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SEM 1 – 5 (RC 07-08)

**F.E. (Semester – I) (Revised in 2007 – 08) Examination, May/June 2017**
**ENGINEERING GRAPHICS**

Duration : 4 Hours Max. Marks : 100

***Instructions :*** *1) Attempt in **all five** questions. At least **one** question to be attempted from **each** Module.*
*2) Dimensioning, line work carry weightage.*
*3) Assume missing, dimensions/data, if **any**.*

MODULE – I

1. a) A ball thrown up in the air reaches a maximum height of 45 metres and travels a horizontal distance of 75 metres. Trace the path of the ball, assuming it to be parabolic. **10**

   b) A line CD is 65 mm long, has its end point C 15 mm above HP and 10 mm in front of VP and end point D 45 mm above HP and 50 mm in front of VP. Determine true inclinations of the line CD with HP and VP. **10**

2. a) Draw an involute of a square 40 mm side. **10**

   b) A line AB, 90 mm long, is inclined at 45° to the HP and its top view makes an angle of 60° with the VP. The end A is in the HP and 12 mm in front of VP. Draw its front view and find its true inclination with VP. **10**

MODULE – II

3. a) A plate in the form of isosceles triangle has base 45 mm and altitude 60 mm. It is so placed that the front view is seen as an equilateral triangle of 45 mm sides and the base is inclined at 45° to the HP. Draw its projection. **10**

   b) A right regular hexagonal pyramid, side of base 30 mm and height 60 mm is resting on one of its base edges on HP with its axis inclined at 30° to HP and the edge of base on which it rests inclined at 45° to VP. Draw the projections of solid. **10**

P.T.O.

4. a) The pentagon of 40 mm side is resting on one of its corners in the VP. The surface of the pentagon is inclined at 45° to VP and an edge opposite to that corner makes 30° to HP. Draw its projections. **10**

   b) A right regular tetrahedron, edge of base 30 mm rests on HP on one of its base corner points such that the slant edge containing the base corner is inclined at 60° to HP and the base edge opposite the corner point inclined at 45° to the VP. Draw its projection. **10**

## MODULE – III

5. a) A cone of base diameter 40 mm and axis 60 mm has a hole of diameter 30 mm whose axis is perpendicular to the axis of the cone and intersects the cone axis at a distance of 20 mm above the base. Develop the cone showing the hole shape in it. **10**

   b) A right regular square pyramid, edge of base 35 mm and height 50 mm, rests on its base on HP with its base edges equally inclined to VP. A section plane perpendicular to the VP and inclined to the HP at 30°, cuts the pyramid bisecting its axis. Draw the front view, sectional top view and true shape of the section. **10**

6. A pentagonal pyramid, side of base 30 mm and length of axis 45 mm, is resting on one of its triangular faces on HP with its axis parallel to VP. It is cut by an auxiliary vertical plane inclined at 60° to the VP and passing through the highest corner of the base, thus removing the portion containing the apex. Draw the top view, sectional front view, true shape of the section and develop the retained portion of the pyramid. **20**

MODULE – IV

7. a) Refer Fig. 7 a and draw the isometric view of the object given its front view and top view. **10**

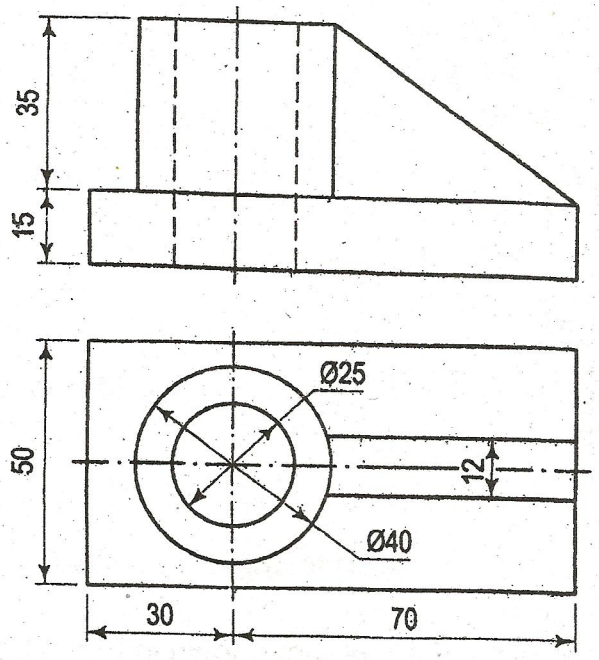


Fig. 7 a

b) Draw the front view and top view of the object shown in Fig. 7 b using first angle projection method. **10**

