SEM 1 – 5 (RC 07-08)

F.E. (Semester – I) Examination, Nov./Dec. 2013
(Revised in 2007-08)
ENGINEERING GRAPHICS

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 directrixes of an ellipse are 126 mm apart and the major axis is 100 mm long. Locate the foci and ends of the minor axis. Draw the ellipse using the method of concentric circles. The eccentricity of the ellipse is 9/13. **10**

   b) 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 HP and 12 mm in front of the VP. Draw the projections of AB and determine its inclinations with the HP and VP. **10**

2. a) A circle of 50 mm diameter rolls on a straight line without slipping. Trace the locus of a point P on the circumference of the circle, for one and a half revolutions. **10**

   b) A room measures 8 m long, 5 m wide and 4 m high. An electric bulb hangs in the center of the ceiling and 1 m below it. A thin straight wire connects the bulb to a switch kept in one of the corners of the room and 1.25 m above the floor. Draw the projections of the wire. Also determine its true length and slope with the floor. **10**

P.T.O.

MODULE – II

3. a) An thin semicircular plate of diameter 70 mm has its straight edge in the VP and inclined at 45° to the HP. The surface of the plate makes an angle of 30° with the VP. Draw its projections. **10**

   b) A right regular pentagonal prism, edge of base 25 mm and 60 mm height, is resting on its corner on HP such that its axis is inclined at 60° to the HP and 30° to the VP. Draw its front view and top view. **10**

4. a) Draw the projections of a rhombus having diagonals 96 mm and 48 mm long. The smaller diagonal is parallel to both the reference planes, while the other diagonal is inclined at 30° to the HP and has one of its corners in HP. **10**

   b) A right regular pentagonal pyramid, edge of base 30 mm and height 60 mm, is resting on HP on one of its base edges such that the triangular face containing that edge is perpendicular to HP and parallel to VP. Draw the front view and top view of the pyramid in the given position. **10**

MODULE – III

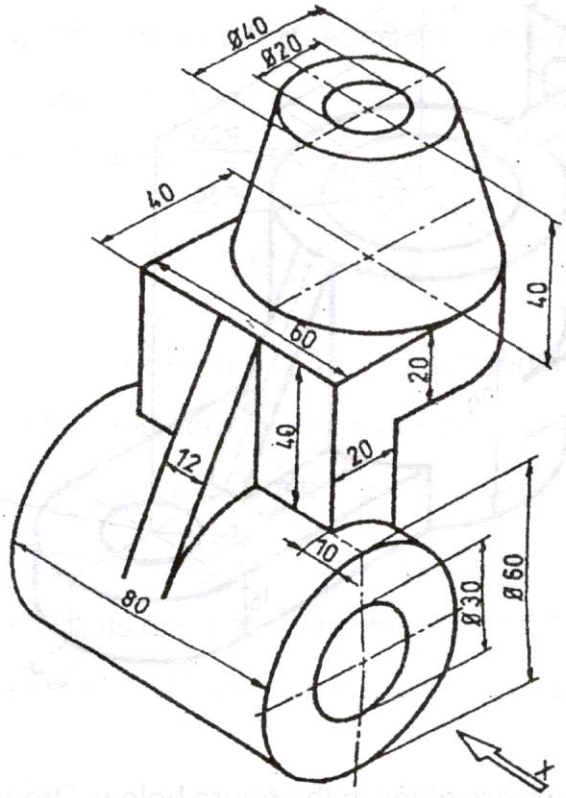
5. A pentagonal pyramid size of base 35 mm and height 60 mm, is resting on HP on one of its triangular faces. It is cut by a vertical section plane inclined to VP by 30°, bisecting the axis. Draw sectional elevation, true shape of section and also the development of lateral surface of the cut pyramid. Assume axis of pyramid parallel to VP. **20**

6. a) A pentagonal pyramid, side of base 40 mm and height 80 mm, is resting on HP on its base with one of the edge of the base, nearer to VP, being parallel to VP. It is cut by a vertical plane inclined at 45° to VP. Cutting plane remains 12 mm away from the axis. Draw sectional elevation, plan and true shape of the section. **10**

