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1. An under reinforced section is preferred than an over reinforced section because of :

    (A) The steel reaches its maximum stress earlier

    (B) Brittle property of concrete

    (C) High strength of concrete

    (D) Cost of steel is high

2. When a slab is considered as two way slab, its long span to short span ratio is :

    (A) less than 2   (B) greater than 2

    (C) less than 1.5   (D) none of these

3. In the shape test of aggregates the particle whose least dimension is less than 0.6 times of their mean size are termed as :

    (A) Elongated   (B) Gap graded

    (C) Close graded   (D) Flaky

4. A paved path provided for the purpose of allowing aircrafts to move to and from the runway and the apron is called :

    (A) Run way   (B) Lounge

    (C) Taxy ways   (D) Aprons

5. In Indian railways the width of broad gauge is :

    (A) 1.767 m   (B) 1.676 m

    (C) 1.751 m   (D) 1.810 m

6. The limiting point in the converging track beyond which the train vehicle can stand safely without colliding with the train moving on the other track is :

    (A) Heel   (B) Gang beat

    (C) Foul mark   (D) Crossing stations

7. A layer of concrete, masonry or stone etc. which is placed at the entrance or outlet of a culvert or waterway to prevent the scouring is called :

    (A) Abutment   (B) afflux

    (C) caisson   (D) apron

8. Maximum ruling gradient permitted in Indian railways in plains is :

    (A) 1 in 50   (B) 1 in 100

    (C) 1 in 150   (D) 1 in 200

9. The outer signal in Indian railways is provided at a minimum of ———————— distance from home signal :

    (A) 1 km   (B) 580 m

    (C) 860 m   (D) 180 m

10. The maximum value of super elevation provided in Indian railways is :

    (A) 165 mm   (B) 140 mm

    (C) 75 mm   (D) 98 mm

11. Francis turbine is :

    (A) a radial flow impulse turbine   (B) an axial flow turbine

    (C) a radial flow reaction turbine   (D) an impulse turbine

12. When a fluid is at rest, the shear stress is :

    (A) Unpredictable   (B) Maximum

    (C) Zero   (D) None of these

13. Atmospheric pressure head in terms of water column is :

    (A) 7.6 m   (B) 6.0 m

    (C) 9.81 m   (D) 10.3 m

14. Unit power developed by a turbine is defined as when :

    (A) Power on the turbine is maximum   (B) Head on the turbine is unity

    (C) Efficiency of the turbine is maximum (D) None of these

15. The branch of science which deals with the study of fluid in motion without considering the forces causing the motion is known as :

(A) Dynamics

(B) Statics

(C) Kinematics

(D) Phreatic

16. The maximum amount of strain energy which can be stored in a unit volume without permanent set is called :

(A) proof resilience

(B) resilience

(C) creep

(D) bulk modulus

17. The ratio of shear stress to shear strain within the limit of proportionality is called :

(A) Poisson's ratio

(B) Modulus of rigidity

(C) Elastic modulus

(D) Young's modulus

18. The load required to cause unit deflection is called :

(A) Strength

(B) Creep

(C) Ductility

(D) Stiffness

19. For a column with one end fixed and the other end hinged the effective length is :

(A) L

(B) 2 L

(C) $L/(\sqrt{2})$

(D) L / 2

20. The standard gauge length of a specimen for tensile test with initial cross section area a_0 is :

(A) $6.56 \sqrt{a_0}$

(B) $6.65 \sqrt{a_0}$

(C) $a_0 \sqrt{6.65}$

(D) $5.65 \sqrt{a_0}$

21. The maximum bending moment for a simply supported beam which carries a uniform load 'w' through out its span 'l' is

(A) wl/4

(B) wl²/4

(C) wl²/8

(D) wl/8

22. An isotropic material is one which has :

(A) the elastic constants identical in all directions

(B) same structure in all directions

(C) obeys hook's law up to failure

(D) young's modulus and rigidity moduli are same

23. The product of Elastic modulus and moment of inertia EI is called :
    (A) torsional rigidity
    (B) flexural rigidity
    (C) rigidity modulus
    (D) stability

