B.Tech (Sem. – 1,2)

ENGINEERING DRAWING

Subject Code: BTME-102

M Code: 54102

Date of Examination : 23-01-23

Time: 3 Hrs.   **Max. Marks: 60**

INSTRUCTIONS TO CANDIDATES:

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION - B & C have FOUR questions each, carrying EIGHT marks each.**
3. **Attempt any FIVE questions from SECTION B & C, selecting atleast TWO questions from each of these SECTIONS B & C.**

SECTION-A

1. Write short notes on:

    a) What kind of symbolic lines are used to represent visible outlines?

    b) Construct a plain scale of RF = 1/24 showing yards and feet.

    c) Sketch the symbol of first angle projection.

    d) "Second & fourth angle projection are not preferred". justify this statement.

    e) Sketch the positions of VP, HP and PP with respect to various quadrant systems.

    f) How the auxiliary planes are used to find out the true shape of projections?

    g) Differentiate between perspective, isometric and orthographic projections.

    h) Sketch an Oblique solid and a Truncated solid.

    i) What is trace of a line?

   j) Explain the term 'Shortest Distance' of a point.

SECTION-B

2. A point Q is 45mm above HP, in first quadrant, and its shortest distance from XY line is 60mm. Draw its front and top view.

3. A line AB is in third quadrant. Its end A is 25mm below HP. The line is inclined at 30° to the VP. The lengths of its elevation and plan are 70mm and 60mm respectively, and its HT is 25mm behind the VP. Draw its projections and find other variables.
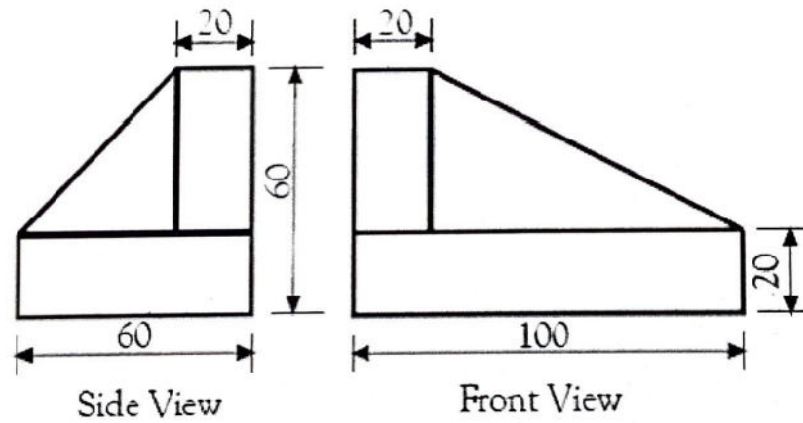
4. A regular hexagonal lamina, of 28mm sides, is resting on HP on one of its sides such that the side is perpendicular to the VP and plane of the lamina inclined to the HP at 45°. The lamina is then rotated through 90° so that side on the HP becomes parallel to the VP, still keeping the angle of plane of lamina with HP as 45°. Draw the front view and top view of the lamina held in its final position.

5. A right circular cylinder, diameter of base 50mm and length of axis 70mm long, rests on HP on its base rim such that its axis is inclined at 45° to HP and top view of the axis is inclined at 60° to the VP. Draw its projections.

SECTION-C

6. A right circular pentagonal prism, side of base 25mm and 54mm long, lies on one of its rectangular faces on HP, such that its axis is inclined to VP at 45°. A section plane perpendicular to both HP and VP cuts the prism, meeting its axis at a distance of 5mm from the end face which is away from the VP. Draw the front and top views of the cut prism. Also project its profile view showing true shape of the section.

7. A right regular pyramid of base 48*32mm and height 62mm, rests on its base in HP with one of its base sides parallel to VP. A section plane perpendicular to the VP and inclined at 30° to the HP cuts the pyramid, bisecting its axis. Develop the lateral surface of the pyramid.

8. The figure shows the isometric view of a machine Block. Draw the orthographic projections of the block.
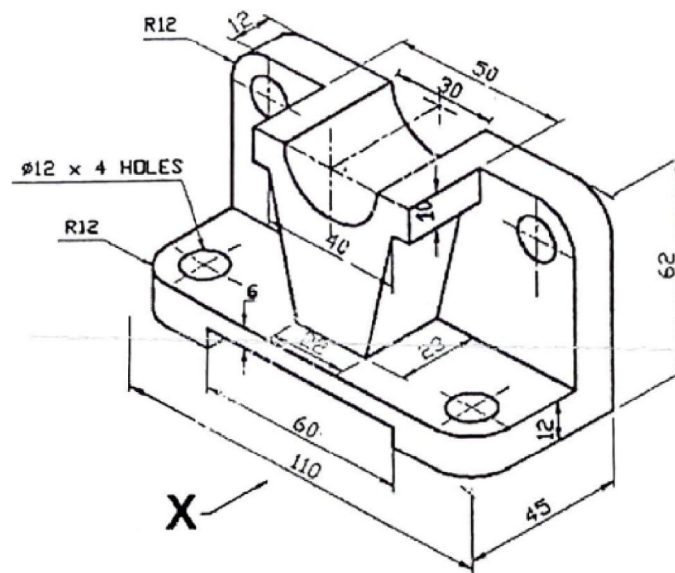
9. The figure shows the side view and front view of a machine Block. Draw the isometric view of the block.

Side View

Front View