R13

B.Tech II Year I Semester (R13) Regular Examinations December 2014
ENGINEERING GRAPHICS
(Common to EEE, CSE, IT and EIE)

Time: 3 hours   Max. Marks: 70

(Answer all five units, 5 X 14 = 70 Marks)
All questions carry equal marks
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UNIT - I

1   (a)   The vertex of a hyperbola is 65 mm from its focus. Draw the curve with eccentricity is 3/2. Draw a normal and tangent at a point 75 mm from the directrix.

(b)   Construct a rectangular hyperbola when a point p on it is at a distance of 18 mm and 34 mm from two asymptotes. Also draw a tangent to the curve at a point 20 mm from an asymptote.

OR

2   A circle of 50 mm diameter, rolls on a horizontal line for half a revolution clockwise and then on a line inclined 60^0 to the horizontal for another half, clockwise. Draw the curve traced by point P on the circumference of the circle, taking the top most point on the rolling circle has the initial position of the generating point.

UNIT - II

3   (a)   A line CD is parallel to VP and inclined at 40^0 to HP. C is in HP and 25 mm in front of VP. The length of the top view is 50 mm. Determine its true length.

(b)   A line PQ 75 mm long has its end P in both HP and VP .It is inclined at an angle of 30^0 to HP and 45^0 to VP. Draw projections of the line.

OR

4   A fan is hanging in the center of a room 4 m × 4.5 m × 4 m high. The center of the fan is 0.6 m below the ceiling. Determine graphically the shortest distance of the fan from one of the corners of the floor.

UNIT - III

5   (a)   A circular plate is parallel to H.P. Its radius is 30 mm and center is 50 mm above H.P and 35 mm in front of V.P. Draw its projections of planes.

(b)   A square lamina of 40 mm side has a corner on H.P. and 20 mm in front of V.P. All sides are equally inclined to H.P and parallel to V.P. Draw its projections.

OR

6   (a)   Draw the projection of cylinder of base diameter 50 mm and axis 65 mm long. Axis perpendicular to the V.P and 40 mm above H.P, one end is 20 mm in front of V.P.

(b)   A pentagonal pyramid of base 25 mm side and axis 65 mm long is resting on an edge of base projections of pyramid when axis is perpendicular to V.P. base is at 15 mm from V.P. Draw projections.

UNIT – IV

7   A pentagonal pyramid of base side 40 mm and axis length 75 mm is resting on HP on its base with one of its base side parallel to VP. It is cut by a plane inclined at 35^0 to HP and perpendicular to VP and bisecting the axis. Draw its front view, sectional top view and true shape of section
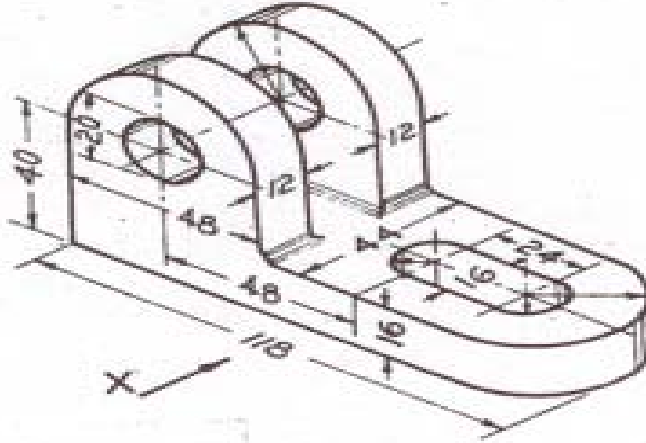
OR

8   A square prism of base side 30 mm and axis length 60 mm is resting on HP on its base with a side of base inclined at 30^0 to VP. It is cut by a plane inclined at 40^0 to HP and perpendicular to VP and is bisecting the axis. Draw the development of remaining portion.
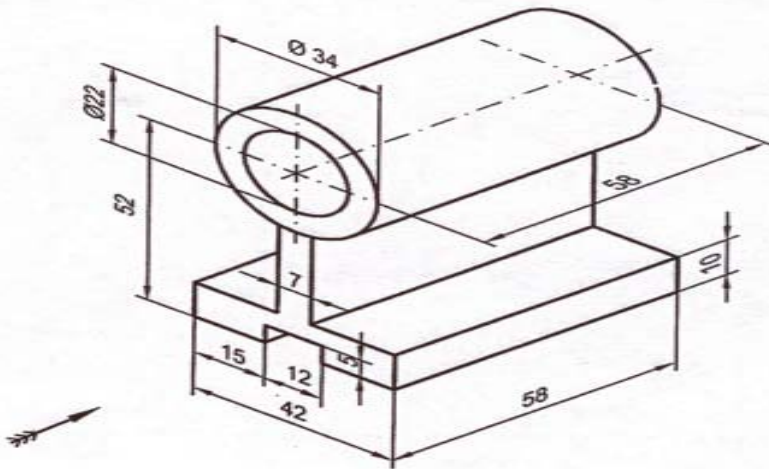
<center>UNIT – V</center>

9   Draw the elevation, plan, left side and right side views of the bracket shown below (dimensions in mm).

<center>OR</center>

10   Draw the front view, top view and right side view of the object shown below (dimensions in mm).

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