

**I B. Tech I Semester Supplementary Examinations, August/September - 2022**  
**DESIGN DRAWING AND VISUALIZATION**

(Only for CSD)

Time: 3 hours

Max. Marks: 70

**Answer any five Questions one Question from Each Unit**

**All Questions Carry Equal Marks**

**UNIT-I**

1. a) The foci of an ellipse are 80mm apart and the minor axis is 55mm long. Determine the length of the major axis and draw the ellipse. (9M)
- b) Draw a plain scale of 5 cm : 1 m to read in metres and decimetres and that is long enough to measure 3.8 m. Mark a distance of 2 m and 6 decimetres on the scale (5M)

Or

2. A circle of 40mm diameter rolls and a straight line without slipping. In the initial position the diameter PQ of the circle is parallel to the line on which it rolls. Draw the locus of the points P and Q for one complete revolution of the circle. (14M)

**UNIT-II**

3. A square prism 30 mm side and 50 mm long is lying on the ground plane on one of its rectangular faces in such a way that one of its square faces is parallel to 10mm behind the picture plane. The station point is located 50 mm in front of the picture plane and 40mm above the ground plane. The central plane is 45mm away from the axis of the prism towards the left. Draw the perspective view of the prism. (14M)

Or

4. A cube of edge 30 mm rests with one of the faces on the ground plane such that a vertical edge touches the picture plane. The vertical faces of the cube are equally inclined to the picture plane and behind it. A station point is 40 mm in front of the PP, 50 mm above the ground plane and lies in a central plane 15 mm to the right of the axis of the cube. Draw the perspective projection of the cube. (14M)

**UNIT-III**

5. a) A line AB 120mm long is inclined at  $45^{\circ}$  to the H.P. and  $30^{\circ}$  to the V.P. Its midpoint C is in V.P. and 20mm above H.P. The end A is in the third quadrant, and B is in the first quadrant. Draw the projections of the line. (10M)
- b) An equilateral triangular lamina of side 30 mm is parallel to H.P. and perpendicular to V.P. One of its sides is 20 mm in front of V.P. and 30 mm above H.P. Draw its projections. (4M)

Or

6. Hexagonal Pyramid side of base 30 mm and axis 50 mm long rests with one of the corners of its base on H.P. Its axis is inclined at  $35^{\circ}$  to H.P. and  $45^{\circ}$  to V.P. Draw its projections. (14M)

**UNIT-IV**

7. a) Draw the isometric view of a square prism, with side of base 40mm and length of axis 70mm, when its axis is i. vertical and ii. Horizontal. (10M)
- b) Draw the isometric views of a square and an equilateral triangle of side 5 cm. (4M)

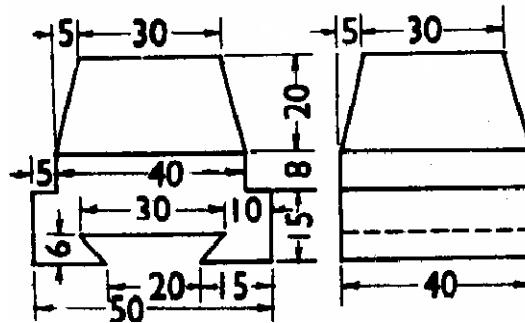
Or



8. a) Draw the isometric view of a pentagonal pyramid, with side of base 25mm and axis 60mm long. The pyramid is resting on its base on H.P, with an edge of the base (away from the observer) parallel to V.P. (10M)
- b) Draw the isometric views of a semicircle of radius 30 mm. (4M)

## UNIT-V

9. Draw the isometric view of the casting given below (all dimensions are in mm). (14M)



Or

10. Draw the Front View, Top view & Both side views of the figure shown below. All dimensions are in mm. (14M)