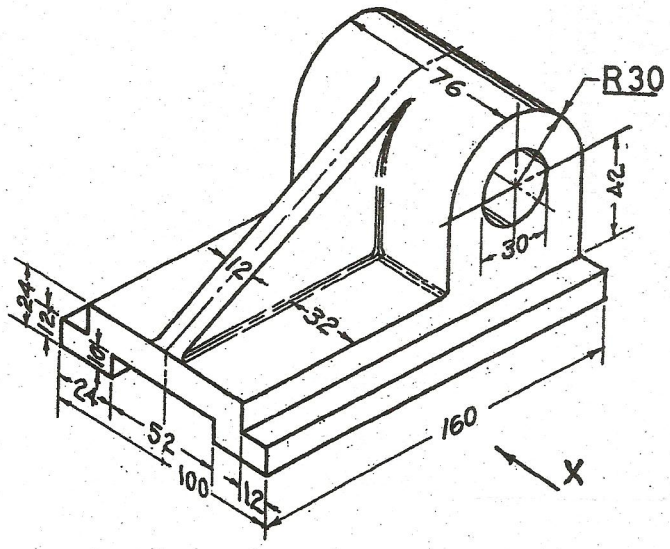


Fig. 7 b

8. a) Draw the isometric view of the object given its front view and top view. Refer Fig. 8 a. **10**

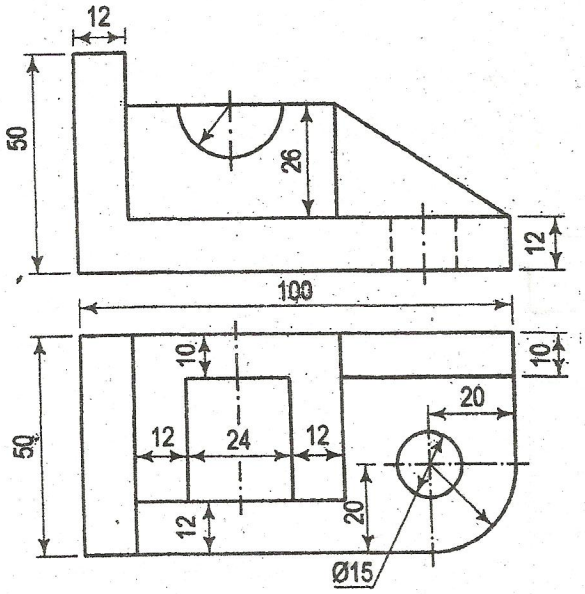


Fig. 8 a

b) Draw the sectional front view and top view of the object shown in Fig. 8 b. **10**

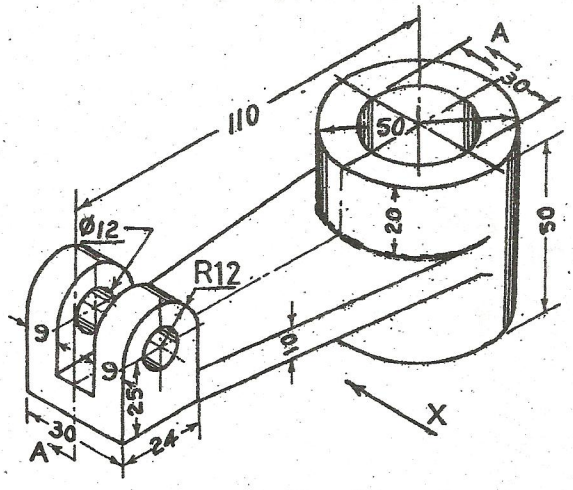


Fig. 8 b