

Code No: 131AF

**R16**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech I Year I Semester Examinations, May – 2018

ENGINEERING GRAPHICS

(Common to ME, MCT, MMT, MSNT)

Time: 3 hours

Max. Marks: 75

Answer any five questions  
All questions carry equal marks

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- 1.a) Draw a hypocycloid for a rolling circle of diameter 75 mm and a base circle of 250 mm diameter. Draw a tangent and a normal at any point on the curve.
- b) A cricket ball thrown reaches a maximum height of 9 m and falls on the ground at a distance of 25 m from the point of projection. Draw the path of the ball. What is the angle of projection? [7+8]

OR

- 2.a) A plot of ground is in the shape of a rectangle of size 100 × 60m. Inscribe an elliptical lawn in it.
- b) The major and minor axes of an ellipse are 80 mm and 50 mm respectively. Construct the curve. [7+8]

3. The top view and front view of a line AB are 70 mm and 80 mm respectively. The end A is 18 mm above HP and 22 mm in front of VP. The end B is in the 3<sup>rd</sup> quadrant. Draw the projections, if the line is 100 mm long. Also find its inclinations with the principal planes. [15]

OR

4. A square lamina ABCD of 40 mm side rests on the corner C such that the diagonal AC appears to be at 45° to the VP. The two sides BC and CD containing the corner C make equal inclinations with the HP. The surface of the lamina makes 30° with the HP. Draw its top and front views. [15]
5. A pentagonal pyramid of 25 mm side of base and 50 mm axis length rests on HP on one of its slant edges. Draw its projections when the axis is inclined to VP at 45°. [15]
6. One of the body diagonals of a cube of 40mm edge is parallel to HP and inclined at 60° to VP. Draw the projections of the cube. [15]

OR

7. A pentagon prism of 25 mm base edges and 50 mm long, resting on its base with an edge of base at 45° to the VP. The prism is cut by a section plane V.T. inclined at 30° to the HP and passes through a point 25 mm from the base along its axis. Develop its lateral surface of the truncated prism. [15]
8. A cone of diameter 60 mm and height 80 mm is cut by a section plane such that the plane passes through the mid-point of the axis and tangential to the base circle. Draw the development of the lateral surface of the bottom portion of the cone. [15]

9. Figure 1 shows two views of an object. Draw the isometric view of the object. All dimensions are in mm. [15]

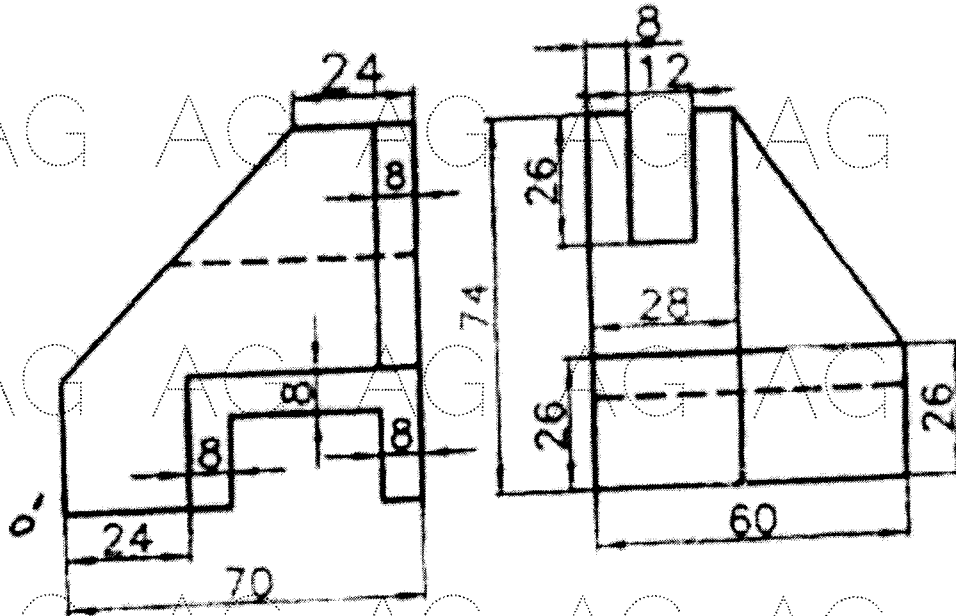


Figure: 1  
OR

10. Draw the front view, top view and side view of the object whose isometric view is shown in the Figure 2 below (All dimensions are in mm). [15]

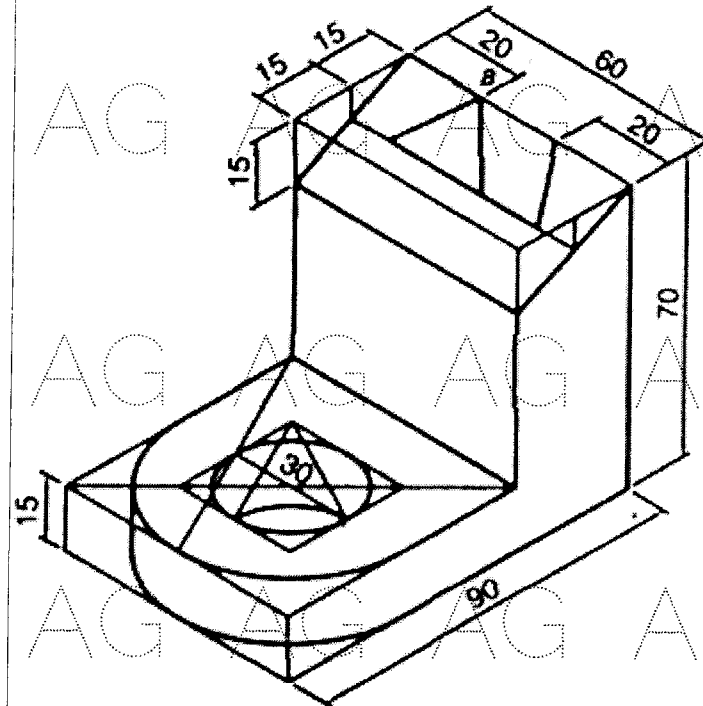


Figure: 2

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