

**I B. Tech I Semester Supplementary Examinations, July/August- 2023****ENGINEERING DRAWING**

(Common to CE, ME, ECE, EIE, Pet E, Food E)

Time: 3 hours

Max. Marks: 70

*Answer any five Questions one Question from Each Unit  
All Questions Carry Equal Marks*

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**UNIT-I**

- 1 a) Construct a Hyperbola, with the distance between the focus and the directrix as 50 mm and eccentricity is  $3/2$ . Also, draw normal and tangent to the curve at a point 35 mm from the directrix. [10M]
- b) To inscribe a regular Hexagon in a given circle of diameter 50 mm. [4M]

**(OR)**

- 2 a) Construct a scale to measure kilometre,  $1/8$ th of a kilometre and  $1/40$ th of a kilometre, in which 1 km is represented by 3 cm. Mark on this scale a distance of 4.825 km. [7M]
- b) Draw an involute of a hexagon of side 25 mm. [7M]

**UNIT-II**

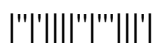
- 3 a) Draw the projections of the following points on a common reference line keeping the distance between their projectors 25 mm apart. [6M]  
 (a) Point A is 40 mm above the H.P. and 25 mm in front of the V.P.  
 (b) Point B is 40 mm above the H.P. and in the V.P.  
 (c) Point C is 25 mm in front of the V.P. and in the H.P.  
 (d) Point D is 25 mm above the H.P. and 30 mm behind the V.P.  
 (e) Point E is in the H.P. and 30 mm behind the V.P.  
 (f) Point F is 40 mm below the H.P. and 30 mm behind the V.P.
- b) A 70 mm long line PQ is inclined at  $30^\circ$  to the H.P. The end P is 15 mm in front of the V.P. and 25 mm above the H.P. The front view of the line measures 45 mm. Draw the projections of the line PQ and determine its true angle of inclination with the V. P. [8M]

**(OR)**

- 4 a) A 50 mm long line PQ is parallel to both the H.P. and the V.P. It is 25 mm in front of the V.P. and 60 mm above the H.P. Draw its projections and determine the traces. [6M]
- b) The front and top views of 75 mm long line PQ measures 50 mm and 60 mm, respectively. If the end P of the line is 35 mm above the H.P. and 15 in front of the V.P., draw its projections and locate the traces. Determine the true inclinations of the line PQ with the H.P. and the V.P. [8M]

**UNIT-III**

- 5 A hexagonal plane of side 30 mm has an edge on the H.P. Its surface is inclined at  $45^\circ$  to the H.P. and the edge on which the plane rests is inclined at  $30^\circ$  to the V.P. Draw its projections. [14M]



(OR)

- 6 A rectangular plane of edges 35 mm and 70 mm is resting on an edge in the H.P. [14M]  
The surface is inclined to the H.P. such that the top view appears as a square. Draw its projections when the edge resting on the H.P. is inclined at  $30^\circ$  to the V.P.

## UNIT-IV

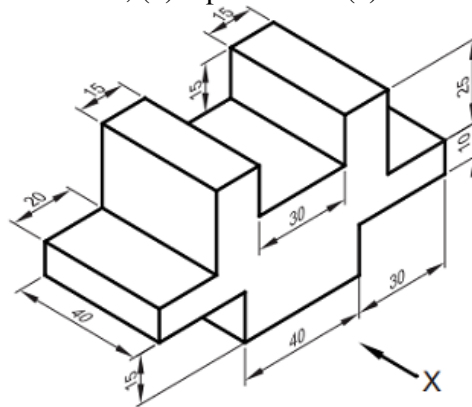
- 7 a) A tetrahedron of edge 65 mm has a face in the V.P. and an edge of that face is perpendicular to the H.P. Draw its projections. [7M]  
b) A hexagonal pyramid of base side 30 mm and axis 60 mm has an edge of its base on the ground. Its axis is inclined at  $30^\circ$  to the ground and parallel to the V.P. Draw its projections. [7M]

(OR)

- 8 A cone of base diameter 50 mm and axis 60 mm has one of its generators in the V.P. and inclined at  $30^\circ$  to the H.P. Draw its projections when the apex is 15 mm above the H.P. [14M]

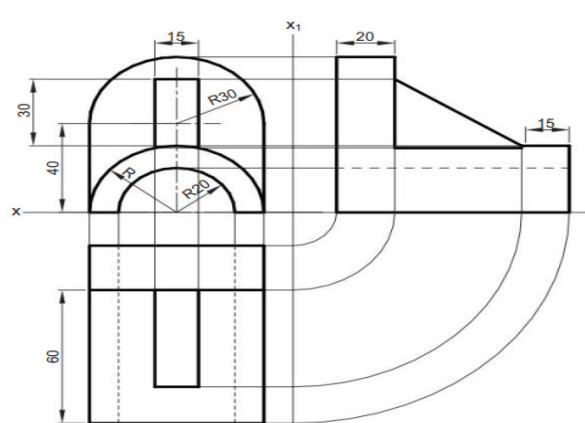
## UNIT-V

- 9 Pictorial view of an object is shown in Fig. Using first angle projection, draw its (a) front view from the X-direction, (b) top view and (c) left-hand side view [14M]



(OR)

- 10 Draw the Isometric view from the following figure. All dimensions are in MM. [14M]



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