Surveying Engineering

1. The survey in which the curvature of the earth is taken into account is called:
(a) Geodetic survey   (b) Plane survey
(c) Hydrographical survey   (d) Topographical survey

2. A well-conditional triangle does not have any angle less than
(a) not less than 20°   (b) not less than 30° (c) not less than 45°   (d) not less than 60°

3. When 1 cm on a map represents 10 m on the ground, the representative fraction of the scale is:
(a) 1/100   (b) 1/1000   (c) 1/10000   (d) 1/10

4. A line joining some fixed points on the main survey lines is called
(a) Check line (b) Tie line (c) Chain line (d) Base line

5. Which of the following scales is the smallest one?
(a) 1 cm = 50 m (b) RF = 1/50000 (c) 4: 200000 (d) 1 cm = 5000 m

6. The accuracy of measurement in chain surveying does not depend upon:
(a) Length of the offset   (b) Scale of the plotting
(c) Importance of the features (d) General layout of the chain lines

7. Cross-staff is used for:
(a) Setting out right angle   (b) Measuring horizontal angle
(c) Both (a) and (b)   (d) None of these

8. Cross hairs in surveying telescope are fitted.
(a) In the objective lens   (b) At the centre of the telescope
(c) At the optical of the eye piece (d) In front of the eyepiece

9. In a metric chain, number of links per meter run can be:
(a) 2 (b) 5 (c) 8 (d) 0

10. The line normal to the plumb line is known as:
(a) Horizontal line (b) Level line (c) Datum line (d) Vertical line

11. The limiting length of an offset does not depend upon
(a) Accuracy of the work   (b) Method of setting out perpendiculars
(c) Scale of plotting   (d) Indefinite feature to be surveyed

12. The construction of optical square is based on the principle of optical
(a) Reflection   (b) Refraction   (c) Double refraction   (d) Double reflection

13. In a traverse survey, closing error means
(a) The error in closing of the traversing operations.
(b) The actual distance by which the traverse fails to close
(c) The distance between the starting and end point of an open traverse
(d) None of the above

14. When compared with chain surveying plane table is:
(a) Less accurate (b) Not accurate (c) More accurate (d) Accurate

15. The total number of links provided in a Gunter's chain is
(a) 132 (b) 66 (c) 100 (d) 50

16. When two points of surveying are mutually invisible the following method of ranging is adopted?
(a) Horizontal ranging   (b) Vertical ranging   (c) Direct ranging   (d) Indirect ranging

17. The distance between two brass rings in a surveyor's chain is-
(a) 75 cm (b) 40 cm (c) 1 m (d) 20 cm

18. Mean Sea level (MSL) adopted by survey of India for reference, is located at?
(a) Delhi (b) Kolkata (c) Karachi (d) Mumbai

19. Survey line provided to verify the accuracy of the frame work is known as?
(a) Subsidiary line (b) Base line (c) Tie line (d) Check line

20. The fundamental principle of surveying is to work from the
(a) Whole to part   (b) Part to whole
(c) Lower level to higher level (d) Higher level to lower level

21. The correction to be applied to each 30 m chain for a line measurement along slop of θ is
(a) $30(1 - \cos\theta)$ (b) $30(1 - \sin\theta)$ (c) $30(1 - \tan\theta)$ (d) $30(1 - \cot\theta)$

22. The correction for sag is:
(a) Always subtraction   (b) Always zero
(c) Sometimes additive and sometimes subtractive   (d) Always additive

23. The main principle of field surveying is to work from
(a) Higher level to lower level   (b) Low level to high level
(c) Part to whole   (d) Whole to part

24. 'Offsets' are
(a) Lateral measurements from chain line   (b) Ties or check lines which are perpendicular to chain line
(c) Sets of minor measurement in chain surveying (d) Chain lines which go out of alignment

25. The multiplying constant for the tachometer is generally, kept as
(a) 100   (b) 20   (c) 40   (d) 60

26. A staff reading taken on a point whose elevation is to be determined as a change point is called
(a) Foresight reading   (b) Back sight reading   (c) Intermediate sight   (d) Long sight

27. the most accurate instrument for measuring horizontal for measuring horizontal and vertical angles is:
(a) Compass   (b)Tape and chain   (c)Theodolite   (d) Dumpy level

