Engineering Graphics-I

Short Answer Questions

1. List different sizes of drawing sheets.
2. What is BIS?
3. Define single stroke lettering.
4. How do you specify the size of a letter used in lettering practice?
5. What is the significance of lettering in engineering graphics?
6. Print the following sentence using 6 mm size, single stroke, vertical, English capitals: "Engineering Graphics requires continuous practice".
7. Sketch a rectangle of 75x50 mm and dimension that using (i) aligned method (ii) unidirectional method
8. Differentiate parallel (progressive) and continuous (chain) dimensioning.
9. What is the significance of dimensioning in engineering graphics?
10. List different types of lines and sketch them.
11. Mention the applications of different types of lines.
12. Show by means of a simple sketch different types of lines.
13. Define representative fraction used in scales.
14. An area of 100 sq. km is represented on a map as an area of 25 sq. cm. Find RF.
15. In an electronic instrument a wheel has a diameter of 0.1 mm. It is drawn with RF = 200. Find its diameter on drawing.
16. Differentiate reducing and enlarging scales.
17. When do you use a full scale on drawing?
18. What are the practical applications of reducing scales and enlarging scales?
19. What is the principle of diagonal scale?
20. What is (are) the disadvantage(s) of plain scales?
21. Explain the principle of vernier scale.
22. Differentiate direct (forward) and backward (retrograde) vernier scales.
23. A room of dimensions 10x8x3 m is represented with a cube of 5 cm side. Find RF.
24. What information is needed to construct a scale?
25. How do you calculate length of scale?
26. Define conic section.
27. By means of a sketch show different conic sections.

28. Mention the practical applications of the following curves: (i) ellipse (ii) parabola (iii) hyperbola (iv) cycloid (v) involute.
29. In an ellipse the major axis is 100 mm and minor axis is 60 mm. Calculate the distance between two foci.
30. Define cycloid.
31. Differentiate epicycloid and hypocycloid.
32. Sketch involute of an equilateral triangle of side 30 mm.
33. Sketch involute of a straight line AB of 10 mm for 3 convolutions.
34. What do you mean by orthographic projection?
35. What are the differences between first and third angle projection methods?
36. Why do we use either only first or third angle methods but not second or fourth angle methods?
37. A point P is 20 mm from both the reference planes. Draw its projections in all possible positions.
38. A point Q is 30 mm blow HP and its shortest distance from the reference line is 50 mm. Draw its projections when it is located in 3rd quadrant. (Hint: Start from side view).
39. The top view and front view of a point coincide with each other on XY. Describe its position w.r.to the reference planes.
40. When the sum of inclination of a straight line with HP and VP is 90^0 i.e., ($\theta+\phi = 90^0$), describe the nature of projections of the line.
41. Define trace of a straight line.
42. A straight line has only horizontal trace. What are the different possibilities for the line?
43. A straight line has only vertical trace. What are the different possibilities for the line?
44. With a simple sketch explain the procedure for finding traces of a line inclined to both the planes.
45. A line AB is in the HP and inclined at 30^0 to the VP and its one end is in the VP. Draw its projections.
46. What is meant by oblique plane?
47. Define the horizontal and vertical traces of a plane.
48. When do you get both top view and front view of a plane as straight lines?
49. A semicircular plate of negligible thickness rests on its straight edge on the HP with the surface parallel to the VP. Draw its projections.

50. A plane figure has its VT parallel to XY. Describe its position w.r.to HP and VP.
51. A plane figure has its HT parallel to XY. Describe its position w.r.to HP and VP.
52. Define polyhedron.
53. Sketch a tetrahedron and label it.
54. What is dodecahedron?
55. What is icosahedron?
56. Octahedron is bounded by eight equal _____faces.
57. Differentiate between pyramid and prism.
58. How solid of revolution is formed? Show by means of sketches, different solids of revolution.
59. What is meant by frustum of a solid?
60. What is a truncated solid?
61. A square pyramid is resting on HP on its base with all base sides equally inclined to the VP. Sketch its projections.
62. What are Auxiliary Inclined Plane (AIP) and Auxiliary Vertical Plane (AVP)?
63. What are the advantages of auxiliary plane method of projection?