



CG Vyapam

Civil Engineering

Mega Mock Test-1

(April 28th - April 29th 2022)

Questions &
Answer Key

Ans. C

8. Which of the following is not a test for measuring the workability of concrete?
- A. Slump Test
 - B. Flow Test
 - C. Le Chatelier's Test
 - D. Compaction Factor Test

Ans. C

9. Increase in population of a rapidly growing city, may be estimated by:
- A. Arithmetical mean method
 - B. Geometric growth method
 - C. Incremental increase method
 - D. Graphical comparison method

Ans. B

10. Principal stresses at a point in a plane stressed element $\sigma_x = \sigma_y = 500 \text{ N/mm}^2$. Normal stress on the plane inclined at 45° to the x-axis will be
- A. 0 N/mm^2
 - B. 500 N/mm^2
 - C. 707 N/mm^2
 - D. 1000 N/mm^2

Ans. B

11. As per IS, the length of one link in a 30 make chain should be
- A. 20 cm
 - B. 30 cm
 - C. 40 cm
 - D. 100 cm

Ans. A

12. The height to diameter ratio of cylindrical specimen for uniaxial compression test of concrete is :
- A. 0.50
 - B. 0.30
 - C. 0.25
 - D. 2.00

Ans. D

13. Corrosion resistance of stainless steel is due to
- A. Chromium
 - B. Vanadium
 - C. Carbon
 - D. Sulphur

Ans. A

14. A steel rod tapers uniformly from 20 mm dia to 12 mm dia over its length of 400 mm. When this rod is subjected to an axial pull of 12kN. The extension of rod in mm would be?
- A. 0.20 mm
 - B. 0.1 mm
 - C. 0.5 mm
 - D. 1 mm

Ans. B

15. In an irrigation canal, berms are provided at
- A. NSL
 - B. FSL
 - C. Bank level
 - D. All of these

Ans. A

16. While assessing rate of return on certain investments, the investor assumes certain interest rate and calculates his net present value of all his cash inflows and outflows. Which of following will be correct?
- A. If net present value is positive for the assumed value of interest rate, the actual rate of return will be higher than assumed interest rate
 - B. If net present value is positive for the assumed value of interest rate, the actual rate of return will be lower than the assumed interest rate
 - C. It cannot be assessed in the absence of cost of capital
 - D. It cannot be assessed in the absence of actual loan period

Ans. A

17. For medium silt whose average grain size is 0.25 mm, Lacey's silt factor is likely to be:
- A. 0.88
 - B. 0.44
 - C. 0.25
 - D. None of these

Ans. A

18. Liquidated damage refers to
- A. Damages of walls, plasters and paints due to gushing of liquid or rain
 - B. Penalty cost to rectify dampness in the buildings arising out of gushing of liquid or rain
 - C. Penalty cost to rectify sub-standard quality of work
 - D. Penalty for delaying the work beyond agreed date

Ans. D

19. In Plane tabling failure of fix occurs when
- A. The plane table is inside the great triangle.
 - B. The plane table is inside the great circle.
 - C. The plane table is outside the great circle.
 - D. The plane table is on the great circle.

Ans. D

20. The force exerted by the fluid on a pipe bend for x direction , R_x is given a
- A. $(P_1A_1)_x - (P_2A_2)_x - \int Q(V_{2x} - V_{1x})$
 - B. $(P_1A_1)_x + (P_2A_2)_x + \int Q(V_{2x} - V_{1x})$
 - C. $(P_1A_1)_x - (P_2A_2)_x - \int Q_2^2(V_{1x} - V_{1x})$
 - D. $(P_1A_1)_x + (P_2A_2)_x$

Ans. A

21. Vibrating compactor is ideally suited for
- A. Manual towing and compacting any type of soil with varying moisture content
 - B. Compacting fly ash masses with any moisture content
 - C. Compacting cohesionless granular material with any moisture content
 - D. Compacting all fine grained materials having adequate moisture content

