1. What are the following loads to be considered as vertical loads carried by lintels?

   (i) Distributed loads from the dead weight of the lintel and the masonry wall above the lintel and any floor and/or roof

   (ii) Dead and live loads supported by the masonry

   (iii) Concentrated loads from floor beams, roof joists, and other members that frame directly into the wall

   (a) (i) and (iii) only
   (b) (i) and (ii) only
   (c) (ii) and (iii) only
   (d) (i), (ii) and (iii)

   Correct Answer is : (i), (ii) and (iii)

2. Young's modulus of concrete (E) in given by.....

   Take, f_{ck} = characteristics strength of concrete

   (a) $E = 5000$ times square root of f_{ck}
   (b) $E = 10000$ times square root of f_{ck}
   (c) $E = 5700 f_{ck}$
   (d) $E = 1000 f_{ck}$

   Correct Answer is : $E = 5000$ times square root of f_{ck}

3. For the simply supported beams and slabs, the basic value of span to effective depth ratio is

   (a) 7
   (b) 10
   (c) 20
   (d) 26

   Correct Answer is : 20

4. Slump value recommended for ordinary R.C.C. work for beams and slabs is

   (a) 75 to 150 mm
   (b) 12 to 25 mm
   (c) 50 to 100 mm
   (d) 20 to 30 mm

   Correct Answer is : 50 to 100 mm

5. To compensate for the reduced workability are commonly added to high strength mixtures.

   (a) Retarders
   (b) Super plasticisers
   (c) Accelerators
   (d) Air entraining Admixture

   Correct Answer is : Super plasticisers

6. Fine Aggregates should pass through one of the following IS sieve

(a) 75μ
(b) 45μ
(c) 2.35 mm
(d) 4.75 mm

Correct Answer is : 4.75 mm

7. In aggregates, the percentage by weight of particles having least dimension less than three-fifth of their mean dimension is termed as

(a) Flakiness index
(b) Fineness index
(c) Fineness modulus
(d) Elongation index

Correct Answer is : Flakiness index

8. In aggregates, the percentage by weight of particles present in it whose greatest dimension (length) is greater than nine-fifth of their mean dimension, is termed as

(a) Flakiness index
(b) Fineness index
(c) Elongation index
(d) Fineness modulus

Correct Answer is : Elongation index

9. Relative density of sand indicates

(a) Looseness of sand
(b) Bulking of sand
(c) Density of sand compared with density of water
(d) Bulk density of sand

Correct Answer is : Looseness of sand

10. Determination of percentage of individual grain size present in the soil is known as

(a) Grain size analysis
(b) Strength analysis
(c) Stability analysis
(d) Compressability analysis

Correct Answer is : Grain size analysis

11. A temporary structure constructed to exclude earth and water from workspot where foundation is to be laid within it is dry and open air is

(a) Coffer dam
(b) Caisson
(c) Cause way
(d) Cribs

Correct Answer is : Coffer dam

12. The centre to centre distance between the end supports of a bridge is termed as

    (a) effective span
    (b) clear span
    (c) span
    (d) total span

    Correct Answer is : effective span

13. The portion of road between the edge of the road formation and the edge of the pavement is called as

    (a) Guard stone
    (b) Kerb
    (c) Berm
    (d) Median strip

    Correct Answer is : Berm

14. Well graded gravel is denoted by

    (a) SW
    (b) SH
    (c) GH
    (d) GW

    Correct Answer is : GW

15. ..... are placed directly below the road gutter and storm water directly enters them from top.

    (a) Curb inlet
    (b) Gutter inlet
    (c) Drop man hole
    (d) Manhole

    Correct Answer is : Gutter inlet

16. A pipe conveying sewage from the plumbing system of a single building to a common sewer is called

    (a) Outfall sewer
    (b) House sewer
    (c) Common sewer
    (d) Lateral sewer

    Correct Answer is : House sewer

17. The most important design parameter used in designing a continuous flow rectangular sedimentation tank for removal of discrete particles is

(a) Length of the tank
(b) Surface overflow rate
(c) Depth of the tank
(d) Temperature of the water to be treated

Correct Answer is : Surface overflow rate

18. A water having pH less than 7 is

(a) Acidic
(b) Alkaline
(c) Coloured water
(d) Neutral

Correct Answer is : Acidic

19. Euler's formula holds good only for

(a) Short columns
(b) Weak columns
(c) Both Short and Long columns
(d) Long columns

Correct Answer is : Long columns

20. The actual length of the column is 5 m. When both ends of the column are fixed, then the effective length is

(a) 3.5 m
(b) 2.5 m
(c) 10.0 m
(d) 5.0 m

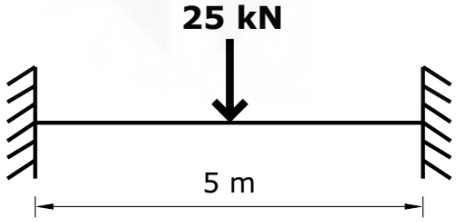
Correct Answer is : 2.5 m

21. The mode of failure in a short column is

(a) Bending
(b) Buckling
(c) Shearing
(d) Crushing

Correct Answer is : Crushing

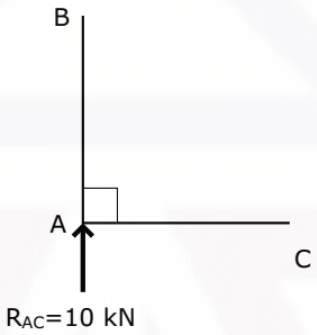
22. The maximum deflection at the fixed supports for the fixed beam shown below is



(a) 12.5 mm
(b) 17 mm
(c) 18 mm
(d) 0 mm (zero mm)

Correct Answer is : 0 mm (zero mm)

23. Force in the member AC (F_{AC}) of the joint of a pin jointed frame shown below is equal to



(a) 10 kN (Compression)
(b) 10 kN (Tension)
(c) 5 kN (Tension)
(d) 0 kN

Correct Answer is : 0 kN

24. Section Modulus (Z) is given by the relation

(a) $Z = \frac{I}{y}$
(b) $Z = \frac{\sigma}{y}$
(c) $Z = \frac{E}{R}$
(d) $Z = \frac{y}{I}$

