

AMITY UNIVERSITY

ASSIGNMENT OF ENGINEERING GRAPHICS

TITLE: Basic engineering graphics and its viva questions

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ASET 2CSE 3X

1. What do you understand by engineering drawing?

Ans. An engineering drawing, a type of technical drawing, is used to fully and clearly define requirements for engineered items. Engineering drawing (the activity) produces engineering drawings (the documents). More than merely the drawing of pictures, it is also a language—a graphical language that communicates ideas and information from one mind to another. Most especially, it communicates all needed information from the engineer, who designed a part, to the workers, who will make it.

2. What is the use of the engineering graphics?

Ans. The purpose of engineering drawing is to convey graphically the ideas and information necessary for the construction or analysis of machines structures, or systems.

3. Is it useful in computer science?

Ans. Manufacturing can happen only when there is a detailed engineering drawing about the things to be fabricated. Hence, to draw or construct anything engineering drawing must be known.

4. What are the practical applications of engineering drawing?

Ans. It is used in mechanical as well as civil engineering to design a layout before construction. It is used in machine designing.

5. What are the materials required in engineering drawing?

Ans. The materials used are as follows:

Mini-drafter

Scale

Drawing sheet

Drawing board

Pencils

Clips

Eraser

Geometry Box

6. What is mini-drafter?

Ans. It is an important device used in the lab for preparing drawings quickly and accurately. It is a L- shaped scale i.e. two perpendicular scales with a protractor in the centre joining the two scales .

7. What is the use of the mini-drafter?

Ans. It is used to do multiple works like drawing straight lines, parallel lines, drawing lines at any angle, to take measurements and is especially used for three works:

Drawing straight lines

Drawing perpendicular lines

As a protractor

8. What is the use of compass?

Ans. It is used to construct circles , mark arc to draw line of the particular length, to make line of the same length as one made before.

9. If we have mini-drafter, then why do we use scale?

Ans. To simply join two points and where a long scale is not an ease to use we use a scale instead of drafter.

10. What are the different types of sheets used?

Ans. ISO has made a standard size of the sheets used in engineering graphics which have the dimension with A size as standard size. The different types of sheets generally in use are A0, A1, A2, A3, A4.

11. Tell the dimension of the sheet you are using.

Ans. We are using the sheet of size A2. The dimensions of the sheet being:420*594 mm.

12. Why the dimension an important criterion in engineering graphics?

Ans. Dimension is an important criterion because it is used to provide a complete information to the manufacturer and dimensions are very important to be known to manufacture and thus an important part of the information.

13. What is the relation between sheet size?

Ans. The one size of the sheet is half of the other like A1 is half of the A0, A2 is half of the A1, A3 of A4 and so on.

14. Does drawing board have any relation between them like sheets?

Ans. Yes drawing board have similar relation between them like sheets.

15. What are the types of boards used?

Ans. The board we are using is B0.

16. What is the size of the drawing board?

Ans. The size of the drawing board is 1500*1000 mm.

17. What is the use of the drawing board?

Ans. The drawing board provides base for the sheet and thus helps in better construction or drawing of shapes.

18. Why do we have different pencils?

Ans. We have different pencil to present different types of lines differently. To draw construction line which need not to be seen much are drawn by a lighter pencil and lines to represent the desired objects by dark pencil.

19. What are the different types of pencils available and on what basis?

Ans. There are 18 different types of pencils available. These are H, 1H, 2H, up to 9H and HB, 2HB up to 9HB.

20. What is the full form of H and HB?

Ans. The full form of H is Hard. The full form of HB is hard black.

21. How is the shade of the pencil changed i.e. how it become lighter and darker?

Ans. For H pencil, shade becomes lighter on increasing the number like H is darker than H1, h1 is darker than H2, and so on and thus H9 is the lightest pencil. For HB pencil, shade becomes darker on increasing the number like HB is lighter than 2HB, 2HB is lighter than 3HB and so on. Thus the darkest pencil available is 9HB.

22. When do we use light pencil?

Ans. We generally use light pencil to draw the construction lines which need not be seen by others. These are just important for construction and not for final result.

23. When do we use dark pencil?

Ans. We use dark pencil to draw the important part of the drawing for whom all the construction is being laid so that they are easily seen and read by others.

24. Of what material is the drawing board made up of?

Ans. The drawing board is made up of teak wood.

25. What are the different types of line?

Ans. The different types of lines are as follows:

Continuous thick line

Continuous Thin line

Section line

Short Dashes medium

Zig-Zag line

Chain line

Dashes

26. When do we make continuous thick line?

Ans. The continuous thick line is made to draw visible outlines and edges.

27. Which type of line is used as extension line?

Ans. The continuous thin line is used for drawing extension lines.

28. At what angle are section line inclined to plane?

Ans. The section lines are inclined at an angle of 45° with the plane.

29. What is the use of the zig-zag line?

Ans. These lines are used as the long break lines.

30. What is the length of the centre line in thin alternate long and short dashes?

Ans. The length of the centre line is approximately 15 to 30 mm.

31. What is the length of space in chain line?

Ans. The length of the space in chain line is 1mm approximately.

32. On which lines are additional work done?

Ans. Long Chain- Thick lines are drawn to indicate the surfaces which are to receive additional treatment.

33. Where are the dimensions written?

Ans. The dimensions are generally written as follows:

Above the horizontal line

Left of vertical line

Outside to the lines at any angle

34. When are continuous thin line drawn?

Ans. The continuous thin line is drawn for:

Dimension line

Leader line

Extension line

Construction line

35. Draw the line which represent axis of plane and name it.

Ans. The line used is Long chain thin alternate long and short dashes.

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36. When are continuous thin free handed line drawn?

Ans. The continuous thin free handed line is drawn for irregular boundary lines and short break lines.

37. Is engineering drawing a free-handed drawing?

Ans. No, engineering graphics is not at all a free-handed drawing rarely in some cases.

38. What is the use of the short dashes medium?

Ans. It is used for hidden outlines and edges.

39. Which line is used to represent cutting plane lines?

Ans. Long Chain thick at end and thin elsewhere

40. What is the use of the zig-zag line?

Ans. These are used for long break lines.

41. What type of line is drawn to represent the invisible part?

Ans. Short dashes medium

42. What is the use of the section lines?

Ans. The sections line are used to locate the cutting view of solid.

43. What is the length of dash in short dash line?

Ans. The length of the dash is 2 to 3 mm approximately.

44. Draw illustration of any five types of line.

Ans. The illustrations of the line are as follows:

Continuous thick: _____

Continuous Thin: _____

Short Dashes medium: _ _ _ _ _

Long Chain thin: _ _ _ _ _

Long chain thick at ends and thin elsewhere: _ _ _ _ _

45. What is the dimension of the title box on the sheet?

Ans. The dimensions of the title box is 50*150 mm.

46. What all is written in the title box?

Ans. The content written in the title box includes:

University name

Title

Scale

Type of projection

Sheet no

details of student

grade

checked by

47. Is border on all four-side same?

Ans. No border is not same on all sides.

48. What are dimensions of the border?

Ans. It is 10mm thick three sides and is 20 mm on the vertical left hand side.

49. Which border is comparatively bigger in size? Why?

Ans. Border on left hand side is generally bigger because it is a filler margin.

50. What is the dimension of the arrow drawn?

Ans. The arrows drawn have a base of 1 mm and height of 3 mm.