

53/2015

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. The whole circle bearing of a line is $283^{\circ} 20'$, its corresponding quadrantal bearing is :
(A) N $77^{\circ} 20'$ E (B) N $76^{\circ} 20'$ W
(C) S $76^{\circ} 40'$ E (D) N $76^{\circ} 40'$ W
2. During the measurement, variable tension in tape results _____ error.
(A) Cumulative (B) Compensative
(C) Instrumental (D) None of the above
3. The Gunter's chain is _____ ft. long and its link length is _____ ft.
(A) 66 ft long and 0.66 ft (B) 33 ft long and .33 ft
(C) 33 ft long and $2\frac{1}{16}$ ft (D) 100 ft long and 1.0 ft
4. The Earth shape may be treated as :
(A) Oblate spheroid (B) Ellipsoid
(C) Ovaloid (D) All of the above
5. The levelling operation across a river is termed as :
(A) Fly levelling (B) Compound levelling
(C) Differential levelling (D) Reciprocal levelling
6. The operation of keeping the plane table parallel to the position it occupied at the first station :
(A) Resection (B) Centring
(C) Intersection (D) Orientation
7. The bulking of sand, which is used for good concrete, is maximum when moisture content is around :
(A) 5% (B) 24%
(C) 0% (D) 14 %

8. The number of standard modular bricks required to make one cubic metre of masonry is :
- (A) 450 (B) 1000
(C) 500 (D) 650
9. The sensitivity of a bubble tube can be increased by :
- (A) Decreasing the radius of curvature of tube
(B) Decreasing cross sectional diameter of tube
(C) Increasing the radius of curvature of tube
(D) None of the above
10. In quantity surveying, the measurement of steel grills is taken in terms of :
- (A) Volume (B) Weight
(C) Area (D) Number of bars
11. The rounded projected part of the tread beyond the face of the riser is :
- (A) Scotia (B) Soffit
(C) Nosing (D) Going
12. The line joining the optical centre of the object glass and the centre of the eye piece :
- (A) Vertical axis (B) Axis of telescope
(C) Axis of level tube (D) Line of collimation
13. The principle of working of an optical square is based upon :
- (A) Internal reflection (B) Total reflection
(C) Double reflection (D) Horizon reflection
14. In a Planimeter the multiplier constant 'M' is calculated by the formula = _____
When 'L' = Length of tracing arm, 'r' = Radius of the roller or wheel.
- (A) $M = 2\pi rL$ (B) $M = \pi rL$
(C) $M = \pi r^2L$ (D) None of the above
15. The difference in level between the inner and outer edges of a road along the curved path is :
- (A) Formation (B) Gradient
(C) Camber (D) Super elevation

16. A set of close contours with higher values outside and lower figures inside indicate :
- (A) Depressions (B) Vertical cliff
(C) Hill (D) Ridge
17. The best example for both ranging and chaining obstructed :
- (A) Slopping ground (B) Water body
(C) Open tract of land (D) Building
18. One bag of ordinary Portland cement weights :
- (A) 40 kg (B) 50 kg
(C) 60 kg (D) None of the above
19. The Instrument which register the number of paces of the person carrying it :
- (A) Passometer (B) Pedometer
(C) Odometer (D) Speedometer
20. The gauge length of Broad gauge Indian railway is :
- (A) 1676 mm (B) 1768 mm
(C) 1000 mm (D) 762 mm
21. The surveys which is performed for mapping of large water bodies for the purpose of navigation :
- (A) Cadastral survey (B) Hydrographic surveys
(C) Underground survey (D) Topographical survey
22. The point where the bending moment changes its sign is :
- (A) Point of curvature (B) Neutral axis
(C) Point of inflexion (D) Point of contraflexure
23. The vertical member which is provided to sub-divide window or door opening vertically :
- (A) Transom (B) Rail
(C) Style (D) Mullion
24. A semi-rigid material which forms a durable and impervious layer for damp proofing :
- (A) Mastic asphalt (B) Asphaltic felts
(C) Metal sheets (D) Hot bitumen

25. The deformation per unit length, due to the action of a system of force :
- (A) Stress (B) Strain
(C) Modulus of elasticity (D) Bulking
26. The error due to curvature in levelling operation is = _____, where 'D' is the length of sight in kilometers
- (A) $0.0113 D^2$ metre (B) $0.0673 D^2$ metre
(C) $0.0785 D^2$ metre (D) None of the above
27. King-post truss is suitable for spans of range :
- (A) 8 to 12 metres (B) 12 to 15 metres
(C) 2.5 to 5 metres (D) 5 to 8 metres
28. A thin layer between sap wood and inner bark is :
- (A) Medullary rays (B) Outer bark layer
(C) Layer of Heart wood (D) Cambium layer
29. In a Dumpy level, the telescope :
- (A) Can be taken out of its support and reverse
(B) Is rigidly fixed to the leveling head
(C) Can be tilted, for an extent, in a vertical plane
(D) None of the above
30. The property of a material to absorb moisture from air :
- (A) Hygroscopicity (B) Bulking
(C) Hydrography (D) Permeability
31. The portion of the road surface which is used for vehicular traffic :
- (A) Right of way (B) Formation
(C) Carriage way (D) Shoulder
32. The vertical wall face of an opening which supports the frame of door is :
- (A) Holdfast (B) Rebate
(C) Horn (D) Jamb

