

Code No: 121AJ

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD****B.Tech I Year Examinations, August/September - 2016****ENGINEERING DRAWING****(Common to AME, ME, MSNT, IT, MMT, MCT, MEP)****Time: 3 hours****Max Marks: 75**

**Answer any five questions**  
**All questions carry equal marks**

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1. An aircraft is shot at an angle of  $45^0$  to the horizontal from the ground level. It is hit at a maximum height of 255 m of the trajectory. Trace the path of the shot using a rectangle method. Name the curve and draw a tangent and normal at any point on the curve. [15]

**OR**

2. A line of 20 cm long on a map represents a distance of 400 meters. Draw a diagonal scale so as to measure upto a single meter and long enough to measure a distance of 400 meters. Measure and mark distance of 356 meters and 108 meters on the scale. [15]
3. A line PQ 100 mm long is inclined at  $30^0$  to the HP and at  $45^0$  to the VP. Its mid point is in the VP and 20 mm above the HP. Draw its projections, if its end P is in the third quadrant and Q in the first quadrant. Locate its H.T. [15]

**OR**

4. A regular pentagon lamina of 30 mm side, surface is inclined at  $30^0$  to VP and side on which it rests on V.P makes an angle of  $45^0$  to H.P. Draw its projections. [15]
5. A pentagonal prism of height 100 mm and side of 25 mm is resting on one of its corners of its base on H.P, the longer edge containing that corner is inclined at  $45^0$  to H.P. The axis of the prism makes an angle of  $30^0$  to V.P. Draw the projections. [15]

**OR**

6. A pentagonal pyramid with edge of base 25 and axis 65 long is resting on H.P on its base with an edge nearer to the observer, parallel to V.P. It is cut by a section plane inclined at  $60^0$  to V.P and at a distance of 6 mm from the axis. Draw the projections and obtain the true shape of the section. [15]
7. A cone of base 50 mm diameter and axis 60 mm long is resting on its base on H.P. It is cut by a section plane perpendicular to V.P and parallel to an extreme generator and passing through a point on the axis at a distance of 20 from the apex. Draw the development of retained solid. [15]

**OR**

8. A sheet metal cone assembly with a circular base of 60 mm diameter and height 70 mm long has a circular opening of 30 mm diameter on its lateral curved surface. The centre of the hole lies on the axis of the cone and 23 mm from its base. Draw the development of lateral surface of the sheet metal assembly with the hole. [15]

9. By using the following views as shown in figure 1, draw the isometric view of the solid. All dimensions are in mm. [15]

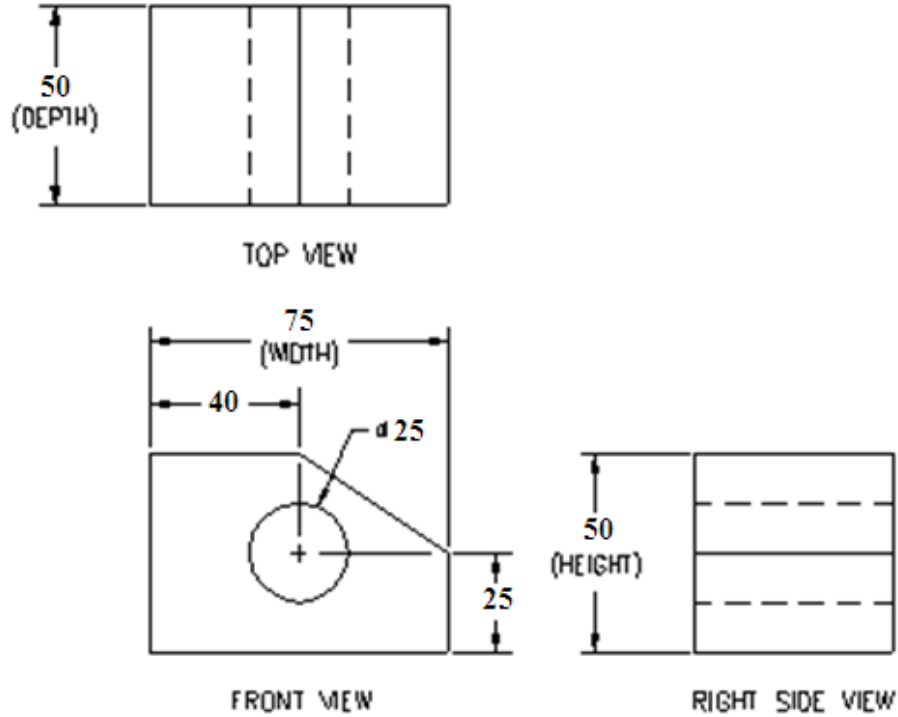


Figure: 1  
OR

10. For the isometric view shown in figure 2, draw a) Front view by seeing from 60 mm width side b) top view c) left side view. All dimensions are in mm. [15]

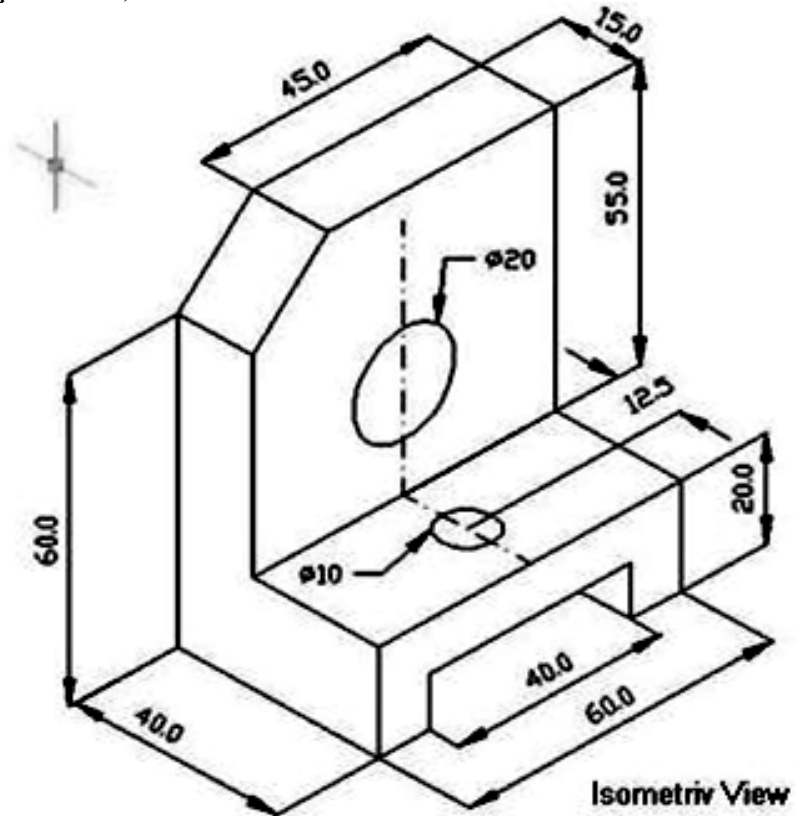


Figure: 2  
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