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**Question Paper Code: 31707**

B.E./B.Tech. DEGREE EXAMINATION, MAY 2018

First Semester

Civil Engineering

01UME107 – ENGINEERING GRAPHICS

(Common to ALL branches)

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) Sketch by free hand, the following views of the object shown in Figure 1. CO1- App (20)
- (i) The front view in the direction of the arrow.
  - (ii) The top view and
  - (iii) The available side view.

The dimensioning is also to be done by free hand .

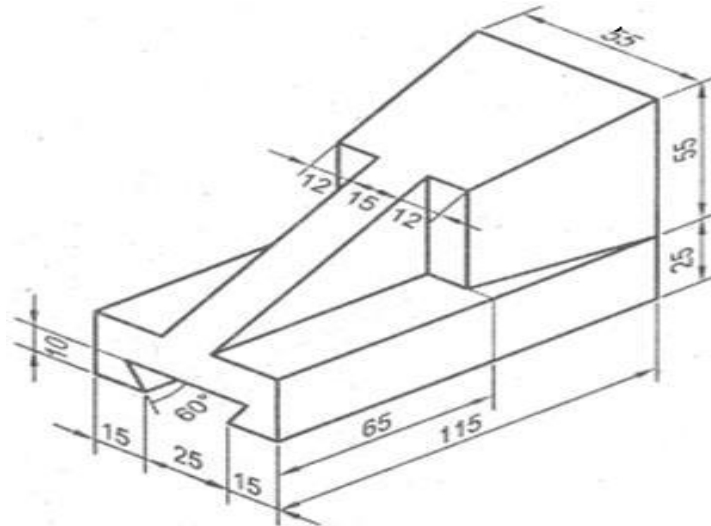
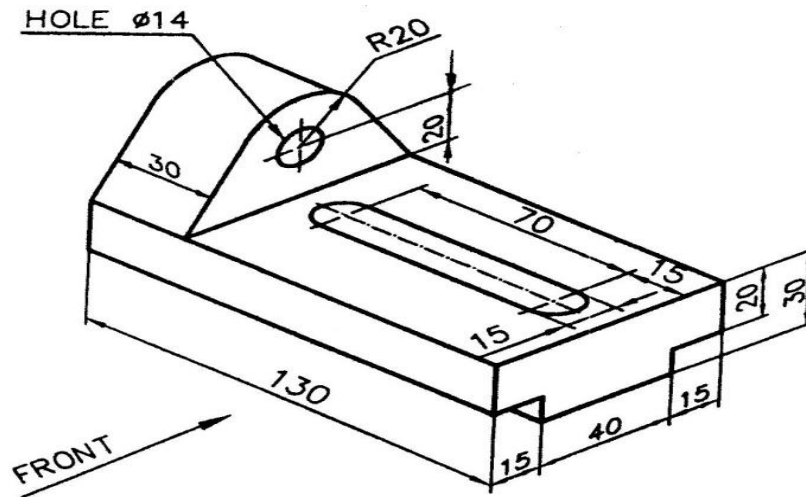


Figure 1 All dimensions are in 'mm'

Or

- (b) Draw the plan, elevation and left side view of the following object.

CO1- App (20)



2. (a) One end *A* of a line *AB*, 80 mm long is 30 mm in front of VP and 20 mm above HP. The line is inclined at  $30^\circ$  to the HP and  $45^\circ$  to the VP. Draw the projections of the line.

Or

- (b) A line *AB* measuring 85 mm has its end 'A' is 25 mm above the HP and 20 mm in front of the VP. The front view and top view measure 70 mm and 55 mm respectively. Draw the projections of the line and determine its true inclinations.
3. (a) A pentagonal prism side of base 25 mm and axis 50 mm long rests with one of its shorter edges on HP such that the base containing the edge makes an angle of  $30^\circ$  to HP and its axis is parallel to VP. Draw its projections.

Or

- (b) A cone of base diameter 60 mm and altitude 80 mm rests on the H.P. with its axis inclined at  $30^\circ$  to the H.P. and parallel to the V.P. Draw its front and top views by change of position method.

4. (a) A hexagonal pyramid of base side 25 mm and height 50 mm rests on the HP on one of its ends with two base edges parallel to the VP. It is cut by a plane perpendicular to the VP and inclined at  $45^\circ$  to the HP at a distance of 20 mm from the vertex on the axis. Draw the front view, sectional top view and true shape of the section. CO4- App (20)

Or

- (b) A cone of diameter 60 mm and height 70 mm is resting on its base on the ground. It is cut by a plane perpendicular to VP and parallel to HP at a distance 20 mm from the vertex. It is also cut by a plane inclined at  $40^\circ$  to the base and perpendicular to VP and meeting the axis at a point 20 mm from the base. Draw the development of the lateral surface of the remaining portion of the cone. CO4- App (20)

5. (a) A hexagonal prism of base side 25 mm and height 50 mm rests on the HP and one of the edges of its base is parallel to VP. A section plane perpendicular to VP and inclined at  $50^\circ$  to HP bisects the axis of the prism. Draw the isometric projection of the truncated prism, showing the cut surface. CO5- App (20)

Or

- (b) A plate washer of diameter 60 mm and thickness 10 mm has hexagonal hole side 20 mm at its centre. Draw the isometric view of the washer, keeping the curved surface on HP. CO5- App (20)

