



JKSSB JE

Civil Engineering

Mini Mock Challenge

(June 16th - June 17th 2021)

Questions &
Answer Key

9. The distance between the gauge faces of stock rail and tongue rail at the heel of the switch is called
- A. Heel divergence
 - B. Flange way clearance
 - C. Switch angle
 - D. Throw of switch

Ans. A

10. Air permeability test is done to measure:
- A. Setting time of cement
 - B. Soundness of cement
 - C. Chemical composition of cement
 - D. Fineness of cement

Ans. D

11. In a transit theodolite, the error due to non-parallelism of axis of telescope level and line of collimation can be eliminated by
- A. reading both verniers.
 - B. reading different parts of main scale.
 - C. reading left and right face observations.
 - D. taking both right and left swing readings.

Ans. C

12. Torque corresponding to a twist of one radian in a shaft over its unit length is called
- A. Torsional rigidity
 - B. Torsional stress
 - C. Flexural rigidity
 - D. Moment of resistance

Ans. A

13. Yield line theory leads to result in
- A. Elastic solution
 - B. Lower bound solution
 - C. Upper bound solution
 - D. Unique solution

Ans. C

14. In case of stratified soil layers, the best equation that can be adopted for computing the pressure distribution is
- A. Skempton's
 - B. Westergaard's
 - C. Prandtl's
 - D. Rankine's

Ans. B

15. An inward flow reaction turbine:
- A. Impulse turbine
 - B. Francis turbine
 - C. Pelton turbine
 - D. All the above

Ans. B

16. In a Canal Syphon type Cross Drainage Work
- A. canal bed is below the drain
 - B. canal bed is above the drain
 - C. canal bed and the drain at the same level
 - D. canal and the drain crossing at right angles

Ans. A

17. Sludge bulking can be controlled by
- A. Coagulation
 - B. Chlorination
 - C. Denitrification
 - D. Aeration

Ans. B

18. As per IRC, the maximum superelevation permissible in a snowbound hilly terrain is:
- A. 4%
 - B. 5%
 - C. 7%
 - D. 10%

Ans. B

19. Find the grade compensation for a 6 degree curve on a Broad Gauge railway track
- A. 0.16%
 - B. 0.20%
 - C. 0.24%
 - D. 0.32%

Ans. C

20. Which of the following is the most accurate estimate?
- A. Plinth area estimate
 - B. Cube rate estimate
 - C. Detailed estimate
 - D. Building cost index estimate

Ans. C

21. Station pointer is used for:
- A. solving 3 point problem of hydrographic survey
 - B. determining water level and its variation
 - C. measuring angles
 - D. measuring discharge of a stream

Ans. A

22. A cantilever beam of length l is subjected to a vertical load w at its free end. If the flexural rigidity EI of the beam is constant, determine the deflection at its free end?

- A. $\frac{wl^3}{3EI}$
- B. $\frac{wl^3}{6EI}$
- C. $\frac{wl^3}{24EI}$
- D. $\frac{wl^3}{48EI}$

Ans. A

23. End bearing splices are used for
- A. Bars in tension
 - B. Bars in compression
 - C. Resist torsion
 - D. None of the above

Ans. B

24. Which of the following are true for Pumping in test?
- A. This test is economical than pumping out test
 - B. Its results are more reliable than pumping out test
 - C. They are conducted just closer to the hole where plumping out test was performed
 - D. All of the above

Ans. D

25. The vertical depth of the centre of pressure, \bar{h} for the inclined plane surface below the free surface of the liquid is

A. $\bar{x} - \frac{I_G \sin \theta}{A}$

B. $\bar{x} - \frac{I_G \sin^2 \theta}{Ax^2}$

C. $\bar{x} + \frac{I_G \sin^2 \theta}{Ax}$

D. $\bar{x} - \frac{I_G \sin^2 \theta}{A}$

Ans. C

26. Water requirement for the crops is equal to

A. Consumptive use

B. Consumptive use + Application loss

C. Consumptive use + Application loss + Special needs for land preparation, transplantation

D. Consumptive use + Application loss + Surface runoff

Ans. C

27. The units in which both sedimentation & digestion process of sludge take places simultaneously is

A. skimming tank

B. imhoff tank

C. detritus tank

D. digestion tank

Ans. B

28. Modulus of subgrade reaction using 30cm diameter plate is obtained as 200N/cm³. The value of the same using standard plate will be

