

86/2015

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. A member subjected to tensile stresses is known as :  
(A) Purlin (B) Strut  
(C) Tie (D) Cleat
2. Length of a revenue chain is :  
(A) 30 m (B) 100 ft  
(C) 20 m (D) 33 ft
3. Photographs of any object taken with the help of camera is :  
(A) perspective view of the object (B) orthographic view of the object  
(C) isometric view of the object (D) front view of the object
4. The load of furniture luggage etc comes :  
(A) Wind load (B) Snow load  
(C) Dead load (D) Live load
5. Which of the following consist of maximum quantity of carbon?  
(A) Mild steel (B) Wrought iron  
(C) Hard steel (D) Cast iron
6. The minimum depth of ballast provided in a railway track is :  
(A) 20 cm (B) 50 cm  
(C) 40 cm (D) 30 cm
7. Rivets used in steel structure are made of :  
(A) Copper (B) Wrought iron  
(C) Cast iron (D) Mild steel
8. Poisson's ratio is the ratio between :  
(A) Stress and strain (B) Force and area of cross section  
(C) Lateral strain and longitudinal strain (D) None of the above

9. Lines with thin chain thick at ends are used to show :
- (A) Line of symmetry (B) Cutting planes  
(C) Centre line (D) Out line
10. The cut point of the major axis on the curve of an ellipse are called :
- (A) Focci (B) Focus  
(C) Tangent (D) Vertex
11. Local attraction is an error in survey is :
- (A) Chain (B) Compass  
(C) Plane table (D) Theodolite
12. Vertical distance between two consecutive Contours are :
- (A) Contour interval (B) Horizontal equivalent  
(C) Contour equivalent (D) Horizontal interval
13. What will be the shape of the velocity triangle at the exit of a radial bladed centrifugal impeller taking in to account the slip?
- (A) Isosceles (B) One angle greater than  $90^\circ$   
(C) Right angled (D) All angles less than  $90^\circ$
14. Projecting stone usually provided to serve as support for roof truss, beam, weather shed etc :
- (A) Sill (B) Corbel  
(C) Course (D) Cornice
15. Horizontal course provided to strengthen a wall of irregular small stones :
- (A) String course (B) Plinth  
(C) Lacing course (D) Coping
16. Exposed vertical surface at a right angles to the doors or window frames :
- (A) Jambs (B) Reveals  
(C) Apex (D) Label
17. Appliance used for lifting the stones :
- (A) Mash hammer (B) Trowel  
(C) Sprit level (D) Lewis

