063/2024

1. Which drawing sheet is most convenient for the class room drawing?
   - (A) A0
   - (B) A2
   - (C) A3
   - (D) A1

2. Which pencil is used for construction lines, dimension lines, centre lines, section lines etc.?
   - (A) HB
   - (B) H
   - (C) 3H
   - (D) 2H

3. Which range of lettering is generally used for sub-titles and heading?
   - (A) 10 to 12 mm
   - (B) 6 to 8 mm
   - (C) 3 to 6 mm
   - (D) 3 to 5 mm

4. Lines of hidden edges are drawn as :
   - (A) Continuous thick
   - (B) Continuous thin
   - (C) Chain thin
   - (D) Dashed thin

5. In which system of dimensioning, all dimensions are placed from the bottom of the drawing sheet?
   - (A) Unidirectional system
   - (B) Aligned system
   - (C) Parallel dimensioning
   - (D) Chain dimensioning

6. In which the quadrilateral have only two sides are parallel and the four angles are different?
   - (A) Trapezium
   - (B) Rhombus
   - (C) Trapezoid
   - (D) Rhomboid

7. When the section plane is inclined to the axis of the cone and is parallel to one of the generators the section is?
   - (A) Parabola
   - (B) Ellipse
   - (C) Hyperbola
   - (D) Circle

8. Which is the part of the circle or area bound by the arc and chord?
   - (A) Radius
   - (B) Sector
   - (C) Quadrant
   - (D) Segment

A

3

[P.T.O.]

9. An actual length of 5 m of a room is represented by 25 mm length on drawing. Then Representative fraction of drawing is :

(A) 1/10 (B) 1/20

(C) 1/100 (D) 1/200

10. The elevation of a cylinder whose axis is parallel to VP and perpendicular to HP is :

(A) Circle (B) Ellipse

(C) Square (D) Rectangle

11. What is the graphical representation of features on the earth surface or below the earth surface on a horizontal plane in a small scale is?

(A) Plan (B) Map

(C) Projection (D) Scale

12. Preliminary survey is used for :

(A) Setting out the work on the ground

(B) Determine the feasibility and rough cost of the scheme

(C) Marine or navigation purpose

(D) Collecting more precious datas and choose the best location of the work and to estimate the quantities and cost

13. The limit of plane survey is :

(A) 100 sq.km (B) 120 sq.km

(C) 200 sq.km (D) 180 sq.km

14. The main principle of survey is work from the whole to part for :

(A) Prevented accumulation of errors

(B) Refer during survey work

(C) Identify main survey lines

(D) None of these

15. Which tape is preferable for the highest precision work and used in measurement of base line to triangulation in the city work?

(A) Steel Tape (B) Steel Band

(C) Invar Tape (D) Metallic Tape

16. Which measurements are taken at right angles to the chain line of a survey work is?

    (A)   Perpendicular Offsets   (B)   Oblique Offsets

    (C)   Ranging   (D)   Tie line

17. The limit of error in 30m Chain as per BIS :

    (A)   ± 2 mm   (B)   ± 8 mm

    (C)   ± 6 mm   (D)   ± 5 mm

18. The length of a line measured with a 20 m chain was to be 250 m. Calculate the true length of the line if the chain was 10 cm too long :

    (A)   249.21 m   (B)   250.54 m

    (C)   251.25 m   (D)   252.67 m

19. Which instrument is used to reproduce plans to a different scale is?

    (A)   Planimeter   (B)   Pentagraph

    (C)   Clinometer   (D)   Ghat tracer

20. A tape may be too long or an angle measuring instrument may be out of adjustment. Then such type of error comes under which source of error?

    (A)   Instrumental   (B)   Personal

    (C)   Cumulative   (D)   Negative

21. In survey work the reciprocal ranging is applicable for :

    (A)   In hilly region

    (B)   In plane region

    (C)   In valley region

    (D)   When end stations are not inter visible

22. The size of field book is :

    (A)   10 × 12 cm   (B)   20 × 12 cm

    (C)   22 × 15 cm   (D)   25 × 15 cm

23. In sexagesimal system, 1 circumference =

    (A)   360º   (B)   180º

    (C)   120º   (D)   60º

24. _____ is any convenient direction towards a permanent mark or signal.
    (A) True meridian   (B) Magnetic meridian
    (C) Arbitrary meridian   (D) Compass meridian