Correct Answer is : $Z = \frac{I}{y}$

25. The centroid of a semi circle having radius R is

(a) $\frac{4\pi}{3R}$
(b) $\frac{4R}{3\pi}$
(c) $\frac{4R}{3\pi^2}$
(d) $\frac{4R^2}{3\pi}$

Correct Answer is : $\frac{4R}{3\pi}$

26. The point of contraflexure is a point where

    (a) Bending moment is maximum
    (b) Shear force changes sign
    (c) Shear force is maximum
    (d) Bending moment changes sign

    Correct Answer is : Bending moment changes sign

27. Robert Hooke discovered experimentally that within elastic limit

    (a) Stress = Strain
    (b) Stress $\neq$ Strain
    (c) Stress $\times$ Strain = 1
    (d) Stress $\propto$ Strain

    Correct Answer is : Stress $\propto$ Strain

28. A curve of varying radius is known as

    (a) Simple curve
    (b) Compound curve
    (c) Reverse curve
    (d) Transition curve

    Correct Answer is : Transition curve

29. Local attraction at a place may be due to

    (a) Wire carrying electric current
    (b) Plastic substances
    (c) Pieces of paper
    (d) Rubber materials

    Correct Answer is : Wire carrying electric current

30. Contour lines of different elevations can unite to form one line only in the case of

    (a) Gentle slope
    (b) An overhanging cliff
    (c) Steep slope
    (d) A vertical cliff

    Correct Answer is : A vertical cliff

31. An example for a level surface is

    (a) Surface of a Lake
    (b) Surface of earth
    (c) Surface of sea
    (d) Surface of a reservoir

Correct Answer is : Surface of a Lake

32. Yield of well is expressed in terms of

    (a) m^3/hr
    (b) N/m^2
    (c) m^3/sec
    (d) m/sec

    Correct Answer is : m^3/hr

33. The ratio of power output of the pump to the power input of the pump is known as

    (a) Volumetric efficiency
    (b) Overall efficiency
    (c) Mechanical efficiency
    (d) Manometric efficiency

    Correct Answer is : Overall efficiency

34. The inlet length of a venturimeter.

    (a) is more than the outlet length
    (b) zero
    (c) is less than the outlet length
    (d) is equal to the outlet length

    Correct Answer is : is less than the outlet length

35. Hydraulic Gradient Line (HGL) represents the sum of

    (a) Pressure head and kinetic head
    (b) Pressure head, kinetic head and datum head
    (c) Kinetic head and datum head
    (d) Pressure head and datum head

    Correct Answer is : Pressure head and datum head

36. The Capillary rise or fall of a liquid is given by

    (a) $h = \frac{8\sigma \cos\theta}{pgd}$
    (b) $h = \frac{\sigma \cos\theta}{4\rho gd}$
    (c) $h = \frac{\sigma \cos\theta}{8\rho gd}$
    (d) $h = \frac{4\sigma \cos\theta}{\rho gd}$

    Correct Answer is : $h = \frac{4\sigma \cos\theta}{\rho gd}$

37. The point through which the weight is acting is called

(a) Centre of buoyancy
(b) Centre of gravity
(c) Centre of pressure and gravity
(d) Centre of pressure

Correct Answer is : Centre of gravity

38. The following is indirect cost of accident

(a) Compensation paid to worker
(b) Contract value
(c) Cost of lost of time of injured worker
(d) Money paid for treatment of worker

Correct Answer is : Cost of lost of time of injured worker

39. Strong room will be most essential for the building.

(a) Public
(b) School
(c) Bank
(d) Residential

Correct Answer is : Bank

40. In PERT analysis, event means

(a) Start (or) finish of a task
(b) Work involved in the project
(c) Time taken for a task
(d) End of an activity

Correct Answer is : Start (or) finish of a task

41. Higher standard deviation means

(a) Nothing to do with uncertainity
(b) Equal chance of uncertainity
(c) Lower uncertainity
(d) Higher uncertainity

Correct Answer is : Higher uncertainity

42. Approximate cost for water supply arrangements is

(a) 3 to 4% of the estimated cost of the building works
(b) 4 to 5% of the estimated cost of the building works
(c) 1 to 2% of the estimated cost of the building works
(d) 2 to 3% of the estimated cost of the building works

Correct Answer is : 1 to 2% of the estimated cost of the building works

43. Calculate the rough cost estimate for a 1^{st} class building having a plinth area of 500 m^2. Add a lump sum of 20% estimate for public health and electric services. Rate per m^2 of construction is Rs. 6,000

    (a) Rs. 36 Lakhs
    (b) Rs. 33 Lakhs
    (c) Rs. 72 Lakhs
    (d) Rs. 30 Lakhs

    Correct Answer is : Rs. 36 Lakhs

44. What is the unit of measurement used for supplying of bitumen?

    (a) Square metre
    (b) Kg
    (c) Cubic metre
    (d) Tonne

    Correct Answer is : Tonne

45. Actual size of standard modular brick Tile

    (a) 20 c.m. $\times$ 10 c.m. $\times$ 5 c.m.
    (b) 19 c.m. $\times$ 9 c.m. $\times$ 9 c.m.
    (c) 19 c.m. $\times$ 9 c.m. $\times$ 4 c.m.
    (d) 20 c.m. $\times$ 10 c.m. $\times$ 10 c.m.

    Correct Answer is : 19 c.m. $\times$ 9 c.m. $\times$ 4 c.m.