33. Segregation of concrete may results :
- (A) Honey combing (B) Thermal expansion
(C) Impermeability (D) None of the above
34. The minimum diameter of longitudinal bars in an RCC column is :
- (A) 10 mm (B) 16 mm
(C) 8 mm (D) 12 mm
35. A projecting stone which is usually provided to serve as support for joist, roof truss etc, is :
- (A) Cornice (B) Corbel
(C) Blocking course (D) String course
36. The least count of prismatic compass is :
- (A) 30' (B) 10'
(C) 20" (D) 60'
37. A special type of brick which gives maximum amount of ventilation through its cylindrical holes :
- (A) Perforated brick (B) Refractory brick
(C) Forsterite bricks (D) Squint brick
38. The Instrument used for enlarging, reducing or reproducing the plans :
- (A) Planimeter (B) Clinometer
(C) Eidograph (D) None of the above
39. The ratio of the shrunk length to the actual length is :
- (A) Representative factor (B) Factor of safety
(C) Shrinkage factor (D) Compaction factor
40. More water in concrete during the time of preparation results :
- (A) Decreasing the strength of concrete (B) No changes in the quality of concrete
(C) Increasing the strength of concrete (D) None of the above
41. One mile = _____ yard.
- (A) 1760 (B) 5280
(C) 1.609 (D) 100

42. The standard size of A2 drawing sheet in mm is :
- (A) 841×1189 (B) 297×420
 (C) 397×420 (D) 420×594
43. A level surface is a _____
- (A) Horizontal surface tangential to the mean earth surface
 (B) Horizontal surface perpendicular to the plumb line
 (C) Curved surface parallel to the mean spheroidal surface of the earth
 (D) Surface which includes the plane of plumb line
44. Final setting time of ordinary Portland cement should not be more than :
- (A) 30 minute (B) 15 hour
 (C) 1 hour (D) 10 hour
45. The instrument used for setting out perpendicular offsets is :
- (A) Levelling staff (B) Clinometer
 (C) Cross staff (D) Target staff
46. Convert the quadrantal bearing S $69^{\circ}30'$ E in to whole circle bearing :
- (A) $249^{\circ} 30'$ (B) $69^{\circ}30'$
 (C) $110^{\circ} 30'$ (D) None of the above
47. The Instrument having common disc for measuring both vertical and horizontal angle is :
- (A) Sextant (B) Theodolite
 (C) Surveyors compass (D) Prismatic compass
48. For a well-conditioned triangle the angle should be in between :
- (A) 90° and 180° (B) 0° and 45°
 (C) 30° and 120° (D) 45° and 150°
49. The curved-triangular space formed between the extrados and horizontal line through the crown in an arch :
- (A) Voussoirs (B) Spandril
 (C) Skew back (D) Soffit

50. The nominal mixes corresponding to the grade of M 25 concrete is :
- (A) 1 : 3 : 6 (B) 1 : 1 : 2
(C) 1 : 1.5 : 3 (D) 1 : 2 : 4
51. The survey undertaken for exploring the mineral wealth :
- (A) Archaeological survey (B) Engineering survey
(C) Mine survey (D) Geological survey
52. The magnetic bearing of a line is S 61° 45' E and declination is 3°15' W, what is its true bearing?
- (A) S 65°0' E (B) S 58° 30' E
(C) N 61°45' W (D) None of the above
53. In prismatic compass 180° is marked at :
- (A) West (B) North
(C) South (D) East
54. The instrument used to draw non-circular curve :
- (A) Protractor (B) Scale of chord
(C) French curve (D) Small bow compass
55. The horizontal distance between any two consecutive contours is :
- (A) Contour interval (B) Contour gradient
(C) Horizontal equivalent (D) Level difference
56. When 2 inch in a drawing represents 12 yard on the ground, the representative fraction of the scale is :
- (A) 2 : 12 (B) 1 : 216
(C) 1 : 120 (D) 1 : 432
57. The inert material in the concrete is :
- (A) Admixture (B) Water
(C) Cement (D) Aggregate
58. The number of steps in a flight should not be less than :
- (A) 6 nos (B) 12 nos
(C) 3 nos (D) 10 nos

59. The Dip of the needle at earth magnetic pole :
- (A) 180° (B) 90°
 (C) Exactly 45° (D) Zero
60. Isoclinic lines are the imaginary lines joining the points having same value of :
- (A) Declination (B) Dip
 (C) Elevation (D) None of the above
61. The anti clockwise Traverse 'MNOP' is square. Fore Bearing of line 'MN' = 290° then the back bearing of line 'PM' is :
- (A) 290° (B) 110°
 (C) 200° (D) 20°
62. Number of links in a 30 metre metric chain is :
- (A) 100 (B) 66
 (C) 180 (D) None of the above
63. Eccentricity is always _____ for an Ellipse.
- (A) Less than One (B) Greater than One
 (C) Equal to One (D) None of the above
64. A polygon having four equal sides, the opposite sides are parallel but adjacent sides are not perpendicular, the exact name of the quadrilateral is :
- (A) Square (B) Rectangle
 (C) Parallelogram (D) Rhombus
65. Trough compass is used for :
- (A) Indicating North (B) Taking bearing
 (C) Drawing large circles (D) None of the above
66. The equatorial axis of earth is nearly _____ than the polar axis.
- (A) 265.0 m lesser (B) 43.0 km greater
 (C) 265.0 Sq km greater (D) 43.0 km smaller
67. A piece of brick which is used to prevent vertical joint in brick masonry :
- (A) Header (B) Squint quoin
 (C) Frog (D) Closer