumina and alkali  
(d) silica, alumina, alkali and iron



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