46. The actual cost of a work is known as

    (a) Cost after completion of the total work
    (b) E.M.D.
    (c) Estimation
    (d) Security deposit of the work

    Correct Answer is : Cost after completion of the total work

47. Unit of dimension for aggregates

    (a) cm
    (b) breadth
    (c) length
    (d) mm

    Correct Answer is : mm

48. The effective length of column with one end fixed and the other end free shall be

    (a) $2l$
    (b) $1.0l$
    (c) $\frac{l}{\sqrt{2}}$

(d) $\frac{l}{2}$

Correct Answer is : $2l$

49. The horizontal upper portion of a step where the foot rests, is called as

(a) Tread
(b) Riser
(c) Flight
(d) Nosing

Correct Answer is : Tread

50. The formula to calculate the maximum bending moment at the support of the cantilever beam subjected to udl is

(a) $wl^2/8$
(b) $wl^2/2$
(c) $wl^2/10$
(d) $wl^2/12$

Correct Answer is : $wl^2/2$

51. As per IS $456-2000$ The characteristic strength of concrete of M_{25} in $\mathrm{N/mm^2}$ is

(a) 15
(b) 20
(c) 25
(d) 10

Correct Answer is : 25

52. Slump value of concrete for the Road work in mm.

(a) $30-40$
(b) $10-20$
(c) $0-10$
(d) $20-30$

Correct Answer is : $20-30$

53. The window which projects outward from the walls of a room to provide an increased area of opening for admitting greater light and ventilation is called

(a) Dormer window
(b) Clerestorey window
(c) Bay window
(d) Corner window

Correct Answer is : Bay window

54. To Transmit heavy loads from steel columns to the soil having low bearing power

(a) Deep Foundation
(b) Raft Foundation
(c) Pile Foundation
(d) Grillage Foundation

Correct Answer is : Grillage Foundation

55. The fabricated glass is allowed to cool in a controlled manner called

(a) Cooling
(b) Annealing
(c) Bending
(d) Bleeding

Correct Answer is : Annealing

56. The liquid part of the paint is called

(a) Solvent
(b) Drier
(c) Pigment
(d) Vehicle

Correct Answer is : Vehicle

57. Sand is generally considered to have a size limit of about

(a) > 4.75 mm
(b) < 0.002 mm
(c) > 0.07 mm
(d) < 0.07 mm

Correct Answer is : > 0.07 mm

58. Planting of trees on the road site is known as

(a) Road Regulators
(b) Road carriage way
(c) Road Arboriculture
(d) Road separators

Correct Answer is : Road Arboriculture

59. The shape of the camber, best suited for cement concrete pavements

(a) Elliptical
(b) Combination of the Straight and Parabolic
(c) Straight line
(d) Parabolic

Correct Answer is : Straight line

60. The most effective measure to prevent scouring is

    (a) to reduce the velocity of the stream
    (b) avoid stream - line flow
    (c) to have strong foundation
    (d) by providing strong piers

    Correct Answer is : avoid stream - line flow

61. The vertical cutting of river-bed is known as

    (a) Afflux
    (b) Scour
    (c) Cut-water
    (d) Apron

    Correct Answer is : Scour

62. Providing transverse slope throughout the length of the horizontal curve is known as

    (a) Camber
    (b) Vertical Alignment
    (c) Super elevation
    (d) Gradient

    Correct Answer is : Super elevation

63. Drawing to be prepared for the site plan of a project with a RF

    (a) $\frac{1}{50,000}$
    (b) $\frac{1}{10,000}$
    (c) $\frac{1}{20,00,000}$
    (d) $\frac{1}{10,00,000}$

    Correct Answer is : $\frac{1}{10,000}$

64. If M = Area in Km^2, Fanning's formula for calculating the quantity of storm water (Q) is

    (a) $Q = 3.125\ \mathrm{M}^{5/8}$
    (b) $Q = 3125\ \mathrm{M}^{5/8}$
    (c) $Q = 3.125\ \mathrm{M}^{8/5}$
    (d) $Q = 3125\ \mathrm{M}^{8/5}$

    Correct Answer is : $Q = 3125\ \mathrm{M}^{5/8}$

65. The most efficient shape of the section for the flow of water is

    (a) Oval

(b) Horse shoe
(c) Rectangular
(d) Circular

Correct Answer is : Circular

66. A long pipe is bored (or) drilled deep into the ground to tap the underground water is called

(a) Open well
(b) Infiltration well
(c) Tube well
(d) Artesian well

Correct Answer is : Tube well

67. The process of removing the salt from water is known as

(a) Aeration
(b) Zeolite process
(c) Desalination
(d) Sedimentation with coagulation

Correct Answer is : Desalination

68. When an eccentric load is acting on a column, the eccentricity(e) should be for no-tensile condition.

(a) $\leq \frac{\text{section modulus}}{\text{area of the section}}$
(b) $\geq \frac{\text{area of the section}}{\text{section modulus}}$
(c) $\geq \frac{\text{section modulus}}{\text{area of the section}}$
(d) $\leq \frac{\text{area of the section}}{\text{section modulus}}$

Correct Answer is : $\leq \frac{\text{section modulus}}{\text{area of the section}}$

69. If slenderness ratio is increased, the compressive strength of a column

(a) decreases
(b) zero
(c) remains same
(d) increases

Correct Answer is : decreases

70. In moment distribution method, distribution factor for a hinge or roller support is

(a) 2
(b) 1
(c) 0
(d) 0.5

Correct Answer is : 1

71. A cantilever of span l carrying uniformly distributed load of 'w' per unit length is propped at the free end to the same level as fixed, the bending moment at fixed end will be

    (a) $\frac{-wl^2}{2}$ (hogging)
    (b) $\frac{-wl^2}{4}$ (hogging)
    (c) $\frac{-wl^2}{6}$ (hogging)
    (d) $\frac{-wl^2}{8}$ (hogging)

    Correct Answer is : $\frac{-wl^2}{8}$ (hogging)

72. A simply supported beam carries uniformly distributed load of 20 kN/ m over the length of 5 m. If the flexural rigidity is 30000 kNm^2, what is the deflection at its supports?