A. 500

B. 80

C. 100

D. 200

Ans. B

29. The gauge of a railway track is defined as:

A. The clear distance between inner faces of two rails

B. The clear distance between outer faces of two rails

C. The centre to centre distance between two rails

D. The distance between inner faces of a pair of wheels

Ans. A

30. The carpet area of a residential building may be _____ of plinth area.

A. 15% to 30%

B. 30% to 40%

C. 40% to 50%

D. 50% to 65%

Ans. D

31. The angle between two plain mirrors of an optic square is _____.

A. 0°

B. 30°

C. 45°

D. 90°

Ans. C

40. Bar charts are suitable only for
- A. Minor projects
 - B. Medium Projects
 - C. Major projects
 - D. Huge projects

Ans. A

41. The value of additive constant in analectic lens is _____.
- A. 100
 - B. 0
 - C. 0.5
 - D. 10

Ans. B

42. A cube of volume 5000 cc is subjected to an allround stress of 1400 kg/cm². If the volumetric change is 5cc, the bulk modulus of the material (in x10⁶ kg/cm²) is:
- A. 0.5
 - B. 1.4
 - C. 2
 - D. 3.4

Ans. B

43. In a singly reinforced balanced section , if M 30 concrete and Fe 415 steel is used, then the value of neutral axis factor (k) in L.S.M. is
- A. 0.42
 - B. 0.46
 - C. 0.48
 - D. 0.52

Ans. C

44. Density index of medium dense sand is
- A. 20
 - B. 30
 - C. 50
 - D. 80

Ans. C

45. The pressure of a liquid measured with the help of a piezometer tube is:
- A. Vacuum pressure
 - B. Gauge pressure
 - C. Absolute pressure
 - D. Atmospheric pressure

Ans. B

46. When the reservoir is full, the maximum compressive force in a gravity dam is produced
- A. at the toe.
 - B. at the heel.
 - C. within the middle third of base.
 - D. at centre of base.

Ans. A

47. The waste stabilization lagoons can be
- A. Aerobic
 - B. Anaerobic
 - C. Facultative
 - D. Any of the above

Ans. D

48. The consistency and resistance to flow of bitumen can be determined by
- A. Viscosity test
 - B. Penetration test
 - C. Ductility test
 - D. Softening point test

Ans. A

49. The numbers of sleepers required for construction 500 m long railway track, using sleeper density of M+5 and rail length of 10 m
- A. 500
 - B. 750
 - C. 600
 - D. 650

Ans. B

50. A Dummy activity
- A. has no bearing on the network and can appear any where
 - B. has only head event but no tail event
 - C. has tail event but no head event
 - D. neither requires any time nor any resources

Ans. D

51. The deflection at any point of a perfect frame can be obtained by applying a unit load at the joint in
- A. Horizontal direction
 - B. Vertical direction
 - C. Inclined direction
 - D. The direction in which deflection is required

Ans. D

52. The maximum area of tension steel in a beam shall not exceed
- A. 0.15 bD
 - B. 0.12 bD
 - C. 0.04 bD
 - D. 1.00 bD

Ans. C

53. The stress which is responsible for retaining water in capillary tube above the free water surface of the water body in which the capillary tube is inserted, is:
- A. Capillary compression
 - B. Capillary tension
 - C. Capillary pore pressure
 - D. None of the above

Ans. D

54. Outriggers are used for
- A. crawler mounted mobile cranes to enhance its stability
 - B. wheel mounted mobile cranes to enhance its stability
 - C. fixing the lattice boom in a crane
 - D. fixing the telescopic boom in a crane

Ans. B

55. In the displacement method of structural analysis, the basic unknown is
- A. Displacement
 - B. Force
 - C. Displacement and force
 - D. None of these

Ans. A

56. Relation between Young's modulus and cube strength of concrete is:

- A. $E_c = 5000 \sqrt{f_{ck}}$
- B. $E_c = 5700 \sqrt{f_{ck}}$
- C. $E_c = 50000 \sqrt{f_{ck}}$
- D. $E_c = 7000 \sqrt{f_{ck}}$

Ans. C

57. Wicket gates are:

- A. Gate valve in a penstock
- B. Sluice gates of dam
- C. Runner vanes of reaction turbine
- D. Guide vanes of reaction turbine

Ans. D

58. Excavation exceeding 1.5 m in width as well as 10 m² on plan but not exceeding 30 cm in depth shall be described as

- A. Surface excavation
- B. Surface dressing
- C. Excavation in trenches
- D. Cutting

Ans. A

59. Design of foundation for a large generator is guided, primarily, by

- A. Frequency
- B. Deformation
- C. Strength
- D. Stiffness





Ans. A

60. Hydraulic jump for energy dissipation is used in:

- A. Saft spillway
- B. Syphon spillway
- C. Side channel spillway
- D. All of these

Ans. B

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