Ans. C

22. 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

23. The artificial seasoning method that causes timber to become brittle and easy to break is

- A. Boiling
- B. Chemical seasoning
- C. Electrical seasoning
- D. Kiln seasoning

Ans. A

24. Due to improper cutting of the branches during the growth of the tree, the defect caused in timber is

- A. Shake
- B. Rind gall
- C. Twisted fibre
- D. Burl

Ans. B

25. There are three parallel paths in a part of a network between a bursting node and the next merging node with only one activity in; each path. The minimum number of dummy arrows needed will be

- A. Zero
- B. 1
- C. 2
- D. 3

Ans. C

26. A compound that imparts temporary hardness to water:

- A. Calcium sulphate
- B. Magnesium chloride
- C. Calcium nitrate
- D. Magnesium carbonate

Ans. D

27. The weir is always aligned at right angle to the direction of the river flow because

- A. it ensures less length of weir
- B. it gives good discharging capacity
- C. it is economical
- D. it ensures less length , good discharge and economical

Ans. D

28. Reaction time of driver increases with

- A. increase in vehicle length
- B. decrease in vehicle speed
- C. increase in vehicle speed
- D. decrease in vehicle length

Ans. B

29. The stone whose crushing strength is maximum, is:
- A. granite
 - B. chalk
 - C. slate
 - D. marble

Ans. A

30. In plywood, the veneers are placed such that the grains of a layer are
- A. at 45° to the grains of a layer below it.
 - B. at 60° to the grains of a layer below it.
 - C. at right angles to the layer below it.
 - D. at 180° to the grains of a layer below it.

Ans. C

31. The basic runways length should be increased at the rate of X percent per Y m rise in elevation above mean sea level, where
- A. $X = 6; Y = 200$
 - B. $X = 7; Y = 300$
 - C. $X = 7; Y = 200$
 - D. $X = 6; Y = 300$

Ans. B

32. A 1 m thick layer of saturated clay, drained at both faces, settles by 10 cm in one year. If a thin layer of pervious soil is introduced in the middle of this layer, then what will be the period during which the settlement of 10 cm will be compacted?
- A. 2 years
 - B. 0.75 years
 - C. 0.25 years
 - D. 3 years

Ans. C

33. The permeability of an aquifer
- A. increase with increase in temperature
 - B. increases with the decrease in temperature
 - C. is independent of temperature
 - D. decreases with the decrease in temperature

Ans. D

34. A uniform beam of length 6 m carries ultimate load of 20 kN/m inclusive of self-weight, the design shear force is
- A. 120 kN
 - B. 90 kN
 - C. 60 kN
 - D. 30 kN

Ans. C

35. A saturated sample of soil has a water content of 35%. Adopting $G = 2.70$, what would be the approx. dry unit weight in kN/m^3 ?
- A. 13.40
 - B. 15.60
 - C. 20.5
 - D. 10.2

Ans. A

36. Compressibility of sandy soils is:
- A. almost equal to that of clayey soils.
 - B. much greater than that of clayey soils.
 - C. much less than that of clayey soils.
 - D. None of these

Ans. C

37. Select the incorrect statement:

- A. Earliest start of an activity is the early event time of the node it leaves
- B. Latest finish of an activity is the late event time of the node it enters
- C. Latest start of an activity is its latest finish minus its duration
- D. Earliest finish of an activity is the late event time of the node it enters minus its duration

Ans. D

38. An undisturbed sample of clay 24 mm thick consolidated 50% in 20 minutes when tested in laboratory with drainage allowed top and bottom. The clay layer from which the sample is taken from the 4.0 m thick layer in the field. How much time will it take to consolidate 20% with double drainage?

- A. 63 days
- B. 400 days
- C. 150 days
- D. 300 days

Ans. A

39. As per the Indian Standard (IS) 800:2007, a maximum effective slenderness ratio for member carrying compressive loads resulting from dead loads and imposed loads.