    (a) 0 mm (zero mm)
    (b) 6.2 mm
    (c) 1.08 mm
    (d) 8.6 mm

    Correct Answer is : 0 mm (zero mm)

73. The amount of moment required to resist unit rotation is

    (a) deflection
    (b) stiffness
    (c) bending moment
    (d) flexural rigidity

    Correct Answer is : stiffness

74. In a simply supported beam carrying point load at its centre, the maximum deflection will occur at

    (a) Midspan
    (b) Throughout
    (c) Supports
    (d) $\frac{1}{3}$ of its length

    Correct Answer is : Midspan

75. The stress induced in a rectangular beam below Neutral axis is

    (a) Torsion
    (b) Shear
    (c) Tensile
    (d) Bending

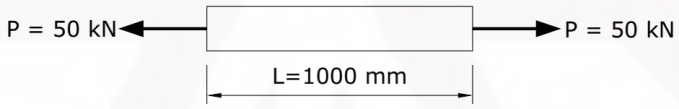
Correct Answer is : Tensile

76. Circular Beams of uniform strength can be made by varying diameter in such a way that

(a) $\frac{M}{Z}$ is constant
(b) $\frac{E}{R}$ is constant
(c) $\frac{M}{R}$ is constant
(d) $\frac{\sigma}{y}$ is constant

Correct Answer is : $\frac{M}{Z}$ is constant

77. Elongation of the elastic bar shown below, having value of $AE = 8.4 \times 10^7$ N is equal to.



(a) $\Delta = 0.595$ mm
(b) $\Delta = 0.179$ mm
(c) $\Delta = 0.304$ mm
(d) $\Delta = 0.508$ mm

Correct Answer is : $\Delta = 0.595$ mm

78. The shafts are designed on the basis of

(a) Strength and Tension
(b) Rigidity and Material
(c) Strength and Rigidity
(d) Strength and Material

Correct Answer is : Strength and Rigidity

79. The sun has less effect on the Tides than moon because

(a) It is not a solid mass
(b) Of its larger distance from the Earth
(c) Of its large Mass
(d) it is a star and not a Planet

Correct Answer is : Of its larger distance from the Earth

80. Remote sensing is

(a) Measuring heights
(b) Measuring angles
(c) Using a total stations to collect data
(d) Collecting information without being in contact with the objects

Correct Answer is : Collecting information without being in contact with the objects

81. In Vertical Subtense bar (Movable hair) method

    (a) The staff intercept is made a constant value
    (b) The additive constant is made zero
    (c) The distance between cross hairs is kept constant
    (d) The Multiplying constant is made 100

    Correct Answer is : The staff intercept is made a constant value

82. Consecutive co-ordinates is also known as

    (a) Total latitude and departure
    (b) Independent co-ordinates
    (c) Dependent co-ordinates
    (d) Total co-ordinates

    Correct Answer is : Dependent co-ordinates

83. Surveyor's chain is also known as

    (a) Metric chain
    (b) Gunter's chain
    (c) Revenue chain
    (d) Engineer's chain

    Correct Answer is : Gunter's chain

84. The obstacle which obstructs chaining but not vision is

    (a) Raising ground
    (b) Hill
    (c) River
    (d) Thick forest

    Correct Answer is : River

85. The discharge through the internal mouthpiece running full is given by

    (a) $a\sqrt{2gH}$
    (b) $0.85a\sqrt{2gH}$
    (c) $0.5a\sqrt{2gH}$
    (d) $0.707a\sqrt{2gH}$

    Correct Answer is : $0.707a\sqrt{2gH}$

86. The loss of pressure head for the Laminar flow through pipes varies

    (a) As the square of velocity
    (b) As the inverse of the velocity
    (c) Directly as the velocity

(d) As the cubic of velocity

Correct Answer is : Directly as the velocity

87. The coefficient of discharge of Internal Mouthpiece running full is given by

(a) 0.707
(b) 0.500
(c) 0.850
(d) 0.600

Correct Answer is : 0.707

88. Surface tension has the unit as

(a) Force / unit volume
(b) Force / unit area
(c) Force / unit length
(d) Area x Length

Correct Answer is : Force / unit length

89. The pressure of a liquid measured with the help of a Piezo meter tube is

(a) Atmospheric pressure
(b) Vacuum pressure
(c) Gauge pressure
(d) Absolute pressure

Correct Answer is : Gauge pressure

90. Present Value Index $(PVI) =$

(a) $\dfrac{\text{Initial Investment}}{\text{Annual Return}}$
(b) $\dfrac{\text{Present value of future cash inflow}}{\text{Present value of future cash outilaw}} \times 100$
(c) $\dfrac{\text{Annual Return}}{\text{Investment}} \times 100$
(d) Cash inflow - Cash outflow

Correct Answer is : $\dfrac{\text{Present value of future cash inflow}}{\text{Present value of future cash outilaw}} \times 100$

91. Zero float for any activity means that the activity is

(a) Not critical
(b) Critical
(c) Super-critical
(d) Sub-critical

Correct Answer is : Critical

92. What is the volume of cement required for 1 m^3 cement concrete with 1 : 5 : 10 proportion using 40 mm aggregate?

(a) 0.95 m^3
(b) 0.475 m^3
(c) 0.095 m^3
(d) 0.116 m^3

Correct Answer is : 0.095 m^3

93. The good planning of a civil engineering project depends on

(a) Weather condition
(b) Selection of huge number of labours
(c) Proper design
(d) Proper time keeping

Correct Answer is : Proper time keeping

94. The fundamental managerial functions which involves reviewing the difference between the schedule and the actual performance of the project

(a) Project planning
(b) Project surveying
(c) Project controlling
(d) Project scheduling

Correct Answer is : Project controlling

95. Which of the following is known as general overhead?

(a) Travelling expenases
(b) Aminity to the labour
(c) Losses on advance
(d) Interest on investment

Correct Answer is : Travelling expenases

96. The unit of measurement for Earthwork in hard soil is

(a) Kg
(b) m^2
(c) Cu.m
(d) m

Correct Answer is : Cu.m

97. Units of dimension for brick material in metric system is,

(a) Length
(b) cm
(c) Breadth
(d) mm

Correct Answer is : cm

98. The brick work is not measured in cu.m in case of

    (a) Half brick wall
    (b) Brick work in arches
    (c) Reinforced Brick work
    (d) One or more than one brick wall