25. The lines of force of earth's magnetic field run generally from :
    (A) South to North   (B) North to South
    (C) North to West   (D) South to East

26. In surveyor's compass the graduations are in :
    (A) Whole circle bearing   (B) Quadrantal bearing
    (C) Fore bearing   (D) Back bearing

27. The magnetic bearing of a line AB is S 28° 30' E, calculate the true bearing if the declination is 7° 30' W :
    (A) S 36° 0' E   (B) S 21° 0' E
    (C) S 36° 0' W   (D) S 21° 30' W

28. Convert the quadrantal bearing N 12° 24' E to whole circle bearing :
    (A) 24° 12'   (B) 12° 24'
    (C) S 12° 24' W   (D) S 24° 12' W

29. The fore bearing of a line AB is N 86° 12' W find its back bearing :
    (A) S 86° 12' W   (B) S 86° 12' E
    (C) 86° 12'   (D) 186° 12'

30. The bearing of a line AB is measured from A towards B, it is known as :
    (A) Fore bearing   (B) Back bearing
    (C) Backward bearing   (D) Quadrantal bearing

31. The horizontal angle between the true meridian and the magnetic meridian is known as :
    (A) Magnetic declination   (B) Dip
    (C) True bearing   (D) Angle

32. The local attraction at a particular place can be detected by observing the _____ of each line and finding its difference.
    (A) Fore bearing   (B) Back bearing
    (C) Fore bearing and Back bearing   (D) Whole circle bearing

33. Inaccurate levelling of the compass box is a _____ error.

    (A) Instrumental   (B) Personal

    (C) Natural   (D) None of these

34. The extent of daily variations depend upon :

    (A) The Locality   (B) Season of the year

    (C) Time   (D) All of these

35. _____ is the process of determining the plotted position of the station occupied by the plane table, by means of sights taken towards known points, locations of which have been plotted.

    (A) Traversing   (B) Radiation

    (C) Resection   (D) Intersection

36. The _____ is used to orienting the plane table to magnetic north.

    (A) Sprit level   (B) Alidade

    (C) Plumb bob   (D) Compass

37. Location of the position on the plan, of the station occupied by the plane table by means of observations to two well defined points whose positions have been previously plotted on the plan is known as :

    (A) Three - point problem   (B) Two - point problem

    (C) Traversing   (D) Intersection

38. _____ is the process of putting the plane - table into some fixed direction so that line representing a certain direction on the plan is parallel to that direction on the ground.

    (A) Orientation   (B) Centring

    (C) Traversing   (D) Intersection

39. Methods of plane tabling can be divided into _____ distinct heads.

    (A) 1   (B) 2

    (C) 3   (D) 4

40. Which of the following is the permanent adjustment of dumpy level?

    (A) Spire test   (B) Vertical arc test

    (C) Two peg method   (D) All of these

41. In contouring horizontal equivalent depends upon :

   (A) The scale of map

   (B) Time and expense

   (C) Purpose and extend of survey

   (D) Slope of the ground

42. Mean Sea Level (M.S.L.) is the average height of the sea for all stages of tides. It is the average of hourly tides for a long period of _____ years.

   (A) 10   (B) 100

   (C) 15   (D) 19

43. What is the combined correction for curvature and refraction for a distance of 3 km?

   (A) 1.6057 m   (B) 0.6057 m

   (C) 1.5965 m   (D) 0.0605 m

44. In the case of levelling across a river or lake, which type of levelling is used?

   (A) Fly levelling   (B) Barometric levelling

   (C) Reciprocal levelling   (D) Hypsometry

45. In plotting the Longitudinal section (profile levelling), the vertical scale for showing the reduced level is enlarged to _____ times the horizontal scale.