24. The polar moment of inertia of a hollow circular section with external diameter 'D' and internal diameter 'd' is :
    (A) $\pi[D2 - d2]/64$
    (B) $\pi[D4 - d4]/32$
    (C) $\pi[D4 - d4]/64$
    (D) $\pi[D3 - d3]/32$

25. When a closed coil helical spring is subjected to an axial compressive load, the material will be subjected to :
    (A) shear stress
    (B) axial compressive stress
    (C) bending stress
    (D) tensile stress

26. The force acting on a body moving in a circular path along the radius away from the centre of path is called :
    (A) centripetal force
    (B) shear force
    (C) centrifugal force
    (D) torsion

27. Contour bunding is suitable for :
    (A) plain area
    (B) dried up area
    (C) water logged area
    (D) hilly area

28. For no tension developed in the base of gravity dam, the eccentricity of the resultant force is within —————— where b is the base width of dam.
    (A) b/6
    (B) b/3
    (C) b/4
    (D) b/2

29. The evaporation from plants and surrounding soil together is called :
    (A) vapourisation
    (B) hydration
    (C) evapotranspiration
    (D) transpiration

30. Cross drainage works are not required when the canal is :
    (A) contour canal
    (B) ridge canal
    (C) regime canal
    (D) carrier canal

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31. The level difference between the top of bank of a canal and the maximum water level is :

    (A)   berm
    (B)   afflux

    (C)   free board
    (D)   critical depth

32. Conductivity is directly depends on :

    (A)   total dissolved solids
    (B)   volatile organic solids

    (C)   total solids
    (D)   ionized dissolved solids

33. Minimum amount of dissolved oxygen desirable in any water body is less than :

    (A)   2 mg/l
    (B)   1 mg/l

    (C)   3 mg/l
    (D)   5 mg/l

34. The pipe carrying sewage is called :

    (A)   sewage
    (B)   sewer

    (C)   sullage
    (D)   sewerage

35. Plasticity index is :

    (A)   liquid limit – plastic limit
    (B)   plastic limit – shrinkage limit

    (C)   water content – plastic limit
    (D)   liquid limit – shrinkage limit

36. The ratio of unconfined compression strength in natural state to that in the remoulded state is :

    (A)   permeability
    (B)   flow index

    (C)   sensitivity
    (D)   thixotrophy

37. The difference between the total stress at a point and the pore water pressure at that point is :

    (A)   total stress
    (B)   effective stress

    (C)   neutral stress
    (D)   shear stress

38. When a retaining wall moves towards the backfill when the wall tends to compress the soil Horizontally, is due to :

    (A)   At-rest pressure
    (B)   Active earth pressure

    (C)   Passive earth pressure
    (D)   Effective pressure

39. The hydrometer analysis is based on the principle of :

(A) Stoke's law   (B) Darcy's law

(C) Mannings law   (D) Newton's law

40. The maximum water content of the soil at which no further reduction in the volume of soil mass is called :

(A) Plastic limit   (B) Liquid limit

(C) Water limit   (D) Shrinkage limit

41. The difference between plastic limit and shrinkage limit is called :

(A) fluidity index   (B) shrinkage index

(C) plasticity index   (D) density index

42. Quick sand is :

(A) pure silica sand

(B) a sand act as a quick filter

(C) a condition when cohesion decreases

(D) a condition in which cohesionless soil looses its shear strength due to the upward flow of water

