Maximum : 100 marks

Time : 1 hour and 15 minutes

1. The art of determining and representing the relative heights or elevations of different points on the surface of the earth :

   (A) levelling (B) surveying

   (C) traversing (D) balancing

2. Which scale is used to read three dimensions?

   (A) Plane scale (B) Diagonal scale

   (C) Comparative scale (D) Full scale

3. The main principle of surveying is two work form :

   (A) lower level to higher level (B) higher level to lower level

   (C) whole to part (D) part to whole

4. The longest chain line in chain surveying is called :

   (A) Base line (B) Check line

   (C) Tie line (D) Traverse line

5. ———— tape is used for the work of the highest precession.

   (A) Cloth tape (B) Metallic tape

   (C) Linen tape (D) Invar tape

6. ———— is used for enlargement and reduction of plans.

   (A) Planimeter (B) Clinometer

   (C) Pentagraph (D) Lithograph

7. In Surveyor's compass zero degree is marked at ———— end.

   (A) North (B) South

   (C) North and South (D) East and West

8. In an optical square the two mirrors are placed at an angle of :

   (A) 25° (B) 35°

   (C) 45° (D) 55°

9. The inclination of the magnetic needle with horizontal is known as :

(A) Dip
(B) Declination
(C) Closing error
(D) Sighting error

10. Direct ranging is possible only when the end points are :

(A) more than 200 metres
(B) mutually intervisible
(C) in hilly areas
(D) in valley portion

11. The movable parts that are cleaned and lubricated comes under the category of :

(A) field work
(B) office work
(C) designing work
(D) care and adjustment of instrument

12. The lines passing through points at same declination at a given time are :

(A) Isogonic lines
(B) Agonic lines
(C) True lines
(D) Magnetic lines

13. The horizontal angle which the magnetic meridian makes with the true or geographical meridian is known as :

(A) Dip
(B) Magnetic declination
(C) True bearing
(D) Magnetic bearing

14. GTS stands for :

(A) Great Triangle Survey
(B) Great Trignometrical Survey
(C) Great Traverse Survey
(D) Great Tangential Survey

15. In a series of contour lines, if the higher values are inside the bend or loop it represents a :

(A) ridge line
(B) valley line
(C) vertical cliff
(D) over hanging cliff

16. A long offset is to be measured more than :

(A) 5 m
(B) 10 m
(C) 15 m
(D) 20 m

17. Obstacle for both vision and chaining is occurred when it crosses a :

(A) Building
(B) River
(C) Pond
(D) Sill

18. A series of connected survey lines of known length and directions are called :

(A) Plane surveying
(B) Geodetic surveying
(C) Traverse surveying
(D) Levelling

19. When two lines meet at a point, the sum of both interior and exterior angles is equal to :

(A) 90°
(B) 180°
(C) 270°
(D) 360°

20. Brass handle is connected to the link by :

(A) Flexible joint
(B) Ball and socket joint
(C) Butt joint
(D) Swivel joint

21. The variation of magnetic declination occurred due to magnetic storms and earthquakes is :

(A) Annual variation
(B) Irregular variation
(C) Secular variation
(D) Diurnal variation

22. Plane table is centered over a station with the help of :

(A) Spirit level
(B) Alidade
(C) Trough compass
(D) Plumbing fork with plumb-bob

23. Which method is used for locating inaccessible objects?

(A) Radiation
(B) Intersection
(C) Resection
(D) Traversing

24. Bessel's solution of three point problem is also known as :

(A) Trial and error method
(B) Traversing method
(C) Radiation method
(D) Graphical method

25. Which circle passes through the three ground points, in three point problem?

(A) Concentric circle
(B) Eccentric circle
(C) Great circle
(D) Circle

26. ———— is a point denoting shifting of the level.

(A) Back sight
(B) Station point
(C) Intermediate point
(D) Change point

27. The least count of a metric levelling staff :

(A) 0.5 mm (B) 0.05 mm

(C) 5 mm (D) 15 mm

28. In a simple levelling the back sight taken at 'A' of RL 100.00 is 2.350 and the foresight taken at 'C' is 0.420 then RL of 'C' is :

(A) 102.350 (B) 103.350

(C) 101.930 (D) 100.00

29. In working profile of a longitudinal section, the depth of cuttings are written in :

(A) Red (B) Green

(C) Blue (D) Black

30. While plotting the cross-sections :

(A) vertical scale is enlarged 10 times the horizontal scale

(B) vertical scale is reduced by one-tenth of the horizontal scale

(C) both the vertical and horizontal scales are kept equal

(D) vertical is made double the horizontal scale

31. Find the curvature correction for a distance of 800m :

(A) 0.05 m (B) 0.005 m

(C) 0.05 km (D) 0.005 km

32. Boning rods and sight rails are used for :

(A) the road alignment

(B) setting out gradient

(C) selecting the most economical and suitable site for engineering works

(D) contouring by tacheometric method

33. Contour interval is :

(A) the horizontal distance between two consecutive contours

(B) the least horizontal distance between two consecutive contours

(C) the distance between two consecutive contours along the grade contour

(D) the vertical distance between two consecutive contours

34. For directly applying Simpson's rule the number of ordinates must be :

(A) Odd
(B) Even
(C) Odd or even
(D) None of the above

35. It is more difficult to obtain good results while measuring horizontal distance by stepping :

(A) down hill
(B) uphill
(C) low undulating
(D) in plane areas

36. A clinometer is used for :

(A) Angle of slope
(B) Line of collimation
(C) To setout right angles
(D) Natural features