- A. 250
- B. 300
- C. 180
- D. 350

Ans. C

40. Desire lines are plotted in

- A. Origin and destination studies
- B. Speed studies
- C. Axle load studies
- D. None of these are correct

Ans. A

41. Water losses in water supply is assumed as:

- A. 5%
- B. 7.5%
- C. 10%
- D. 15%

Ans. D

42. In a centred triangle the equations of condition are

- A. four angle conditions
- B. three angle conditions and one side condition.
- C. Four angle conditions and one side, condition.
- D. Three angle conditions and two side conditions only.

Ans. B

43. In laboratory compaction tests, the optimum moisture content of soil decreases

- A. With increase of compaction energy and with decrease of coarse grains in the soil
- B. With decrease of compaction energy and with increase of coarse grains in the soil

- C. With increase of both compaction energy and coarse grains in the soil
- D. With decrease of both compaction energy and coarse grains in the soil

Ans. C

44. Hydrodynamic pressure due to earthquake acts at a height of, (where H is the depth of water)
- A. $3H/4$ n above the base
 - B. $3H/4$ n below the water surface
 - C. $4H/3$ n above the base
 - D. $4H/3$ n below the water surface

Ans. C

45. The multiplying constant of a tachometer is given by
- A. f/i
 - B. i/f
 - C. $f + d$
 - D. $f + d/i$

where 'f' is focal length of the objective, 'i' is the stadia interval and 'd' is the distance between the objective and the vertical axis.

Ans. A

46. Timber can be made reasonably fire-resistant by
- A. Soaking it in Ammonium Sulphate
 - B. Coating it with Tar paint
 - C. Pumping creosote oil into timber under high pressure
 - D. Seasoning process

Ans. A

47. The area under β -distribution curve is divided into two equal parts by
- A. Most likely time
 - B. Expected time
 - C. Optimistic time
 - D. Pessimistic time

Ans. B

48. Sludge treatment is mainly done in order to:
- A. Stabilize the organic matter
 - B. Destroy the pathogenic bacteria
 - C. Reduce the water content
 - D. All of the above

Ans. D

49. In which one of the following post-tensioning anchorage systems, the high-tension bars are threaded at their ends?
- A. Gifford-Udall
 - B. Freyssinet
 - C. Lec-McCall
 - D. Magnel-Blaton

Ans. C

50. The most commonly used admixture which increase the workability of concrete is called as
- A. Plasticizers
 - B. Retarders
 - C. Accelerators
 - D. Air entraining agents

Ans. A

51. **A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.**

?, 7, 15, 31, 63

- A. 4
- B. 5
- C. 3
- D. 6

Ans. C

52. **Select the option that is related to the third term in the same way as the second term is related to the first term.**

GFTR : JKAA :: MVLD : ?

- A. VGFR
- B. PASM
- C. LKOU
- D. SQAW

Ans. B

53. **If '+' represents '÷', '÷' represents 'x', '-' represents '+' and 'x' represents '-', then what is the value of the following expression?**

$36 + 4 \div 7 - 11 \times 50$

- A. 24
- B. 34
- C. 44
- D. 54

Ans. A

54. Pointing to a boy Sulekha said, 'his elder brother is my father's son.' How's Sulekha related to that boy?

- A. Sister
- B. Cousin
- C. Mother
- D. Can't be determined

Ans. D

55. Sunil started moving 10 km to the north from his home and then turns left to walk 15 km, he again turns left to walk 22 km. Sunil's office is 10 km to the west of his Home. How far and in which direction is his office from where he is now?