43. Consolidation is a process in which :

(A) sudden compression of soil   (B) gradual expulsion of pore water

(C) abnormal shrinking of soil   (D) tilting and failure of soil

44. The minimum depth of exploration in the case of gravity dam is :

(A) base width of dam   (B) twice the base width

(C) twice the height of the dam   (D) height of dam

45. Samples from auger boring are :

(A) non representative sample   (B) undisturbed sample

(C) representative sample   (D) none

46. Vane shear test is used for measuring :

(A) voids ratio of soil   (B) shear strength of cohesive soil

(C) bearing capacity of soil   (D) all the above

47. The material that is retained by a retaining structure is generally called as :

    (A) surcharge   (B) soil slope

    (C) backfill   (D) all these

48. Shallow footing is on whose depth is :

    (A) equal to width   (B) less than width

    (C) more than width   (D) none of these

49. Yellow (amber) colour of a coloured light traffic signal in a junction indicates :

    (A) go   (B) stop

    (C) be ready to go   (D) clearance time

50. The first railway train in India ran between :

    (A) Chennai and Bangaluru   (B) Mumbai and Thana

    (C) Calcutta and Delhi   (D) Howrah and Dadar

51. The standard length of rail section for broad gauge rail is :

    (A) 12 m   (B) 10 m

    (C) 13 m   (D) 15 m

52. The maximum degree of curve in a broad gauge is :

    (A) 10°   (B) 12°

    (C) 13°   (D) 14°

53. The principle constituents of argillaceous rocks is :

    (A) lime   (B) silica

    (C) clay   (D) sand

54. The indentation provided in a face of the brick is called :

    (A) pallet   (B) strike

    (C) bullnose   (D) frog

55. The phenomenon of increasing the volume of a moist sand is called :

    (A) bleeding   (B) bulking

    (C) segregation   (D) thawing

56. The volume of one bag (50 kg) of cement is :

    (A) 0.04 m³   (B) 0.034 m³

    (C) 0.045 m³   (D) 0.025 m³

57. The age of a tree can be judged from :

    (A) diameter   (B) leaf

    (C) annual rings   (D) height

58. Snowcem is a :

    (A) cement paint   (B) oil paint

    (C) enamel paint   (D) cellulose paint

59. Asphalt is a mixture of

    (A) bitumen and asbestos   (B) bitumen and cement

    (C) tar and asbestos   (D) bitumen and inert mineral matter

60. The height of slump cone in slump test is :

    (A) 40 cm   (B) 45 cm

    (C) 30 cm   (D) 38 cm

61. The tendency of the mineral to split along a certain plane is called :

    (A) cleavage   (B) fractive

    (C) lusture   (D) softness

62. The exterior corner of a wall is known as :

    (A) jamb   (B) frog

    (C) bullnose   (D) quoin

63. The row of arches in continuation is called :

    (A) archline   (B) arcade

    (C) conclave   (D) multiple arch

64. The vertical distance between the top of two successive treads is :

    (A) going   (B) flight

    (C) rise   (D) run

65. The vertical intermediate member of the frame which divides the window vertically is :

    (A) mullion   (B) cross style

    (C) pillion   (D) rail

66. The vertical window provided on the sloping roof is known as :

    (A) lantern window   (B) gable window

    (C) dormer window   (D) bay window

67. A dog legged stair connecting two floors with floor to floor height is 4.2 m and with a rise of 15 cm. Then the total number of treads in that stair is :

    (A) 26   (B) 25

    (C) 28   (D) 27

68. An instrument used to measure the depth of foundation is :

    (A) Ranging rod   (B) T-square

    (C) Leveling staff   (D) Boning rod

69. A cut made in the frame of a door to receive the shutter is :

    (A) louver   (B) groove

    (C) gang   (D) rebate

70. A propped cantilever with uniformly distributed load 'w/m' and span 'l', then the prop reaction is :

    (A) 3 wl/8   (B) 5 wl/8

    (C) wl/8   (D) wl/2

71. A pin jointed perfect frame is to satisfy —————— where 'n' is number of members and 'j' is the number of joints.

    (A) $n > 2j - 3$ (B) $n < 2j - 3$

    (C) $n = 2j - 3$ (D) $n = 2j + 3$

72. A partition wall is designed to carry :

    (A) live loads   (B) imposed load

    (C) vertical loads   (D) no eternal loads

73. In the limit state method of design the maximum compressive strain in concrete is taken as :

    (A) 0.0035   (B) 0.035

    (C) 0.002   (D) 0.02

74. In singly reinforced beam if the concrete is stressed to its allowable limit earlier than steel the section is said to be :

