



SEM 1 – 5 (RC 07-08)

**F.E. (Semester – I) (RC 2007-08) Examination, Nov./Dec. 2017
ENGINEERING GRAPHICS**

Duration : 4 Hours

Max. Marks : 100

Instructions : 1) Attempt in **all five** questions.

2) At least **one** question must be attempted from **each** module.

3) Assume missing dimensions/data **if any**.

4) **All** dimensions in mm unless **otherwise** specified.

MODULE – I

1. a) A fountain jet discharges water from a ground level at an inclination of 45° to the ground. The jet travels a horizontal distance of 7.5 m from the point of discharge and falls on the ground. Trace the path of the jet. 10
b) A line PQ makes an angle of 40° to HP and 35° to VP. The top view of the line measures 55 mm. Draw its projections find the true length of PQ. 10
2. a) Construct an ellipse by general method, given the distance between the focus and the directrix is 50 mm and eccentricity is $2/3$. 10
b) The end A of a line AB is 15 mm above HP and 20 mm in front of VP. The end B is 10 mm below HP and 20 mm behind of VP. The end projectors of the line AB are 50 mm apart. Determine the true length of the line AB and its true inclinations with HP and VP. 10

MODULE – II

3. a) Draw the projections of a regular hexagon of side 30 mm, resting on one of its corner A in the HP and 35 mm in front of the VP. Its side AB makes an angle of 45° to VP and the surface makes an angle of 40° with HP. 10
b) A right regular pentagonal pyramid, side of base 30 mm and axis 60 mm long, has one of its triangular faces in VP and the edge of the base contained by that face inclined at an angle of 40° to HP. Draw the projections of the Pyramid. 10
4. a) A rhombus shaped plate of negligible thickness having diagonals of 60 mm and 40 mm respectively is resting on a corner in HP. The longer diagonal is parallel to VP and inclined to HP in such a way that the top view appears as a square. Draw the FV, TV and SV and determine the angle made by the plate with HP. 10

P.T.O.



- b) Draw the projections of a hexagonal prism side of base 40 mm and axis 70 mm standing on an edge of the base on the ground making an angle of 30° with VP and the axis inclined at 60° to HP.

10

MODULE – III

5. a) 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. Draw the front view, sectional top view and true shape of the section.

10

- b) A cone, base circle diameter 40 mm and axis 70 mm is standing on its base on the ground. It is cut by an auxiliary inclined plane inclined at 60° to HP and bisecting the axis of the cone, removing the portion containing the apex. Draw the development of remaining portion of the cone.

10

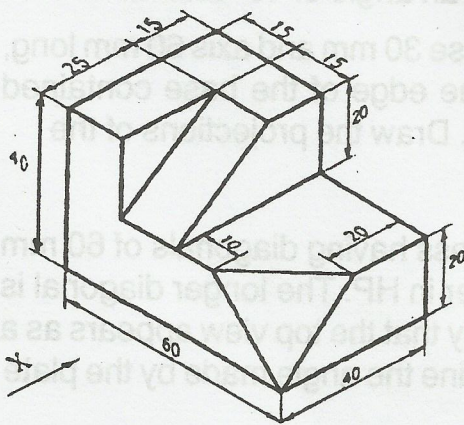
6. A pentagonal pyramid, side of base 40 mm and height 80 mm, is resting on HP on its base with one of the edges of the base being nearer to VP and parallel to it. It is cut by A.V.P. inclined to VP by 45° . Cutting plane remains 12 mm away from the axis. Draw sectional elevation, plan, true shape of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

20

MODULE – IV

7. a) Pictorial view of an object is given. Draw TV, FV and RHSV.

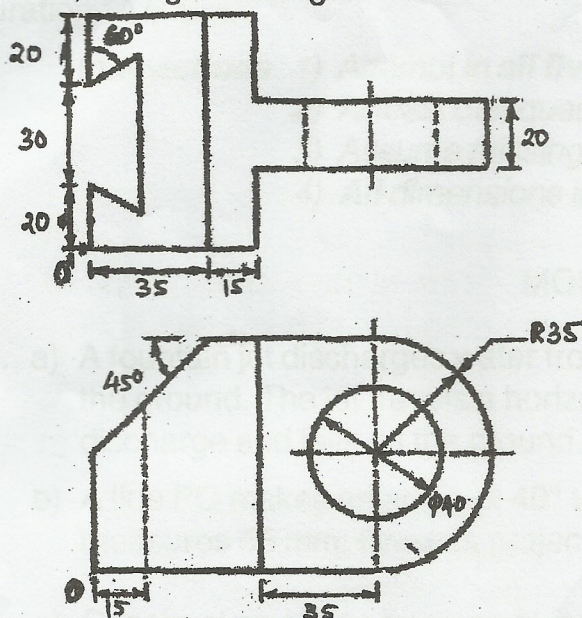
10





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

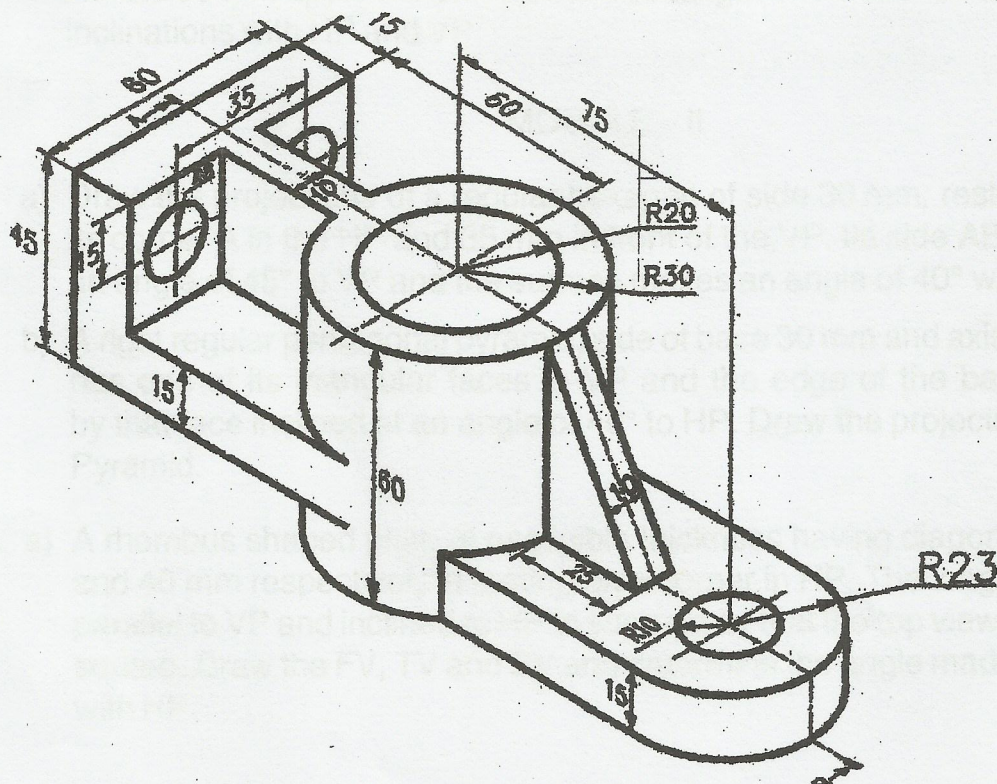
10



8. a) From the pictorial view shown below, draw the following views :

- i) Sectional front view in the direction of X.
- ii) Left hand side view.

10





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