- A. 13 km, North - West
- B. 12 km, North - West
- C. 12 km, North - East
- D. 13 km, North - East

Ans. D

56. Which of the following is an Impact printer ?

- A. Inkjet printer
- B. Bubble-jet printer
- C. Laser printer
- D. Daisy wheel printer

Ans. D

57. Which of the following is the file extension of MS Excel?

- A. xlsx
- B. els
- C. exl
- D. exis

Ans. A

58. What is the full form of CCTV?

- A. Circuit closed Television
- B. Closed Circuit Television
- C. Closed Circuit Telecommunication
- D. Circuit Closed Telecommunication

Ans. B

59. Article 72 of the Constitution confers power on the President to grant:

- A. Pardon
- B. Temporary Suspension of Sentence
- C. Remission
- D. All of the above

Ans. D

60. Which of the following schedules of the Constitution of India has been INCORRECTLY matched with its content?

- A. Third Schedule – Forms of oath or affirmations
- B. Second Schedule – Languages
- C. Fourth Schedule – Allocation of seats in the council of states
- D. First Schedule – The states and the union territories

Ans. B

61. What is the tenure of the office of Comptroller and Auditor General of India (CAG)?

- A. 5 years or age of 60, whichever is lower
- B. 6 years or age of 65, whichever is lower
- C. 4 years or age of 65, whichever is lower
- D. Age of 60

Ans. B

62. Siri, Dorki and Maini are the tributaries of which river?

- A. Shivnath
- B. Ib
- C. Jonk
- D. Hasdeo

Ans. B

63. The population of Chhattisgarh is what percentage of the total population of the country?

- A. 3.44%
- B. 4.54%
- C. 2.11%
- D. 5.21%

Ans. C

64. In which year the Kandel Satyagraha was organised?

- A. 1919
- B. 1918
- C. 1921
- D. 1920

Ans. D

65. Which amongst the following districts of Chhattisgarh is/are known for Dhokra art?

- A. Bastar
- B. Surajpur
- C. Bilaspur
- D. All of the above

Ans. A

66. The 9th edition of the Joint Military Exercise named 'LAMITIYE-2022' was conducted between_____.

- A. India and Japan
B. India and Seychelles
C. India and Maldives
D. India and Indonesia

Ans. B

67. Who among the following has been named as next Director-General of International Labour Organization (ILO) recently?

- A. Guy Ryder
B. Qu Dongyu
C. Gilbert Houngbo
D. Catherine Russell

Ans. C

68. Who among the following will be awarded the prestigious Saraswati Samman 2021?

- A. Ramdarash Mishra
B. Vikram Seth
C. Jayanta Mahapatra
D. Javed Akhtar

Ans. A

69. Which of the following country hosted the 5th BIMSTEC Summit?

- A. India
B. Sri Lanka
C. Thailand
D. Bangladesh

Ans. B

70. Which of the following country won the ICC Women's Cricket World Cup 2022?

- A. Australia
B. New Zealand
C. India
D. England

Ans. A

71. With reference to river Godavari consider the following statements

- 1) The Godavari River rises from Trimbakeshwar in the Nashik district of Maharashtra.
- 2) Pranhita, Manjira and Bhima are some of the tributaries of Godavari.
- 3) Andhra Pradesh's ambitious Polavaram dam project is being carried out on Godavari river.

- A. 1 and 2 only
B. 2 only
C. 1, 2 and 3
D. 1 and 3 only

Ans. D

72. Which of the following pair is not correctly matched?

Dam : River

- A. Sardar Sarovar Dam : Narmada
B. Tipaimukh dam : Barak
C. Krishnasagar dam : Kaveri
D. Tehri Dam : Krishna

Ans. D

73. Which of the following is not an argillaceous compound?

- A. Clay
B. Shale
C. Ash
D. limestone

Ans. D

74. The method of irrigation adopted at places where there exists acute scarcity of irrigation water is:

- A. Sprinkler irrigation method
- B. furrow irrigation method
- C. drip irrigation method
- D. basin flooding

Ans. C

75. Bulking of sand is :

- | | |
|------------------------|------------------------|
| A. less in fine sand | B. more in coarse sand |
| C. more in medium sand | D. more in fine sand |

Ans. D