    Correct Answer is : Half brick wall

99. The unsupported length of a R.C. column is 3.2 m, the effective length of the column, when both ends are held in position and restrained against rotation, is

    (a) 3.20 m
    (b) 2.08 m
    (c) 1.08 m
    (d) 6.40 m

    Correct Answer is : 2.08 m

100. The slenderness ratio of the steel column is

    (a) $\frac{l}{r_{min}}$
    (b) $\frac{KL}{r_{min}}$
    (c) $\frac{L}{r_{yy}}$
    (d) $\frac{L}{r_{xx}}$

    Correct Answer is : $\frac{KL}{r_{min}}$

101. While designing the staircase with central stringer beam, the stringer beam designed as

    (a) T-beam
    (b) simply supported beam
    (c) cantilever beam
    (d) fixed beam

    Correct Answer is : T-beam

102. In the design of beams for shear, the nominal shear stress, τ_v is given by

    (a) $\tau_v = \frac{V_u}{bd}$
    (b) $\tau_v = \frac{V_u}{BD}$
    (c) $\tau_v = \frac{V_u}{bD}$
    (d) $\tau_v = \frac{V_u}{Bd}$

    Correct Answer is : $\tau_v = \frac{V_u}{bd}$

103. The maximum spacing of inclined stirrups (45°) in a beam is less than 300 mm and

(a) d
(b) $0.75d$
(c) D
(d) $1.25d$

Correct Answer is : d

104. If the Independent of footings of two columns are connected by a beam, called as

(a) Combined footings
(b) Spread footings
(c) Strap footing
(d) Mat foundations

Correct Answer is : Strap footing

105. Certain type of fungi feed on wood and during feeding, they attack on wood and convert it into dry powder form. This is known as

(a) Heart rot
(b) Sap stain
(c) Blue stain
(d) Dry rot

Correct Answer is : Dry rot

106. The insects which are usually responsible for decay of timber is

(a) Dragonfly
(b) Termites
(c) Spider
(d) Grasshopper

Correct Answer is : Termites

107. Wood is impregnated with creosote oil in order to

(a) Change its colour
(b) Fill up the pores
(c) Protect against fungi
(d) Protect the annular layers

Correct Answer is : Protect against fungi

108. Vicat's apparatus is used to determine the

(a) Soundness of cement
(b) Initial setting and final setting time
(c) Tensile strength
(d) Compressive strength

Correct Answer is : Initial setting and final setting time

109. A bat is the portion of a

(a) Wall not exposed to weather
(b) Wall between facing and backing
(c) Brick cut in a such manner that its one long face remains uncut
(d) Brick cut across the width

Correct Answer is : Brick cut across the width

110. The ratio of unit weight of soil solids to that of water is called

(a) Specific Gravity
(b) Void ratio
(c) Degree of saturation
(d) Porosity

Correct Answer is : Specific Gravity

111. The Minimum Water content at which the soil will flow is known as

(a) Water content
(b) Liquid limit
(c) Plastic limit
(d) Shrinkage limit

Correct Answer is : Liquid limit

112. The camber of a gravel road lies between

(a) 1 in 20 and 1 in 25
(b) 1 in 30 and 1 in 35
(c) 1 in 25 and 1 in 30
(d) 1 in 15 and 1 in 20

Correct Answer is : 1 in 30 and 1 in 35

113. In transportation engineering, cloverleaf is a type of

(a) Regulatory signs
(b) Interchanges
(c) Traffic interruption
(d) Traffic control devices

Correct Answer is : Interchanges

114. Imhoff tank is used for the following purpose

(a) Sedimentation and sludge digestion
(b) Softening
(c) Filtration

(d) Chlorination

Correct Answer is : Sedimentation and sludge digestion

115. The free board to be provided above the top sewage line in the septic tank is

(a) $0.2 - 0.3$ m
(b) $0.4 - 0.55$ m
(c) $0.3 - 0.5$ m
(d) $0.1 - 0.2$ m

Correct Answer is : $0.3 - 0.5$ m

116. Which water distribution network ensures high pressures and efficient water distribution?

(a) Radial system
(b) Dead end system
(c) Grid iron system
(d) Ring system

Correct Answer is : Radial system

117. Chlorine is added in the water after all treatment is called

(a) Pre-chlorination
(b) Double chlorination
(c) Post-chlorination
(d) Dechlorination

Correct Answer is : Post-chlorination

118. High turbidity of water can be determined by

(a) Hellipse Turbidimeter
(b) Jackson's Turbidimeter
(c) Turbidity tube
(d) Baylis Turbidimeter

Correct Answer is : Jackson's Turbidimeter

119. Force P acting at a distance e along one of the principal axis of rectangular section A, the tensile stress at extreme fibre due to bending moment is given,

(a) $\frac{P \cdot e}{Z_t}$
(b) $\frac{P}{A}$
(c) $\frac{P \cdot e}{Z_c}$
(d) $\frac{P \cdot e}{I}$

Correct Answer is : $\frac{P \cdot e}{Z_t}$

120. Flexural rigidity is

(a) $\frac{E}{I}$
(b) MI
(c) $\frac{I}{E}$
(d) EI

Correct Answer is : EI

121. The stiffness of a prismatic beam, of which for end is free supported is

(a) $\frac{3\text{EI}}{\text{L}}$
(b) $\frac{4\text{EI}}{\text{L}}$
(c) $\frac{2EI}{L}$
(d) $\frac{EI}{L}$

Correct Answer is : $\frac{3\text{EI}}{\text{L}}$

122. The beam which has more than two support is

(a) Cantilever beam
(b) Continuous beam
(c) Simply supported beam
(d) Fixed beam

Correct Answer is : Continuous beam

123. A propped cantilever AB of span l has a hinge at the mid point C. It is loaded with udl of w per unit length. The BM at the fixed end will be

(a) None of these options
(b) $\frac{3wl^2}{4}$
(c) $\frac{5wl^2}{8}$
(d) $\frac{wl^2}{2}$