18. The modulus of elasticity (E) and bulk modulus (K) are related by :

(A)  $K = \frac{mE}{3(m-2)}$

(B)  $K = \frac{mE}{2(m+1)}$

(C)  $K = \frac{2(m+1)}{mE}$

(D)  $K = \frac{3(m-2)}{mE}$

19. A brick moulded with a double bullnose end is called:

(A) Cownose

(B) Bullnose

(C) Quoin

(D) All of the above

20. Facing and backing of a wall constructed with different classes of masonry is :

(A) Rubble masonry

(B) Ashlar masonry

(C) Composite masonry

(D) Random masonry

21. In technical drawing pencil are selected according to their :

(A) Length

(B) Diameter

(C) Grade

(D) Lead colour

22. Head work is provided in :

(A) Permanent canal

(B) Inundation canal

(C) Wells

(D) Field water courses

23. The most favorable gradient for alignment of a road is :

(A) Maximum gradient

(B) Rulling gradient

(C) Minimum gradient

(D) Floating gradient

24. A cinema house is an example :

(A) Business building

(B) Residential building

(C) Commercial building

(D) Public building

25. Back bearing of a line is :

(A)  $FB - 180^\circ$

(B)  $FB180^\circ$

(C)  $FB+180^\circ$

(D)  $FB \pm 180^\circ$

26. Force is a quantity of :
- (A) Vector (B) Scalar and vector  
(C) Scalar (D) None of the above
27. The ease with which concrete can be mixed and placed is known as:
- (A) Soundness (B) Workability  
(C) Consistency (D) Setting
28. Specific gravity of aluminium is :
- (A) 10.9 (B) 1.0  
(C) 10.0 (D) 2.7
29. At constant efficiency, the horse power of a fan is:
- (A) proportional to  $(rpm)^3$  (B) proportional to  $(rpm)$   
(C) proportional to  $(rpm)^2$  (D) proportional function of  $(rpm)$
30. Instrument used for Irregular curves :
- (A) French curves (B) Compass  
(C) Set square (D) Bow compass
31. The portion of a road used by vehicle traffic is called :
- (A) Super elevation (B) Camber  
(C) Carriage way (D) Crown
32. Longest survey line which divides the area into two halves, survey line passing through the centre of area is :
- (A) Tie line (B) Check line  
(C) Base line (D) Survey line
33. Which tape is made of an alloy of steel 64% and nickel 36%?
- (A) Invar tape (B) Metallic tape  
(C) Linen tape (D) Steel Tape
34. GT road stands for :
- (A) Grand trunk roads (B) Ground trunk roads  
(C) Great traffic roads (D) Grand traffic roads

35. Temporary water tight structure used for excluding water from a given area is called :
- (A) Caissons (B) Dam  
(C) Cofferdam (D) Box caissons
36. The bearing of a line taken in the direction of progress of survey line is known as :
- (A) Back bearing (B) Whole circle bearing  
(C) Reduced bearing (D) Fore bearing
37. A pitched roof which slopes in all the four directions is called :
- (A) Lean to roof (B) Hipped roof  
(C) Curved roof (D) Purlin roof
38. The crack starting from outside and moving towards the pith is :
- (A) Star shakes (B) Rind Galls  
(C) Cup shakes (D) Heart shakes
39. An instrument is used for setting out perpendiculars :
- (A) Chain (B) Alidade  
(C) Levelling staff (D) Cross staff
40. The maximum value of measurement in whole circle bearing system is :
- (A)  $270^\circ$  (B)  $360^\circ$   
(C)  $90^\circ$  (D)  $180^\circ$
41. The amount of deviation of the needle from its normal position :
- (A) Magnetic declination (B) True meridian  
(C) Magnetic meridian (D) Local attraction
42. Commonly used in Indian water closet trap is :
- (A) S trap (B) P trap  
(C) T trap (D) Q trap
43. If a beam is supported on more than two supports, it is called a :
- (A) Continuous beam (B) Encastered beam  
(C) Simply supported beam (D) Cantilever beam

44. The stress due to suddenly applied load as compared to the stress due to the same load gradually applied to the same rod is :
- (A) Three times (B) Same  
(C) Double (D) Half
45. The tensile force at a distance(Y) from support in a vertical hanging bar of length (l) which carries a load (P) at the bottom is equal to :
- (A)  $P + wl$  (B)  $P + wy$   
(C)  $P - wl$  (D)  $p + w(l - y)$
46. FAR is the :
- (A)  $\frac{\text{Total covered area of all floors} \times 100}{\text{Area of the plot}}$  (B)  $\frac{\text{Total area of the building} \times 100}{\text{Area of the plot}}$   
(C)  $\frac{\text{Total area of the plot} \times 100}{\text{Covered area}}$  (D) All of the above
47. Mezzanine floor means :
- (A) Constructed between two sides (B) Constructed between two rooms  
(C) Constructed between two floors (D) All of the above
48. Door frames are secured to side wall with :
- (A) Sill (B) Horn  
(C) Head (D) Post
49. Brick partition walls will have a thickness of :
- (A) Two and a half (B) One and a half  
(C) Three and a half (D) Half
50. Wall constructed for a backing portion of a road on the down hill side is :
- (A) Parapet wall (B) Breast wall  
(C) Retaining wall (D) Compound wall
51. A Cantilever of length (l) carries a uniformly distributed load wN per unit length for the whole length. The shear force at the free end will be :
- (A) 0 (B)  $\frac{wl}{2}$   
(C)  $wl$  (D)  $\frac{wl^2}{2}$