28. A level line is a
(a) Line parallel to the mean spherical surface of the earth
(b) Line passing through centre of cross hairs and centre of eye-piece
(c) Line passing through objective lens and the eye-piece
(d) Horizontal line

29. For a tachometer, the additive and multiplying constant are respectively
(a) 0 and 0 (b) 100 and 100 (c) 100 and 0 (d) 0 and 100

30. The principle of working of optical square is based upon
(a) Reflection (b) Refraction (c) Double reflection (d) Double refraction

31. The fixed point whose elevation is known, is called
(a) Benchmark (b) Change point (c) Reduced level (d) Stations

32. The multiplying constant of a theodolite is:
(a) f+d   (b) f/d+I   (c) f/i+d   (d) f/i

33. An analytic lens is provided in a :
(a) Theodolite   (b) Tacheometer   (c) Dumpy level   (d) Prismatic compass

34. If d is the constant distance between the sections, then the correct prismoidal formula for volume is
(a) d[first area + last area +$\sum$ even area + 2 $\sum$ odd areas]
(b) d/3 [first area + last area + 2$\sum$ even area + 4 $\sum$ odd areas]
(c) d/3 [first area + last area + 4$\sum$ even area + 2 $\sum$ odd areas]
(d) d/6 [first area + last area + 2$\sum$ even area + 4 $\sum$ odd areas]

35. The 'fix' of a plane table from three known points, is good if:
(a) Middle station is nearest   (b) Middle station is farthest
(c) Either the right or left station is nearest   (d) None of these

36. Geodetic surveying is different from plane surveying because of
(a) The curvature of earth   (b) The large difference of elevations between various point
(c) Coverage of very low area   (d) Undulations of very large area

37. A rectangular plot of 16km² in area is shown on a map by a similar rectangular area of 1 cm², R.F. of the scale to measure a distance of 40 km will be:
(a) 1/1600   (b) 1/400000   (c) 1/400   (d) 1/16000

38. In geodetic survey higher accuracy is achieved if
(a) Curvature of the earth surface is ignored   (b) Curvature of the earth surface is taken into account
(c) Angles between the curved lines are treated as plane angles   (d) None of these

39. Surveys which are carried out to depict mountains, rivers, water bodies, wooded areas and other cultural details is known as
(a) Cadastral surveys   (b) City surveys   (c) Topographical surveys   (d) Plane surveys

40. The survey in which the curvature of earth is ignored is termed as……………
 (a) Geodetic survey   (b) Aerial survey   (c) Plane survey   (d) Geological survey

41. Hydrographic survey deals with mapping of
(a) Large water bodies   (b) Rainfall data   (c) Hilly area (d) Cities

42. If the ratio of all the corresponding linear dimensions is equal, then the model; and the prototype are said to have:
(a) Geometric similarity (b) Kinematic similarity (c) Dynamic similarity (d) Static similarity

43. Which of the following scale is largest one?
(a) 1 cm = 100m   (b) 1:42000   (c) 1 cm = 50km   (d) RF = 1/500000

44. The representative fraction of the scale 1cm = 100km will be:
(a) 1/10000   (b) 1/100 (c) 1/100000 (d) 1/10000000

45. A scale of 1 inch = 50 ft is mentioned on an old map. What is the corresponding equivalent scale?
(a) 1 cm = 12 cm   (b) 1 cm = 10 cm (c) 1 cm = 6 cm (d) 1 cm = 5 cm

46. Which one of the following quantities are each equal to one acre?
(a) 43560 sq ft   (b) 40 gunthas   (c) 10 sq gunter's chain (d) 4850 sq yds
Choose the correct answer below.
(a) Only A, B and C   (b) Only A, B and D
(c) Only B, C and D   (d) Only A, C and D

47. A line joining some fixed stations on main survey lines is
(a) Check line   (b) Base line   (c) Tie line   (d) Cross line

48. The length and breadth of a field of area 33600 m², on map is 12 cm and 7 cm respectively. The R.F. of the scale will be
(a) 1:400   (b) 1:20 (c) 1:800 (d) 1:2000

49. The survey in which the curvature of earth is ignored, is known as
(a) Plane survey (b) Geodetic survey (c) Geological survey (d) Aerial survey

50. The representative fraction 1/1,00,000 signifies a scale of
(a) 1 cm = 100000 m (b) 1 cm = 10 km (c) 1 cm = 1 km (d) None of the above