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**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**  
(AUTONOMOUS)

**B.Tech I Year I Semester Supplementary Examinations August-2021**

**ENGINEERING GRAPHICS**

(Common to ECE, CSE & CSIT)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

**UNIT-I**

- 1 The vertex of a hyperbola is 60 mm from its focus. Draw the curve, if the eccentricity is  $3/2$ . Draw a normal and a tangent at a point on the curve, 75 mm from the directrix. 12M

**OR**

- 2 Draw the involute of a circle of side diameter 50 mm. Draw a tangent and normal to the curve at a distance of 100 mm from the center of the circle 12M

**UNIT-II**

- 3 Draw the projections of the following points, keeping the distance between the projectors as 25mm on the same reference lines. 12M

A – 20mm above HP and 30mm in front of VP.

B – 20mm above HP and 30mm behind VP.

C – 20mm below HP and 30mm behind VP.

D – 20mm below HP and 30mm in front of VP.

E – On HP and 30mm in front of VP.

F – On VP and 20mm above HP.

**OR**

- 4 A line CD 75mm long is inclined at an angle of  $45^\circ$  to HP and  $30^\circ$  to VP. The point P is 15mm above HP and 20mm in front of VP. Draw the projections of the line. 12M

**UNIT-III**

- 5 A regular hexagonal plane of 45 mm side has a corner on HP, and its surface is inclined at  $45^\circ$  to HP. Draw the projections, when the diagonal through the corner, which is on HP makes  $30^\circ$  with VP. 12M

**OR**

- 6 A pentagonal prism of base side 30mm and axis 60mm has one of its rectangular faces on the HP and the axis inclined at  $60^\circ$  to the VP. Draw its projections. 12M

**UNIT-IV**

- 7 A cube of side 40 mm, is resting on HP on one of its faces, with a vertical face inclined at  $30^\circ$  to VP. It is cut by a section plane inclined at  $45^\circ$  to HP and passing through the axis at 8 mm from the top surface. Draw the projections of the solid and also show the true shape of the section. 12M

**OR**

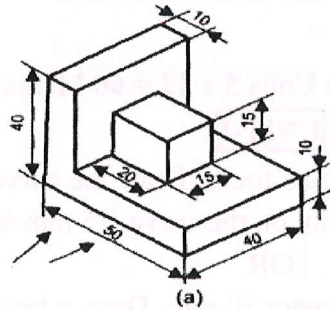
- 8 A cylinder of diameter of base 40 mm and axis 55 mm long, is resting on its base on HP. It is cut by a section plane, perpendicular to VP and inclined at  $45^\circ$  to HP. The section plane is passing through the top end of an extreme generator of the cylinder. Draw the development of the lateral surface of the cut cylinder. 12M

UNIT-V

- 9 Draw the isometric view of a cone of base diameter 50mm and axis 60 mm. The cone has its base on (a) HP. (b) VP. **12M**

OR

- 10 Draw the front view, top view and left side view of the block shown in figure. Assume all dimensions are in "mm". **12M**



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