Correct Answer is : None of these options

124. Polar modulus Zp of a shaft is equal to

Where,

$J =$ Polar moment of Inertia

$R =$ Radius of the Shaft

(a) $Zp = J \times R$
(b) $Zp = J + R$

(c) $Zp = J - R$

(d) $Zp = \frac{J}{R}$

Correct Answer is : $Zp = \frac{J}{R}$

125. In the theory of simple bending, the bending stress in the beam section varies

(a) Cubically
(b) Elliptically
(c) Parabolically
(d) Linearly

Correct Answer is : Linearly

126. When Shear Force at a point is zero, then bending moment at that point will be

(a) Maximum
(b) Infinity
(c) Zero
(d) Minimum

Correct Answer is : Maximum

127. The number of reaction components possible at a hinged end for a general loading is

(a) 0
(b) 1
(c) 2
(d) 3

Correct Answer is : 2

128. If there is a uniformly distributed load on a cantilever beam, the shear force diagram shows

(a) Horizontal straight line
(b) Parabolic curve
(c) Cubic law
(d) Inclined straight line

Correct Answer is : Inclined straight line

129. Chain surveying is adopted for preparing plans of

(a) Small areas
(b) Bushy areas
(c) Areas with ups and downs
(d) Large areas

Correct Answer is : Small areas

130. A Total station can measure

(a) Vertical angles
(b) Horizontal angles
(c) Distance
(d) Horizontal, Vertical angles and Distance

Correct Answer is : Horizontal, Vertical angles and Distance

131. A Theodolite can be used as a Stadia Tacheometer if it has

(a) An external focusing Telescope
(b) An external focusing Telescope with Stadia diaphragm
(c) An internal focusing Telescope and Stadia diaphragm
(d) A Ramsden's eyepiece

Correct Answer is : An external focusing Telescope with Stadia diaphragm

132. The additive constant of a Theodolite, used as a Tacheometer, is nearly zero if it

(a) Has an external focusing Telescope
(b) The objective lens diameter is small
(c) Has a shorter Telescope
(d) Is of the Internal focusing Type

Correct Answer is : Is of the Internal focusing Type

133. Tape correction for pull is

(a) $(P - P_0)\, AEL$
(b) $\dfrac{(P - P_0)\, AL}{E}$
(c) $\dfrac{(P - P_0)\, A}{E \cdot L}$
(d) $\dfrac{(P - P_0)\, L}{AE}$

Correct Answer is : $\dfrac{(P - P_0)\, L}{AE}$

134. The permissible error in chaining for measurement with chain on rough or hilly ground is

(a) 1 in 500
(b) 1 in 250
(c) 1 in 100
(d) 1 in 1000

Correct Answer is : 1 in 250

135. The value of Chezy's constant (C) according to Manning's formula is (where, m = Hydraulic mean depth, N = Manning's constant)

(a) $C = \dfrac{1}{N} m^{1/3}$
(b) $C = \dfrac{1}{N} m^{3}$

(c) $C = \frac{1}{N} m^{1/6}$

(d) $C = \frac{1}{N} m^{6}$

Correct Answer is : $C = \frac{1}{N} m^{1/6}$

136. In a most economical trapezoidal section, half of the top width is equal to

(a) Depth of the channel
(b) Sloping side of the channel
(c) Bottom width of the channel
(d) One-Third depth of the channel

Correct Answer is : Sloping side of the channel

137. For the Laminar flow through a circular pipe

(a) The maximum velocity = 2.0 times the Average velocity
(b) The maximum velocity = 2.5 times the Average velocity
(c) The maximum velocity = Average velocity
(d) The maximum velocity = 1.5 times the Average velocity

Correct Answer is : The maximum velocity = 2.0 times the Average velocity

138. The flow in which each liquid particles has a definite path, and the paths of individual particles do not cross each other, is called

(a) Uniform flow
(b) Turbulant flow
(c) Laminar flow
(d) Steady flow

Correct Answer is : Laminar flow

139. The pictorial representation of activity and events of a project is known as

(a) Flow chart
(b) Flow Net
(c) Algorithm
(d) Network

Correct Answer is : Network

140. Personal banking services is also known as

(a) Global banking
(b) Retail banking
(c) Urban banking
(d) Rural banking

Correct Answer is : Retail banking

141. A legal agreement made between the owner and contractor is called

(a) An agreement
(b) A tender
(c) A contract
(d) Legal document

Correct Answer is : A contract

142. PERT stands for

(a) Programme Evaluation and Review Technique
(b) Process Estimation and Review Technique
(c) Planning Estimation and Resulting Technique
(d) Programme Estimation and Reporting Technique

Correct Answer is : Programme Evaluation and Review Technique

143. Bar chart is also called as

(a) Square chart
(b) Gantt chart
(c) Rectangular chart
(d) Milestone chart

Correct Answer is : Gantt chart

144. Bar charts are considered to be suitable for

(a) Minor works
(b) Large projects
(c) Major works
(d) Dam construction

Correct Answer is : Minor works

145. A property is said to have distress value when it can fetch ..... value than market value

(a) Lower
(b) Higher
(c) Double
(d) Equal

Correct Answer is : Lower

146. The value of the property at the end of the useful life period is known as

(a) Salvage value
(b) Scrap value
(c) Book value
(d) Junk value

Correct Answer is : Salvage value

147. For sanitary and water supply works and for electrification,the percentage of estimated cost of the building works for the above works shall be

(a) 8%
(b) 12%
(c) 10%
(d) 14%

Correct Answer is : 8%

148. The unit of measurement for Random Rubble masonry is

(a) m^2
(b) Nos
(c) m
(d) m^3

Correct Answer is : m^3

149. The compression members used in roof trusses and bracings are called as

(a) beams
(b) girders
(c) columns
(d) struts

Correct Answer is : struts

150. The slenderness ratio of a tension member is defined as the ratio of its unsupported length (L) to its

(a) least of section modulus
(b) least of polar modulus
(c) least radius of gyration
(d) least radius of curvature