   (A) 10   (B) 1/10

   (C) 100   (D) 1/100

46. A set of V-shaped contours with higher value contours inside the bent represents a :

   (A) Hill   (B) Pond

   (C) Lake   (D) Ridge

47. What is the controlling factor for locating a highway or canal in a contour map?

   (A) Horizontal equivalent   (B) Angular measurement

   (C) Gradient line   (D) Contour interval

48. What is the quantity of cutting given the ground level as 232.50 and formation level is 231.10?

   (A) 1.04   (B) 1.40

   (C) 1.61   (D) 1.42

49. When the sights are long _____ types of staff used for levelling work.

    (A)   Solid staff   (B)   Telescopic staff

    (C)   Folding staff   (D)   Target staff

50. Which surface is normal to the direction of gravity at all points?

    (A)   Horizontal surface   (B)   Vertical surface

    (C)   Datum surface   (D)   None of these

51. Which level is that the line of sight remains horizontal once the operator has roughly levelled the instruments?

    (A)   Wye level   (B)   Modern level

    (C)   Auto level   (D)   Dumpy level

52. What is rise or fall, if back sight reading taken on B.M is 2.045 m and intermediate sight on point = 2.68 m?

    (A) -0.735 fall   (B) -0.635 fall

    (C) $+0.735$ Rise   (D) $+0.635$ Rise

53. Which instrument is used for establishing grade contour?

    (A)   Prismatic compass   (B)   Abney level

    (C)   Telescopic alidade   (D)   Pentagraph

54. What is 'S' in the formula $A = Bd + Sd^2$?

    (A)   Side length   (B)   Sectional height

    (C)   Side slope   (D)   Constants

55. The latitude and departure of any point with reference to the preceding point are called :

    (A)   Consecutive co-ordinate   (B)   Independent co-ordinate

    (C)   Total co-ordinate   (D)   None of these

56. Which method of theodolite traversing, the magnetic bearing of only the first line is measured? The magnetic bearing of all other lines are determined indirectly:

    (A)   Fast needle method   (B)   Loose needle method

    (C)   Both (A) and (B)   (D)   None of these

57. What are the fundamental lines of theodolite?

(1) Horizontal axis
(2) Line of collimation
(3) Axis of telescope
(4) Slant line

(A) (1) and (2) (B) (1), (2) and (3)
(C) (3) and (4) (D) (1), (2) and (4)

58. What is the least count of stadia rod?

(A) 0.0001 m (B) 0.001 m
(C) 0.01 m (D) 0.005 m

59. What is the distance from mid point of the curve to point of inter-section?

(A) Tangent distance (B) Length of the chord
(C) External distance (D) Length of the curve

60. What formula for length of long chord?

(A) $R \tan \Delta/2$ (B) $2R \sin \Delta/2$
(C) $2R \tan \Delta/2$ (D) $R \sin \Delta/2$

61. The axis about which the telescope and the vertical circle of the theodolite rotated in the vertical plane is called :

(A) Trunnion axis (B) Vertical axis
(C) Axis of altitude bubble (D) Line of collimation

62. What is the tacheometric equation for distance while the line of sight is horizontal and staff is held vertically?

(A) $D = (f/i) + (f + d)$ (B) $D = (f/i)s + (f + d)$
(C) $D = (f/i) + s(f + d)$ (D) $D = (f/i)s + (f \times d)$

63. Which method is suitable for closed traverse in theodolite survey?

(A) Loose needle method (B) Fast needle method
(C) Direct method (D) Included angle method

64. The component length measured perpendicular to the reference Mendian is called :

(A) Meridian distance (B) Departure
(C) Latitude (D) Longitude

65. The DGPS technique is based on using atleast _____ GPS receivers.

    (A) 2   (B) 3

    (C) 4   (D) 5

66. In GPS survey, RTK stands for :

    (A) Related Time Kinematic   (B) Real Total Kinematic

    (C) Real Time Kinematic   (D) Rover Time Kinematic

67. Which instrument is the combination of Electronic Theodolite and electronic distant meter?

    (A) Digital Theodolite   (B) Total Station

    (C) Telemeter   (D) Tacheometer

68. The fundamental measurements with the Total Station are horizontal angle, vertical angle and :

    (A) Horizontal Distance   (B) Vertical Distance

    (C) Slope Distance   (D) Tie Distance

69. Which projection uses the equidistant parallel lines for showing the meridians?

    (A) Conic Projection   (B) Azimuthal Projection

    (C) Isometric Projection   (D) Cylindrical Projection

70. Which is the science of acquiring information about the earth's surface without actually being in contact?

    (A) Resection   (B) Trilateration

    (C) Remote Sensing   (D) Trilocation

71. Which is an Oceanographic device for flow of measurement?

    (A) Current Meter   (B) Echo Sounder

    (C) Orifice Meter   (D) Hypsometer

72. Which is the most accurate method of locating sounding?

    (A) Range and Time intervals

    (B) Cross Rope

    (C) Range and one angle from the shore

    (D) Two angles from the Shore

73. Which Line type is available when you start a new drawing in AutoCAD?

    (A) Solid   (B) Continuous

    (C) Straight   (D) Hidden

74. Which command do you use to draw a circle in isometric drafting?
   (A) Spline   (B) Arch
   (C) Ellipse   (D) Circle