52. Direct ranging is possible only when the stations are :  
(A) Not visible (B) Visible  
(C) Inter changeable (D) All of the above
53. The usual proportion of cement concrete adopted for RCC roof slab is :  
(A) 1:6:12 (B) 1:2:4  
(C) 1:5:10 (D) 1:4:8
54. The sloping member which supports the steps in a stair is :  
(A) String (B) Rise  
(C) Soffit (D) Riser
55. Seepage in earthdam is prevented by constructing a core is :  
(A) Bed concrete (B) Base concrete  
(C) Puddle (D) Gravel
56. 1 square kilometer of hectares is :  
(A) 100 (B) 10  
(C) 1000 (D) 10000
57. The instrument used for enlarging or reducing the figure is :  
(A) Planimeter (B) Pentagraph  
(C) Clinograph (D) Clinometer
58. SI unit of pressure is :  
(A) Ohm (B) Joule  
(C) Pascal (D) Kg/cm<sup>2</sup>
59. The property of virtue of which a metal can be beaten into plates is called :  
(A) Malleability (B) Resilience  
(C) Ductility (D) Plasticity
60. A ten side polygon is :  
(A) Ocatgen (B) Decagon  
(C) Pentagon (D) Hexagon

61. A stone lying on the top a roof has :
- |                      |                       |
|----------------------|-----------------------|
| (A) Kinetic energy   | (B) Mechanical energy |
| (C) Potential energy | (D) Electrical energy |
62. The end support of a bridge is :
- |               |              |
|---------------|--------------|
| (A) Arcade    | (B) Pier     |
| (C) Springers | (D) Abutment |
63. If a member is subjected to an axial tensile load the plane normal to the axis of the loading carries :
- |                           |                          |
|---------------------------|--------------------------|
| (A) Maximum normal stress | (B) Maximum shear stress |
| (C) Minimum normal stress | (D) Minimum shear stress |
64. In a simply supported beam of span (l) carries a point load (w) at the centre of the beam , the shear force diagram will be :
- |                                     |                                       |
|-------------------------------------|---------------------------------------|
| (A) Two equal and opposite triangle | (B) Rectangle                         |
| (C) Triangle                        | (D) Two equal and opposite rectangles |
65. In a prisum square the angle between the reflecting face :
- |                |                 |
|----------------|-----------------|
| (A) $45^\circ$ | (B) $90^\circ$  |
| (C) $60^\circ$ | (D) $120^\circ$ |
66. Le-chatelier apparatus is used to :
- |                    |                      |
|--------------------|----------------------|
| (A) Finess test    | (B) Strength test    |
| (C) Soundness test | (D) Consistency test |
67. The most accurate instrument for measuring the horizontal and vertical angle is :
- |                     |                |
|---------------------|----------------|
| (A) Dumpy level     | (B) Compass    |
| (C) Engineers level | (D) Theodolite |
68. When a fast moving vehicle negotiates with a curve of force acts on it :
- |                       |                      |
|-----------------------|----------------------|
| (A) Moving force      | (B) Frictional force |
| (C) Centrifugal force | (D) All of the above |