Correct Answer is : least radius of gyration

151. In a two-way reinforced rectangular footing, for reinforcement in short direction, the width of central band shall be

(a) half the width of footing
(b) one-third the length of footing
(c) width of footing
(d) half the length of footing

Correct Answer is : width of footing

152. The bending moment value in the continuous slab is calculated by using

(a) $\frac{wl^2}{12}$

(b) $\frac{wl^2}{2}$

(c) $\frac{wl^2}{8}$

(d) coefficients

Correct Answer is : coefficients

153. Total characteristic load on a slab is, 20kN/m^2 its design load is equal to .

(a) 25 kN/m^2

(b) 30 kN/m^2

(c) 40 kN/m^2

(d) 20 kN/m^2

Correct Answer is : 30 kN/m^2

154. The maximum area of tension reinforcement in a beam is restricted to

(a) $0.04bD$

(b) 0.12 percentage of c/s area

(c) $\frac{\text{Ast}}{bd} = \frac{0.85}{fy}$

(d) bD

Correct Answer is : $0.04bD$

155. In a singly reinforced beam if the failure strain of concrete in bending compression reaches earlier than yield strain in steel, the beam section is called

(a) Over reinforced section

(b) Under-reinforced section

(c) Balanced section

(d) Critical section

Correct Answer is : Over reinforced section

156. Very fine concrete deposited by jetting or impacting it with high velocity on to prepared surface is called as

(a) Aerated concrete

(b) Vaccum concrete

(c) Shotcrete

(d) Precast concrete

Correct Answer is : Shotcrete

157. Slump cone test on concrete is done to determine

(a) Workability

(b) Compressive strength

(c) Water content

(d) Tensile strength

Correct Answer is : Workability

158. In cements, generally the increase in strength during a period of 14 days to 28 days is primarily due to

(a) C_3A
(b) C_4AF
(c) C_3S
(d) C_8S

Correct Answer is : C_3S

159. A bond consisting of heading and stretching course so arranged that one heading course comes after several stretching course is called

(a) Facing bond
(b) Dutch bond
(c) Heading bond
(d) Raking bond

Correct Answer is : Facing bond

160. Shear strength of soil is determined by

(a) Water absorption test
(b) Triaxial compression test
(c) Tensile test
(d) Compaction factor test

Correct Answer is : Triaxial compression test

161. The soil properties on which their identification and classification are based are known as

(a) Soil properties
(b) Classification of soil
(c) Index properties of soil
(d) Characteristics of soil

Correct Answer is : Index properties of soil

162. The study to establish the ability of the road to accommodate traffic under operating condition

(a) Traffic capacity study
(b) Traffic flow characteristic study
(c) Speed study
(d) Traffic volume study

Correct Answer is : Traffic capacity study

163. Rotary is ideally suited for

(a) When traffic is very heavy

(b) When traffic is slow
(c) For Junction
(d) For Pedestrain crossing

Correct Answer is : When traffic is slow

164. Emission of pollutants to the atmosphere can be reduced by

(a) Making proper changes (or) modification in raw materials
(b) Adding sewage
(c) Adding new pollutant
(d) Adding water

Correct Answer is : Making proper changes (or) modification in raw materials

165. Effect of Air Pollution on paper result is

(a) Decrease the weight
(b) Cracking
(c) Increase the weight
(d) Embrittlement

Correct Answer is : Embrittlement

166. The size of distribution pipe diameter for supply of water to a fire hydrant should normally be atleast

(a) 12 cm to 15 cm
(b) 15 cm to 20 cm
(c) 8 cm to 10 cm
(d) 10 cm to 12 cm

Correct Answer is : 15 cm to 20 cm

167. A vertical cylindrical tank resting just above the ground to develop the necessary pressure, is known as

(a) Vent pipe
(b) Outlet pipe
(c) Inlet pipe
(d) Stand pipe

Correct Answer is : Stand pipe

168. The maximum permissible quantity of Iron and manganese in water for domestic purpose should be

(a) 0.6ppm
(b) 0.1ppm
(c) 0.8ppm
(d) 0.3ppm

Correct Answer is : 0.3ppm

169. Floating matter of oil, fat and grease are removed

(a) Sedimentation tank
(b) Sewage tank
(c) Septic tank
(d) Skimming tank

Correct Answer is : Skimming tank

170. As per IS 1172, the water consumption per head for Domestic purposes for Average conditions is taken as

(a) 75 lit/day
(b) 155 lit/day
(c) 100 lit/day
(d) 135 lit/day

Correct Answer is : 135 lit/day

171. The moment required to rotate the near end of a prismatic beam through a unit angle without translation the far end being simply supported is given by

(a) $\frac{EI}{L}$
(b) $\frac{4EI}{L}$
(c) $\frac{3EI}{L}$
(d) $\frac{2EI}{L}$

Correct Answer is : $\frac{3EI}{L}$

172. The rotational stiffness of a prismatic beam element is

(a) directly proportional to its length
(b) directly proportional to its area of cross-section
(c) inversely proportional to its length
(d) inversely proportional to its area of cross-section

Correct Answer is : inversely proportional to its length

173. A cantilever beam of span l carries a point load of w at free end and it is propped at a distance of $\frac{l}{4}$ from the free end then the prop reaction is

(a) $\frac{3w}{2}$
(b) $\frac{4w}{2}$
(c) w

(d) $\frac{w}{2}$

Correct Answer is : $\frac{3w}{2}$

174. A simply supported beam of span l is carrying a UDL of w per unit length, if the beam is propped at its center, then (in the shear force diagram) the shear force is zero at a distance of

(a) $\frac{3l}{24}$ from both ends
(b) $\frac{3l}{16}$ from both ends
(c) $\frac{3l}{8}$ from both ends
(d) $\frac{3l}{4}$ from both ends

