**Code: 13A03304** **R13**

B.Tech II Year I Semester (R13) Supplementary Examinations June 2017

**ENGINEERING GRAPHICS**

(Common to EEE, CSE, IT and EIE)

Time: 3 hours Max. Marks: 70

(Answer all five units, 05 X 14 = 70 Marks)
All questions carry equal marks

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**UNIT – I**

1 Construct an ellipse when the distance of the focus from the directrix is equal to 50 mm and eccentricity is 2/3. And also draw the tangent and normal.

**OR**

2 Construct an hypocycloid generated by a rolling circle of diameter 40 mm and a directing circle of diameter 160 mm. Draw the tangent and normal to the curve at any point on the hypocycloid.

**UNIT – II**

3 The front view of a 125 mm long line PQ measures 75 mm and its top view measures 100 mm. Its end Q and the mid-point M are in the first quadrant, M being 20 mm from both the planes. Draw projections of the line PQ.

**OR**

4 The top view of a 75 mm long line AB measures 65 mm, while the length of its front view is 50 mm. Its one end A is in the VP and 12 mm above H.P. Draw the projections of AB and determine its inclinations with the HP and VP.

**UNIT – III**

5 A regular pentagon of 50 mm side is resting on one of its sides on the HP having that side parallel to and 25 mm in front of VP. It is tilted about that side so that its highest corner rests in the VP. Draw the projection of the pentagon.

**OR**

6 Draw the projections of a cube of 25 mm long edges resting on the HP on one of its corners with a solid diagonal perpendicular to VP.

**UNIT – IV**

7 A hexagonal pyramid, base 30 mm side and axis 75 mm long, resting on its base on the HP with two of its edges parallel to the VP is cut by two section planes, both perpendicular to the VP. The horizontal section plane cuts the axis at a point 35 mm from the apex. The other plane which makes an angle $45^{o}$ with the HP also intersects the axis at the same point. Draw the front view, sectional top view, true shape of the section.

**OR**

8 A pentagonal pyramid of base side 30 mm and height 70 mm is resting vertically on its base on the ground with one of the sides of the base parallel to VP. It is cut by a plane perpendicular to VP and parallel to HP at a distance of 30 mm above the base. Draw the development of the lateral surface of the frustum of the pyramid. Also show the top of the cut surface.

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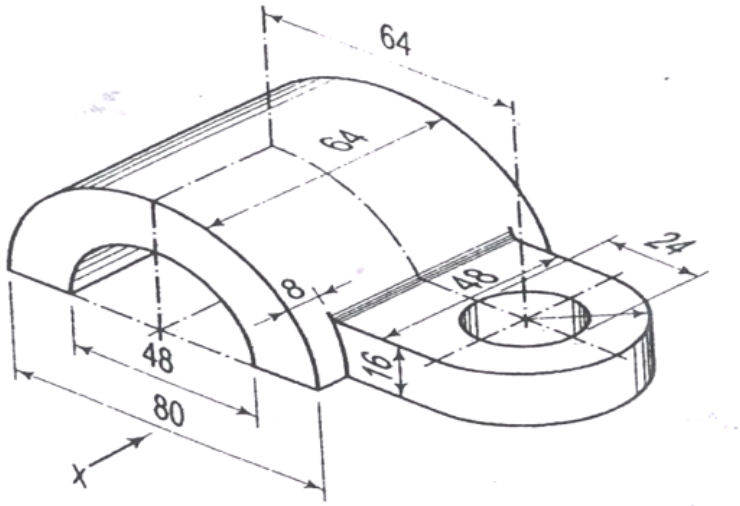
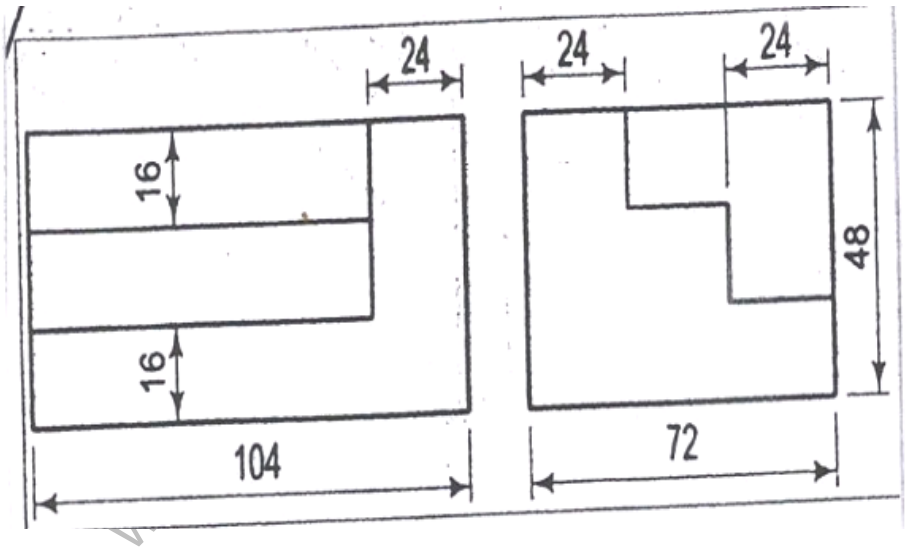
**UNIT – V**

9 Draw the: (i) Front view. (ii) Top view and (iii) Side view from the right of the object given below. (All dimensions are in mm).




**OR**

10 Draw the conversion of Orthographic views to Isometric views of given object. (All dimensions are in mm).

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