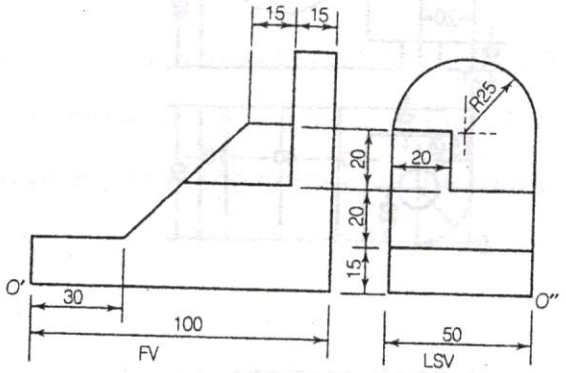
   b) A regular hexagonal pyramid, side of base 30 mm and height 70 mm, is resting on HP on its base with two edges of the base parallel to VP. It is cut by A.I.P. making an angle of 60° with HP and passing through one of the corners of the base. Draw the development of the truncated pyramid. **10**

MODULE – IV

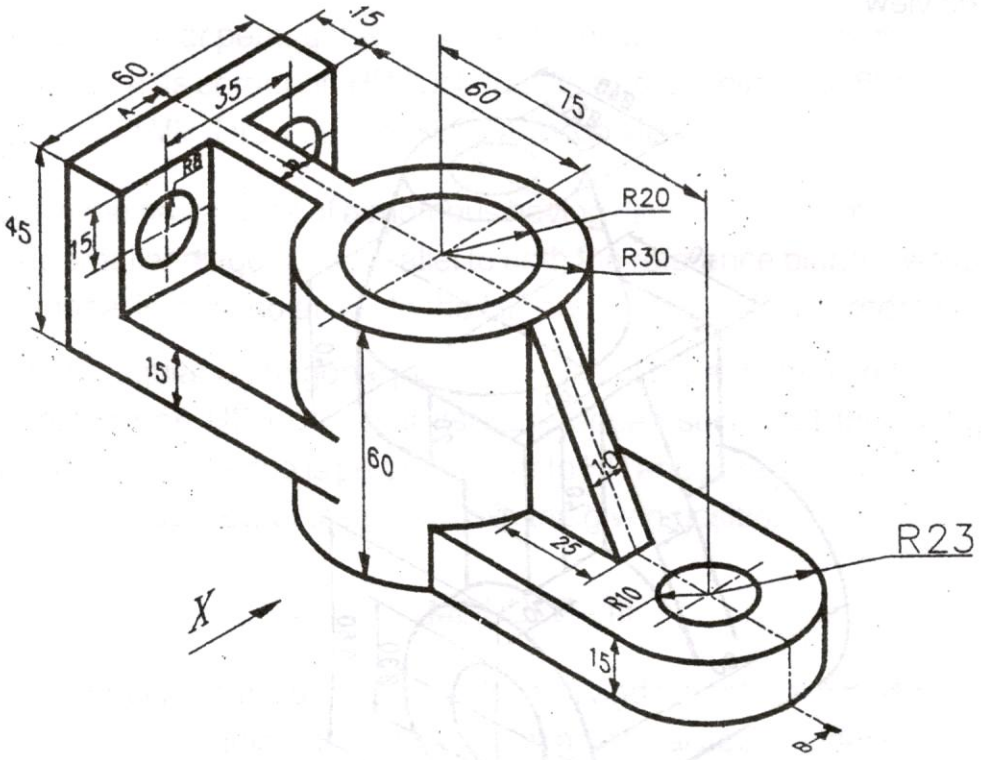
7. a) Figure shows the pictorial view. Draw the following views using first angle method of projection :
   i) F.V. looking in the direction of X
   ii) Top view. **10**



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



8. a) Draw the following views using first angle projection method. :
   i) Sectional elevation taking section along A – B
   ii) Top plan. **10**



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