    (A) over reinforced beam   (B) balanced section

    (C) under reinforced section   (D) critical section

75. For a simply supported beam, the maximum deflection permitted is :

    (A) 1/300 of the span   (B) 1/325 of span

    (C) 1/350 of span   (D) 1/400 of span

76. Isogonics lines are the lines having the same :

    (A) bearing   (B) dip

    (C) declination   (D) elevation

77. A bench mark is a :

    (A) Reference point

    (B) Point of known elevation

    (C) The very first station

    (D) The last station where the survey closes

78. Point of tangency is the :

    (A) end of the curve

    (B) beginning of the curve

    (C) common point where the radius changes

    (D) common point where the direction changes

79. The instrument used to reproduced plans to a different scale is called :

    (A) planimeter   (B) pantograph

    (C) clinometers   (D) box sextant

80. The approximate weight of one cubic metre of mild steel is :

    (A) 2400 kg.   (B) 1440 kg

    (C) 7850 kg   (D) 2500 kg

81. Which of these metals is the best conductor of heat?

    (A) Aluminium   (B) Iron

    (C) Copper   (D) Silver

82. Which among the following is not an example of Rabi crop?

    (A) Wheat   (B) Barley

    (C) Rice   (D) Mustard

83. The first talkie film in Malayalam 'Balan' was directed by :

    (A) J.C. Daniel   (B) Ramu Karyat

    (C) S. Nottani   (D) V.Vincent

84. The highest dam in India, the Thehri dam is built in which river :

    (A) Bagiradhi   (B) Narmada

    (C) Brahmaputra   (D) Sutlej

85. 'Kozhinha Ilakal' is the autobiography of :

    (A) M.P. Paul   (B) Joseph Mundassery

    (C) S.K. Pottakkat   (D) C. Kesavan

86. Which among the following is a disease caused by virus :

    (A) Measles   (B) Diphtheria

    (C) Leprosy   (D) Tuberculosis

87. The poem 'Jathikkummi' which criticized the caste system in Kerala was written by :

    (A) Kumaranasan   (B) K. Ayyappan

    (C) K.P. Karuppan   (D) Kuttippurath Kesavan Nair

88. The Malayalam writer who is selected for Kendra Sahitya Academy fellowship in 2013 :

    (A) Sara Joseph   (B) C. Radhakrishnan

    (C) Sachidanandan   (D) M.T. Vasudevan Nair

89. The first state in India which is declared as tobacco free state :

    (A) Uttaranchal   (B) Himachal Pradesh

    (C) Hariana   (D) Odisha

90. Rangaswami cup is associated with which of the following games :

    (A) Badminton   (B) Hockey

    (C) Football   (D) Cricket

91. The editor of 'Nasrani Deepika' started publication in 1887 from Mannanam was :

    (A) Poykayil Yohannan   (B) Nidhirikkal Manikathanar

    (C) Arnos Pathiri   (D) Father Hanxelden

92. The investors meeting conducted by Kerala Government in 2012 :

    (A) GIM
    (B) Vision Kerala 2030
    (C) Emerging Kerala
    (D) Kerala conference of investors

93. The primary memory of a computer is :

    (A) CPU
    (B) C.D. ROM
    (C) RAM
    (D) Hard disk

94. The renaissance leader of Kerala who was the deciple of Brahmananda Sivayogi :

    (A) Vagbhadananda
    (B) Ayyankali
    (C) Vaikunda Swamikal
    (D) Dr. Palpu

95. International ciber safety day is :

    (A) December 10
    (B) October 24
    (C) September 16
    (D) November 30

96. Which of these vitamins is soluble in water?

    (A) Vitamin E
    (B) Vitamin D
    (C) Vitamin A
    (D) Vitamin B

97. The constitutional amendment which made 'Right to Education' a fundamental right :

    (A) 73rd
    (B) 86th
    (C) 126th
    (D) 21st

98. The congress session which passed 'Poorna Swaraj' resolution :

    (A) Bombay
    (B) Calcutta
    (C) Lucknow
    (D) Lahore

99. Which among the following is not a work by Vallathol Narayana Menon?

    (A) Umakeralam
    (B) Badhiravilapam
    (C) Chitrayogam
    (D) Sahityamanjari

100. The editor of the newspaper 'Mitavadi' published in Travancore :

    (A) C. Krishnan
    (B) Vakkom Abdul Khadar Moulavi
    (C) K. Ramakrishna Pilla
    (D) G.P. Pilla