Correct Answer is : $\frac{3l}{16}$ from both ends

175. A frame in which the number of members is less than $(2j - 3)$ is known as

(a) Deficient frame
(b) Redundant frame
(c) Perfect frame
(d) Pin jointed frame

Correct Answer is : Deficient frame

176. A shaft is subjected to torsion, the shear force induced in the shaft varies from

(a) Zero at the centre to maximum at circumference
(b) Maximum at the centre to minimum at circumference
(c) Maximum at the centre to zero at the circumference
(d) Minimum at the centre to maximum at circumference

Correct Answer is : Zero at the centre to maximum at circumference

177. Radius of Gyration of circular section is

(a) $\frac{d}{4}$
(b) $\frac{d}{\sqrt{12}}$
(c) $\frac{d}{\sqrt{18}}$
(d) $\frac{d}{\sqrt{24}}$

Correct Answer is : $\frac{d}{4}$

178. Moment of inertia of a circular section about XX axis is

(a) $\frac{\pi d^4}{16}$

(b) $\frac{\pi d^4}{32}$

(c) $\frac{\pi d^4}{36}$

(d) $\frac{\pi d^4}{64}$

Correct Answer is : $\frac{\pi d^4}{64}$

179. ..... strain is the deformation of the bar per unit length in the direction of force.

(a) Volumetric

(b) Lateral

(c) Shear

(d) Linear

Correct Answer is : Linear

180. A composite section, contains 4 different materials. The stresses in all the different materials will be

(a) Different

(b) In the ratio of their areas

(c) Zero

(d) Equal

Correct Answer is : Different

181. The vertical distance between mid point of curve to mid point of long chord is

(a) Tangent length

(b) Mid ordinate

(c) External distance

(d) Apex distance

Correct Answer is : Mid ordinate

182. The desirable multiplying and additive constants of a tacheometer are

(a) 100 and 0

(b) 100 and 0.15

(c) 200 and 0.3

(d) 100 and 0.05

Correct Answer is : 100 and 0

183. Use of contour map is to determine the

(a) Cross section of area

(b) Topography of area

(c) Longitudinal section of area
(d) Intersection area

Correct Answer is : Topography of area

184. In Prismatic compass, the 0° or 360° is engraved on the

(a) East end of the ring
(b) West end of the ring
(c) North end of the ring
(d) South end of the ring

Correct Answer is : South end of the ring

185. The discharge of double acting reciprocating pump with area of A m^2, Length stroke L m and crank speed of ' N rpm is given by

(a) $\frac{ALN}{60}$
(b) $\frac{2ALN}{60}$
(c) $\frac{0.5\text{ALN}}{60}$
(d) $2ALN$

Correct Answer is : $\frac{2ALN}{60}$

186. The discharge through a rectangular channel is maximum when
m - Hydraulic mean depth
d - Depth of flow

(a) $m = \frac{3d}{2}$
(b) $m = 2d$
(c) $m = \frac{d}{3}$
(d) $m = \frac{d}{2}$

Correct Answer is : $m = \frac{d}{2}$

187. The loss of head due to sudden contraction of a pipe is equal to

(a) $\left(\frac{1}{C_c} - 1\right)^2 \frac{V_2}{2g}$
(b) $\frac{1}{C_c}\left(1 - \frac{V_2^2}{2g}\right)$
(c) $\left(1 - \frac{1}{C_c}\right)^2 \frac{V_2}{2g}$
(d) $\frac{V_2^2}{2g}\left(\frac{1}{C_c} - 1\right)^2$

Correct Answer is : $\frac{V_2^2}{2g}\left(\frac{1}{C_c}-1\right)^2$

188. The loss of head due to friction according to Darcy's formula is

(a) $\frac{4flv}{2gd}$
(b) $\frac{4flv^2}{gd}$
(c) $\frac{4flv^2}{2gd}$
(d) $\frac{4flv}{gd}$

Correct Answer is : $\frac{4flv^2}{2gd}$

189. Atmospheric pressure is also known as

(a) Barometric pressure
(b) Vacuum pressure
(c) Intensity of pressure
(d) Gauge pressure

Correct Answer is : Barometric pressure

190. The impact of disasters are indicated

(a) Social, economical and health
(b) Economical
(c) Social
(d) Social and economical

Correct Answer is : Social, economical and health

191. When rates are being fixed per unit quantity of each items of work and agreed by the contractor is called?

(a) Lump sum and schedule contract
(b) Lump sum contract
(c) Service contract
(d) Unit rate contract

Correct Answer is : Unit rate contract

192. Critical activity has

(a) Average float
(b) Zero float
(c) Minimum float
(d) Maximum float

Correct Answer is : Zero float

193. The administrative and technical head of each branch of engineering department

(a) The Superintending Engineer
(b) The Minister
(c) The Chief Engineer
(d) The Administrative Officer

Correct Answer is : The Chief Engineer

194. Animation in construction management is a

(a) Simulation model
(b) QC model
(c) CPM model
(d) Construction technology model

Correct Answer is : Construction technology model

195. Calculate the quantity of plastering of wall (Two faces) having length as 4 m, and height as 3 m

(a) 24 sq.m
(b) 16 sq.m
(c) 18 sq.m
(d) 20 sq.m

Correct Answer is : 24 sq.m

196. Name the formula to calculate the volume of earthwork from contour plan for filling a depression or pond and for cutting a hillock

(a) Mid-sectional area method
(b) Trapezoidal formula
(c) Prismoidal formula
(d) Mean sectional Area method

Correct Answer is : Prismoidal formula

197. The quantity of wood for the shutters of the doors and windows is calculated in

(a) m^3
(b) lump-sum
(c) m
(d) m^2

Correct Answer is : m^2

198. What is the unit of measurement for half brick wall?

(a) Tonne
(b) Cubic metre
(c) Square metre

(d) Metre

Correct Answer is : Square metre

199. What is the cement required in kg using thumb rule for cement mixture $1 : 6 - 1\ m^3$?

(a) 240 kg
(b) 288 kg
(c) 360 kg
(d) 480 kg

Correct Answer is : 240 kg

200. The weight of one bag of cement is

(a) 60 kg
(b) 65 kg
(c) 45 kg
(d) 50 kg

Correct Answer is : 50 kg