37. Plani meter is used for measuring :

(A) Volume
(B) Area
(C) Slope of angle
(D) Contour gradient

38. In metric levelling staff, number of subdivisions per metre length are :

(A) 100
(B) 200
(C) 500
(D) 1000

39. The bearing of lines OA and OB are 26° 10' and 332° 18' the value of inculd angle BOA is :

(A) 316° 10'
(B) 158° 28'
(C) 358° 28'
(D) 53° 52'

40. Bearing of AB is 75° 10' and bearing of BC is 100° 20' the angle ABC is :

(A) 175° 30'
(B) 154°
(C) 154° 50'
(D) 255° 10'

41. A bearing of a line is also known as :

(A) True bearing
(B) Azimuth
(C) Magnetic bearing
(D) Reduced bearing

42. The operation of making the algebraic sum of latitudes and departures of a closed traverse equal to zero is known as :

(A) Balancing the sights
(B) Balancing the latitudes
(C) Balancing the departures
(D) Balancing the traverse

43. The ends of a given line are not intervisible from any intermediate points, in such a case the method adopted to establish intermediate point is :

(A) Random line method
(B) Lining in
(C) Balancing in
(D) Double sighting

44. Rotating the telescope of a theodolite in horizontal plane about its vertical axis is called :

(A) Plunging
(B) Swinging
(C) Transiting
(D) Reversing

45. The imaginary line joining the centre of the eye piece and optical centre of the objective in a theodolite is known as :

(A) Horizontal axis
(B) Vertical axis
(C) Axis of altitude level
(D) Axis of the telescope

46. Weight of one bag cement is :

(A) 200 kg
(B) 150 kg
(C) 100 kg
(D) 50 kg

47. In ———— type of bond stretchers and headers are arranged in alternate course.

(A) Stretcher bond
(B) Header bond
(C) English bond
(D) Flemish bond

48. The piece of a brick cut along the centre of width in such a way that its length is equal to that of full brick is called :

(A) Half brick
(B) Queen closer
(C) King closer
(D) Bevelled closer

49. A covering of concrete placed on the exposed top of an external wall, is known as :

(A) Cornice
(B) Frieze
(C) Lintel
(D) Coping

50. The construction in the storage headwork to discharge surplus water to down stream side safety is called :

(A) Sluice
(B) Barrage
(C) Head regulator
(D) Spillway

51. The sum of interior angles of closed traverse is :

(A) $(2n-4)\,90°$ (B) $(2n+4)\,90°$

(C) $(n-4)\,90°$ (D) $(n+4)\,90°$

52. Tick the correct answer for the following :

(A) 1km = 100 metre (B) 1km = 1000 metre

(C) 1km = 1000 cm (D) 1km = 100 cm

53. In any polygon the sum of the deflection angle will be equal to :

(A) 90° (B) 180°

(C) 270° (D) 360°

54. If angular measurements of a traverse are more precise than its linear measurements, balancing of the traverse is done by :

(A) Bowditch's rule (B) Transit rule

(C) Empirical rule (D) Random rule

55. The latitude of any traverse line is obtained by multiplying its length by :

(A) tangent of it reduced bearing (B) sine of its reduced bearing

(C) cosine of its reduced bearing (D) cosecant of its reduced bearing

56. An engineers chain is ———— long.

(A) 100 ft (B) 33 ft

(C) 16 ft (D) 66 ft

57. Least count of theodolite is ———— seconds.

(A) 20 (B) 40

(C) 10 (D) 30

58. ———— type of errors erises due to imperfect focussing.

(A) Collimation (B) Eccentricity

(C) Paralax (D) Hypotenuse allowance

59. The angle subtended by the long chord of a simple curve at its centre is equal to :

(A) Deflection angle (B) Intersection angle

(C) 2 times deflection angle (D) $\frac{1}{2}$ times deflection angle

60. $\frac{\pi R\phi}{180^\circ}$ is :

(A) Tangent distance
(B) Apex distance
(C) Length of curve
(D) Versine of curve

61. Over turning of vehicles on a curve can be avoided by using :

(A) Transition curve
(B) Vertical curve
(C) Compound curve
(D) Mean curve

62. ———— is the time in days between the first watering for the preparation of land for sawing and its last watering before harvest.

(A) crop period
(B) base period
(C) period of growth
(D) maximum flood discharge

63. Sea-saw is an example of :

(A) First order lever
(B) Second order lever
(C) Third order lever
(D) Fourth order lever

64. The ability of material to deform without breaking is called :

(A) ductility
(B) malleability
(C) plasticity
(D) britility

65. $\frac{\text{Lateral strain}}{\text{Lencer strain}} =$

(A) Poison's ratio
(B) Velocity ratio
(C) Efficiency ratio
(D) Mechanical advantage

66. The sidereal day is divided into :

(A) 23h
(B) 24h
(C) 36h
(D) 12h

67. ABCD is a square plot of land. If the bearing of AB is 52° 45', the bearing of CD is :

(A) 142° 45'
(B) 52° 45'
(C) 232° 45'
(D) 322° 45'