# SEM 1 – 5 (RC 07-08)

## F.E. (Semester – I) Examination, Nov./Dec. 2015
## ENGINEERING GRAPHICS (RC 2007 – 08)

Duration : 4 Hours | Total Marks : 100

***Instructions :*** *i) Attempt **five full** questions with atleast **one** question from **each** Module.*
*ii) **Missing** data, if any may be suitably **assumed**.*

MODULE – I

1. a) The major axis and minor axis of an ellipse are 70 mm and 45 mm long respectively. Construct half of the ellipse by oblong method and the other half by concentric circles method. **10**

   b) The top view of 75 mm long line AB measures 65 mm while its front view is 50 mm. It's one end A lies in HP and 12 mm in front of VP. Draw the projections of the line. **10**

2. a) A circle of 50 mm diameter rolls on a horizontal line for half revolution and then on a line upwards at an angle of 60° for another half revolution. Draw the curve traced out by the point 'P' on the circumference of the circle. **10**

   b) The distance between the end projectors of a line RT is 50 mm. The point R is 25 mm above HP and 20 mm behind VP while the point T is 45 mm below HP and 30 mm in front of VP. Determine the true length and its true inclination with HP and VP. **10**

MODULE – II

3. a) Draw the projections of rhombus having diagonals 100 mm and 40 mm long. The larger diagonal is inclined at 30° to HP with one of the end points in HP and the smaller diagonal is parallel to both the primary reference planes. **10**

   b) A tetrahedron of 80 mm long edge has an edge on HP and inclined at 45° to VP, while the face containing that edge is vertical. Draw its projections. **10**

4. a) Draw the projections of a regular hexagon of 30 mm side having one of its sides in the HP and inclined at 65° to the VP and its surface makes an angle of 50° with the HP. **10**

   b) A pentagonal pyramid has a height of 60 mm and the side of base 30 mm. The pyramid rests with one of the sides of the base on HP such that the triangular face containing that side is perpendicular to HP and makes an angle of 30° with the VP. Draw its projections. **10**

**P.T.O.**

## MODULE – III

5. a) A pentagonal pyramid, side of base 40 mm and height 75 mm, is resting on HP on one of its edges of base with axis parallel to VP and inclined to HP by 60°. It is cut by a horizontal section plane passing through the highest corner of the base. Draw the elevation and sectional plane of pyramid. **10**

   b) Draw the development of lateral surface of a hexagonal pyramid, 20 mm side of base and 50 mm high, resting with its base on HP such that an edge of the base is parallel to VP. The pyramid is cut by two section planes, both perpendicular to VP. One of the section plane is parallel to HP and bisects the axis. The other section plane is inclined at 30° to HP, bisects the axis and leans towards the base of the pyramid. Both section plane lie on either side of the axis. **10**

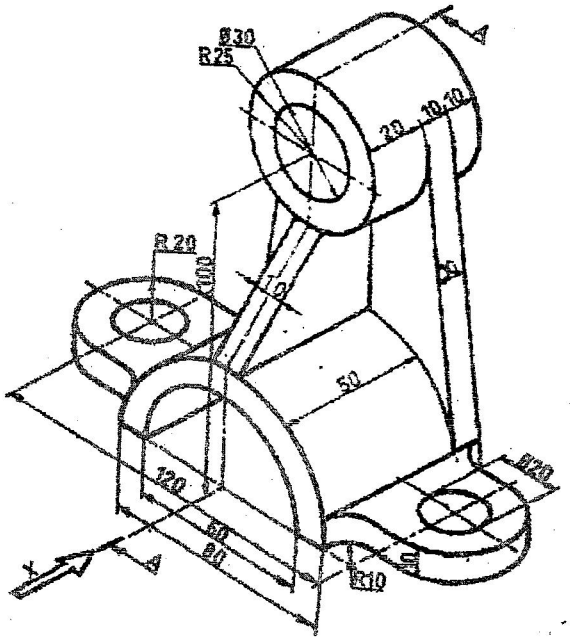
6. A pentagonal pyramid, side of base 40 mm and height 80 mm, is resting on HP on its base with one of the edges of the base being nearer to VP and parallel to it. It is cut by A.V.P. inclined to VP by 45°. Cutting plane remains 12 mm away from the axis. Draw sectional elevation, plan, true shape of section and develop the lateral surface of the pyramid. **20**

## MODULE – IV

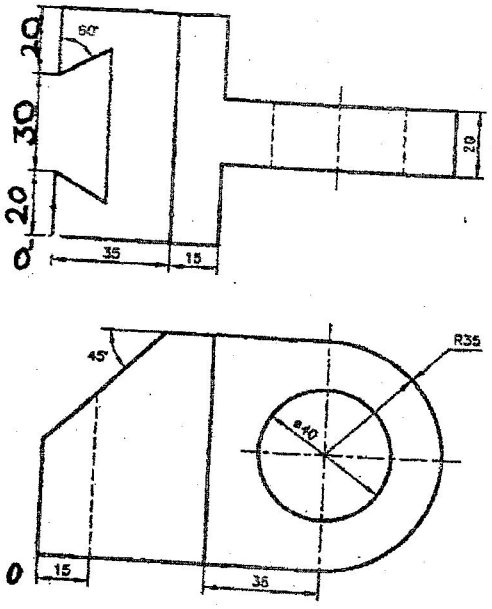
7. a) Figure shows the pictorial view. Draw the following views using first angle projection method. **10**

   i) Front view looking in the direction of X

   ii) Sectional side view taking section along A-A



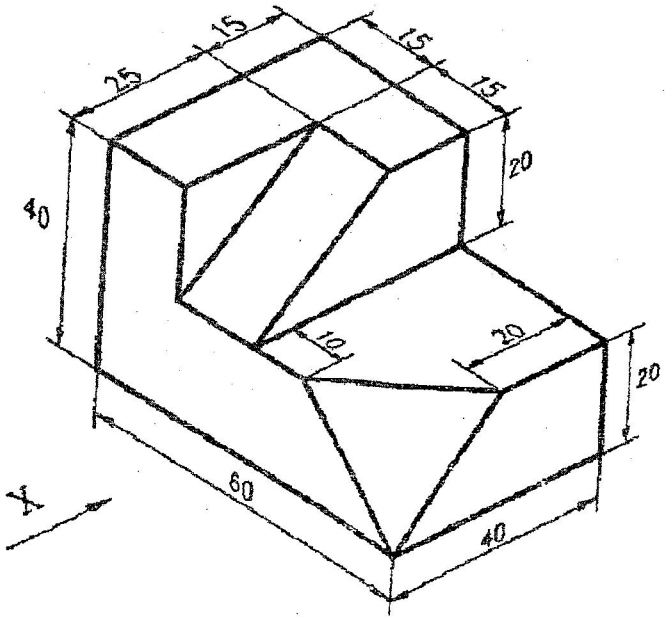
b) Two orthographic views are given in the figure below. Draw an isometric view. **10**




8. a) Figure shows the pictorial view. Draw the following views using first angle projection method : **10**

i) Front view looking in the direction of X

ii) Top view.



b) Two orthographic views are given in the figure below. Draw an isometric view taking O as origin. **10**