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Question Paper Code: 31107

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER 2015

First Semester

Civil Engineering

01UME107 – ENGINEERING GRAPHICS

(Common to all branches)

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

(5 x 20 = 100 Marks)

1. (a) Sketch by free hand, the following views of the object shown in Figure.

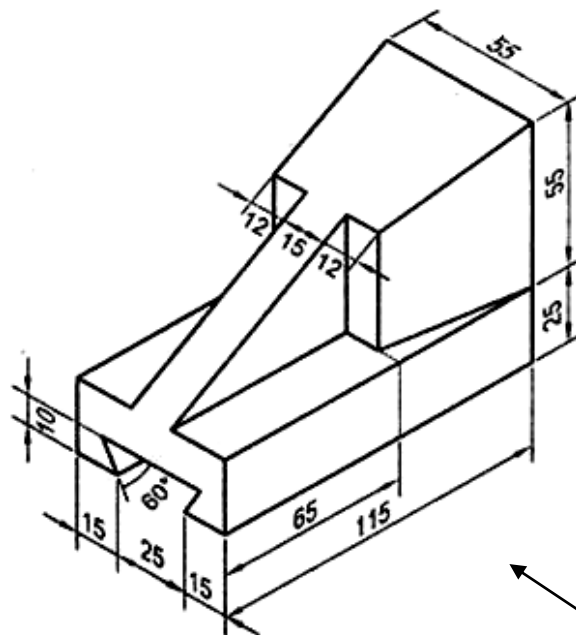
(i) The front view in the direction of the arrow

(ii) The top view and

(iii) The available side view

The dimensioning is also to be done by free hand.

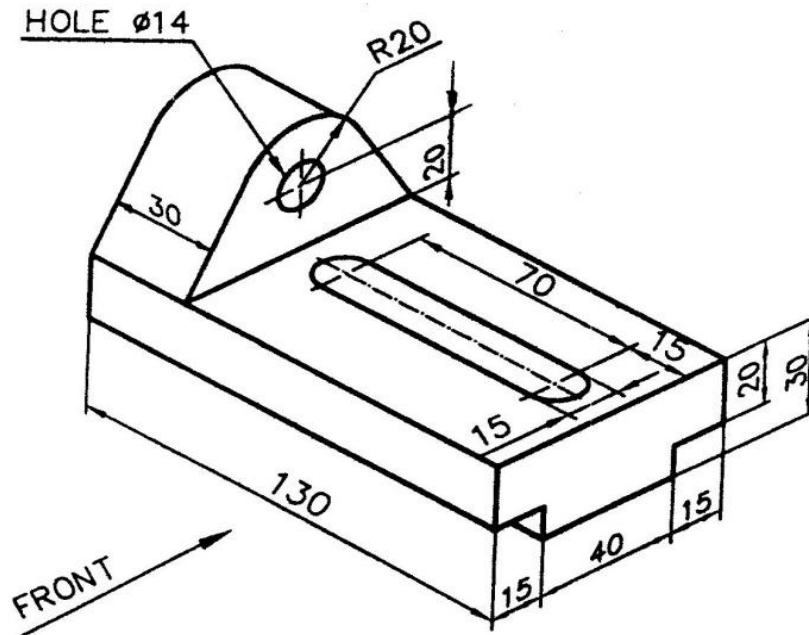
(20)



All dimensions are in 'mm'.

Or

- (b) Draw the plan, elevation and left side view of the following object. (20)



All dimensions are in 'mm'.

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° to the HP and 45° to the VP. Draw the projections of the line. (20)

Or

- (b) Draw the projections of a circle of 70 mm diameter resting on the HP on a point A on the circumference. The plane is inclined to the HP in such a way that the top view of it is an ellipse of minor axis 40 mm. The top view of the diameter, through the point A is making an angle of 45° with the VP. Determine the inclination of the plane with the HP. (20)
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° to HP and its axis is parallel to VP. Draw its projections. (20)

Or

- (b) A cylinder of base diameter 50 mm and axis length 70 mm is resting on HP on a point on the circumference of the base with its axis inclined at 50° to HP and parallel to VP. Draw its projections. (20)
4. (a) A cylinder of base diameter 50 mm and height 70 mm is resting on its base on HP. It is cut by a plane inclined at 30° to HP and meets the axis 35 mm from the top. Draw the isometric view of the truncated cylinder. (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° 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. (20)
5. (a) A concrete pillar is in the shape of hexagonal frustum with the side of base 0.5 m and the side of top face is 0.25 m . The height of the pillar is 2.5 m . Draw the isometric view of the pillar. Assume one of the base edges is parallel to the VP. (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. (20)
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