75. To switch isoplane, you press :
   (A) F6   (B) F5
   (C) F4   (D) F3

76. _____ command is used to restore all entities erased by the most recent Erase command.
   (A) OOPs   (B) Restore
   (C) Redo   (D) Undo

77. Which is the short cut key of the text style?
   (A) T   (B) BT
   (C) ST   (D) TR

78. File, Edit, View etc. Are easily available in AutoCAD from?
   (A) Menu bar   (B) Standard Tool bar
   (C) Status bar   (D) Title bar

79. Which co-ordinate system is used in AutoCAD if we know the precise X and Y values in the point from the origin?
   (A) Relative Rectangular co-ordinate system
   (B) Absolute co-ordinate system
   (C) Relative polar co-ordinate system
   (D) Universal co-ordinate system

80. Which of the following software is limited for Auto CAD installation?
   (A) Windows DOS   (B) Windows 98
   (C) Windows 03   (D) Windows 10

81. Unit of heat in MKS :
   (A) Calorie   (B) Joule
   (C) Kelvin   (D) Joule per kilogram kelvin

82. 1 Hectare = _____ Are.
   (A) 10   (B) 1000
   (C) 100   (D) 10000

83. Answer of $\dfrac{37.698}{1000} =$

    (A)   0.037698   (B)   0.37698

    (C)   0.00379698   (D)   0.000379698

84. Melting point of Molybdenum is :

    (A)   2620°C   (B)   2500°C

    (C)   1495°C   (D)   1400°C

85. 1 Newton = _____ dyne.

    (A)   1000   (B)   10000

    (C)   100   (D)   500

86. $1 + \tan^2 \theta =$

    (A) $\sec^2 \theta$ (B) $\cos ec^2 \theta$

    (C) $\cot^2 \theta$ (D) $\sec \theta$

87. $\cot(90 + \theta) =$

    (A) $\sec \theta$ (B) $\tan \theta$

    (C) $\cot \theta$ (D) $-\tan \theta$

88. Example for a third order lever :

    (A)   See-saw   (B)   Nut cracker

    (C)   Crow bar   (D)   Forceps

89. The property of a metal to resist the effect of tensile forces :

    (A)   Elasticity   (B)   Ductility

    (C)   Tenacity   (D)   Brittleness

90. The type of caste iron which cannot be welded :

    (A)   Grey cast iron   (B)   Nodular cast iron

    (C)   Malleable cast iron   (D)   White cast iron

91. Density of water in gm/cm^3 :

    (A)   100   (B)   1000

    (C)   2000   (D)   1500

92. What will be the velocity of the body, when the body travels a distance of 180 m in a straight line in 20 seconds?

    (A)   36 m/sec   (B)   9 m/sec

    (C)   10 m/sec   (D)   90 m/sec

93. Which is the most powerful neutral refractory material?

    (A)   Carbon   (B)   Chromite

    (C)   Bauxite   (D)   Forsterite

94. The Lime containing more than 30% of clay is known as :

    (A)   Fat lime   (B)   Hydraulic lime

    (C)   Poor lime   (D)   Feebly hydraulic lime

95. Well grade sand should be pass BIS no.480 and should not pass BIS No. _____ sieve.

    (A)   15   (B)   10

    (C)   20   (D)   25

96. Wood absorbing water vapours from air is known as :

    (A)   Permeability   (B)   Hygroscopicity

    (C)   Capillarity   (D)   None of these

97. What is the name of first watering given to a crop, when the crop is a few centimeter height?

    (A)   Duty   (B)   Delta

    (C)   Paleo   (D)   Kor watering

98. Road constructed to secure access from a road to a private property is known as :

    (A)   Sub way   (B)   Drive way

    (C)   Head way   (D)   Motor way

99. The permissible gradient in the alignment of highway is known as :

    (A)   Average gradient   (B)   Floating gradient

    (C)   Ruling gradient   (D)   Limiting gradient

100. How much percentage of Centage is added in estimate?

    (A)   3% – 5%   (B)   20% – 30%

    (C)   1% – 1½%   (D)   10% – 15%

_____

SPACE FOR ROUGH WORK