

R15

Code No: 121AH

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech I Year Examinations, May - 2018

ENGINEERING DRAWING

(Common to CSE, MIE, PTM)

Time: 3 hours

Max Marks: 75

Answer all five questions
All questions carry equal marks

- 1.a) Construct an Ellipse when the distance of focus from the directrix is equal to 60 mm and eccentricity is $\frac{2}{3}$. Draw Tangent and Normal to the curve at a distance of 80 mm from directrix.
- b) Divide a Straight line of 70 mm into 11 (eleven) equal parts. [12+3]

OR

- 2.a) Construct a diagonal scale of RF = $\frac{1}{6250}$ to read upto 1 Kilometer and to read meters on it. Show a distance of 653 meters on it.
- b) Show by means of a drawing that when the diameter of the directing circle is twice that of the generating circle, the Hypocycloid is a straight line. Take the diameter of generating circle is 50 mm. [8+7]

- 3.a) A Rectangle plane of EFGH of size 60 mm \times 30 mm has a corner E on H.P. and 20 mm in-front of V.P. The longer side of rectangle is inclined at 70° to H.P. and parallel to V.P. Draw its projections.
- b) A line CD of 60mm length is inclined at an angle of 30° to H.P. and 45° to V.P. The Point C is 20 mm above H.P. and 15 mm in-front of V.P. and 80 mm from Right profile plane. Draw i) Front View ii) Top view iii) Left side view of the line: [6+9]

OR

- 4.a) A line AB, of 90 mm long, is inclined at 45° to HP and its top view makes an angle of 60° with XY. The end A is on HP and 12 mm in-front of VP. Draw its projections. Traces and find its inclination with VP.
- b) Two points A and B are on HP, the point A being 30 mm in-front of VP while B is 45 mm behind VP. The line joining their top views makes an angle of 45° with XY. Find horizontal distance between the two points. [10+5]

5. A Pentagonal pyramid of base 20 mm and axis 50 mm has its triangular face in the VP with a shorter side inclined to the HP at 30° . Draw its projections [15]

OR

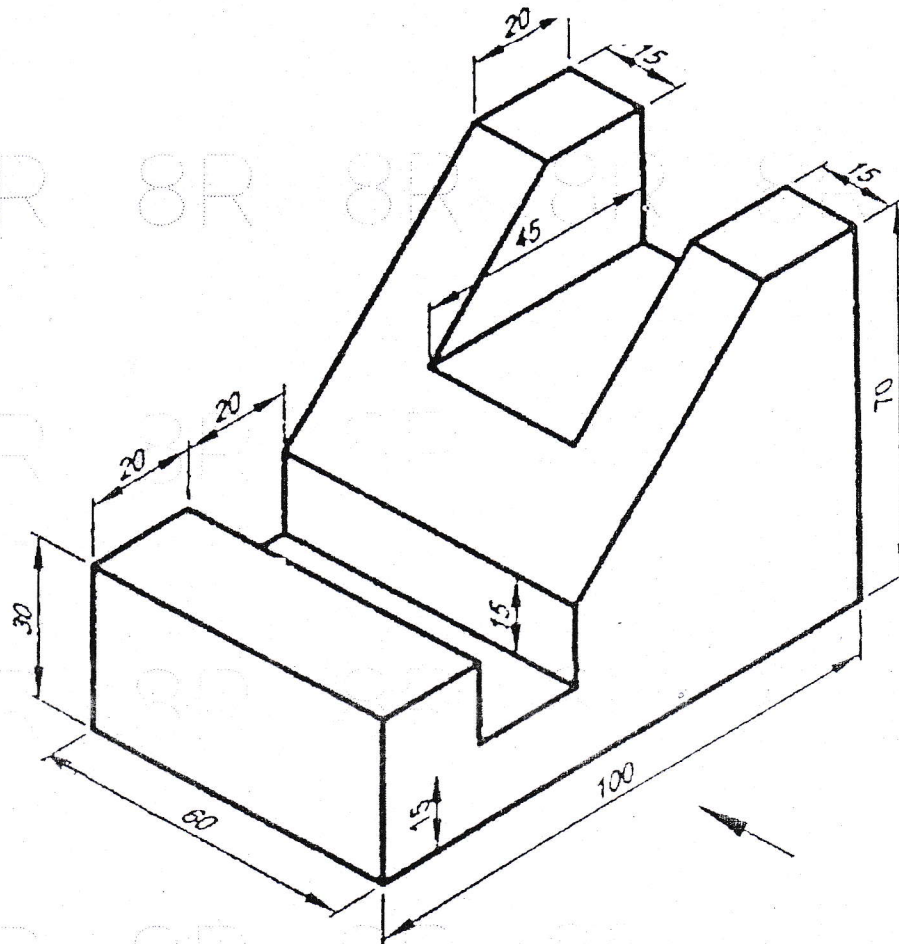
6. A Pentagonal prism of edge of base 30 mm and axis 60 mm long is resting on one of its faces on HP. The axis of the prism is parallel to both HP and VP. It is cut by a section plane, inclined at 45° to HP and passing through the axis 15 mm from one of its base. Draw the projections and show the true shape of the section. [15]

7. Draw the development of a Cylinder of 40 mm diameter and 60 mm height, containing a square hole of 20 mm side. The sides of the hole are equally inclined to the base and the axis of the hole bisects the axis of the cylinder. [15]

OR

8. A vertical cylinder of 70 mm diameter is penetrated by a horizontal cylinder of the same size. The axis of the penetrating cylinder is 12 mm away from the axis of the vertical cylinder. Draw the projections of the cylinders and showing the lines (curves) of intersection. [15]

9. Draw the Front view, Top view and side view of the object shown in figure. All dimensions are in mm. [15]



OR

- 10.a) Draw the Perspective view of a vertical circular plane of 50 mm diameter, inclined at 30° to the Picture plane (P.P). The center of the plane is 25 mm behind the P.P. It is resting on a point on the circumference on the ground. The station point is located in the central plane passing through the center of the circular plane and 80 mm in-front of P.P. and 70 mm above the ground.
- b) Draw the Isometric projection of a circular lamina of 60 mm diameter, when its surface is Vertical. [10+5]

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