69. Rankine's formula is :

(A)  $\frac{w}{p} \left[ \frac{1 - \sin \theta}{1 + \sin \theta} \right]^2$

(B)  $\frac{w}{p} \left[ \frac{1 + \sin \theta}{1 - \sin \theta} \right]^2$

(C)  $\frac{p}{w} \left[ \frac{1 - \sin \theta}{1 + \sin \theta} \right]^2$

(D)  $\frac{p}{w} \left[ \frac{1 + \sin \theta}{1 - \sin \theta} \right]^2$

70. The masonry work unfinished in a day is ended stepped manner :

(A) Backing

(B) Racking back

(C) Facing

(D) Toothing

71. The vertical members of timbering directly resist pressure from the side of a trench is :

(A) Sheathing

(B) Bracing

(C) Struct

(D) Cleat

72. The external corner of a wall is :

(A) Squint junction

(B) Junction

(C) Cross junction

(D) Quoin

73. Horizontal member of scaffolding is called :

(A) Standards

(B) Putlogs

(C) Ledgers

(D) Braces

74. Kankar is impure lime stone of :

(A) Metamorphic

(B) Igneous

(C) Sedimentary

(D) All of the above

75. The formation of soap patches on the painted surface is termed :

(A) Sagging

(B) Running

(C) Saponification

(D) Flashing

76. Additional vertical member used to divide the shutter frame in the pannels of door is called :

(A) Mullion

(B) Style

(C) Rail

(D) Ledge

77. A small opening provided over a door or window is called :
- (A) Fan light (B) Lantern light  
(C) Sky light (D) North light
78. Form work should be removed from beams by using ordinary Portland cement is after :
- (A) 28 days (B) 8 days  
(C) 14 days (D) 4 days
79. The line joining places of equal declination are known as :
- (A) Parallel lines (B) Isogonic lines  
(C) Perpendicular lines (D) Declination
80. Sensitiveness is also designated by the level tube is :
- (A) Radius of staff (B) Radius of level  
(C) Radius of curvature (D) All of the above
81. The window provided at the gable end of a pitched roof is :
- (A) Corner (B) Bay  
(C) Dormer (D) Gable
82. The Scale used to measure three units is :
- (A) Plain (B) Comparative  
(C) Diagonal (D) Vernier
83. The highest point on the road surface is :
- (A) Super elevation (B) Gradient  
(C) Camber (D) Crown
84. What is the maximum bearing capacity of black cotton soil?
- (A) 10 t/m<sup>2</sup> (B) 15 t/m<sup>2</sup>  
(C) 165 t/m<sup>2</sup> (D) 45 t/m<sup>2</sup>

85. The back slope of abutment of in a bridge is :
- (A) 1:  $1\frac{1}{2}$  to 1:2 (B) 1:3 to 1:2  
(C) 1:3 to 1:3 (D) 1:2 to 1:1
86. What is the pH value of pure water is?
- (A) 10 (B) 7  
(C) 12 (D) 9
87. The unit of strain is :
- (A)  $N/m^2$  (B) kN  
(C)  $N/mm^2$  (D) Unit less
88. Floor trap is also known as :
- (A) Nahani trap (B) Gully trap  
(C) Interceptic trap (D) Grease trap
89. Expand ERH :
- (A) Effective run of hyetograph (B) Effective rain fall hyetograph  
(C) Effective region hyetrograph (D) Effective reservoir hyetrograph
90. Vent way means :
- (A) A culvert with total length one meter  
(B) A culvert with total length greater than five meter  
(C) A culvert with total length less than one meter  
(D) A culvert with total length less than five meter
91. A milling machine is used :
- (A) Originating a hole in the job (B) For cutting wooden pieces  
(C) For removing metals from the job (D) For making joints
92. The force of resistance per unit area, offered by a body against deformation is known as :
- (A) Strain (B) Friction  
(C) Stress (D) None of the above

93. The safe permissible loads on ordinary brickwork in c.m :
- (A) 44 to 65 (B) 14  
(C) 44 to 55 (D) 88
94. The minimum floor areas of pantry is :
- (A) 5.5 m<sup>2</sup> (B) 4.5 m<sup>2</sup>  
(C) 5.0 m<sup>2</sup> (D) 5.4 m<sup>2</sup>
95. The WCB and RB of a line differ by an angle of :
- (A) 30° (B) 90°  
(C) 45° (D) 180°
96. A depression provide on the top of a brick is :
- (A) Frog (B) Closer  
(C) Corck (D) Bevelled closer
97. The bending moment on a section is maximum where shearing force is :
- (A) Equal (B) Minimum  
(C) Changing sign (D) Maximum
98. The permissible error in prismatic compass survey is :
- (A) 1 in 310 (B) 1 in 340  
(C) 1 in 320 (D) 1 in 390
99. Every cross-section of a shaft which is subjected to a twisting moment is under :
- (A) Tensile stress (B) Compressive stress  
(C) Shear stress (D) Bending stress
100. A short column of a rectangular section carries a point load (w) acting with an eccentricity (e), the shape of kernel area would be :
- (A) Rhombus (B) Circle  
(C) Square (D) Rectangle