R09

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech I Year Examinations, May - 2016
ENGINEERING DRAWING
(Common to ME, MMT)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks
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1.a) Construct an ellipse having 120 mm major diameter and 80 mm minor diameter by using concentric circles method.

b) A circle of 50 mm diameter rolls inside another fixed circle of radius 80 mm. Draw the hypocloid for the point P on the rolling circle, which is at the contact point of the fixed and rolling circles. [7+8]

2. The projectors of the ends of a line AB are 40 mm apart. The end A is 20 mm above the H.P. and 24 mm in front of the V.P. The end B is 10 mm below the H.P. and 35 mm behind the V.P. Determine the true length and traces of AB and its inclinations with the two reference planes. [15]

3. A regular hexagonal lamina of 30 mm side rests on one of its edges upon HP. Its plane is inclined at 45^0 to HP and the edge on which it rests is inclined at 30^0 to VP. Draw its projections using auxiliary plane method. [15]

4. Develop the surface of a hexagonal pyramid side of base 28 mm and height 60 mm. The pyramid is resting on its base on the ground and one edge of the base is inclined at 20^0 to V.P. [15]

5. A cylinder of 50 mm diameter and 70 mm axis is completely penetrated by a square prism of 25 mm side and 70 mm axis, horizontally. Both axes intersect and bisect each other. All faces of the prism are equally inclined to HP. Draw the projections showing curves of intersection. [15]

6. A hemisphere of radius 20 mm is placed with its curved surface resting centrally on the top of a frustum of a cone (of radius of base 40 mm and axis 60 mm) which is resting on the HP. The radius of the top surface of the cone frustum is 30 mm. Draw the isometric projection of the assembly. [15]

7. Figure shows the isometric view of an object. Draw the following views:
a) Front view in the direction of arrow,
b) Top view, and   c) Side view from right.
All dimensions are in mm.   [5+5+5]
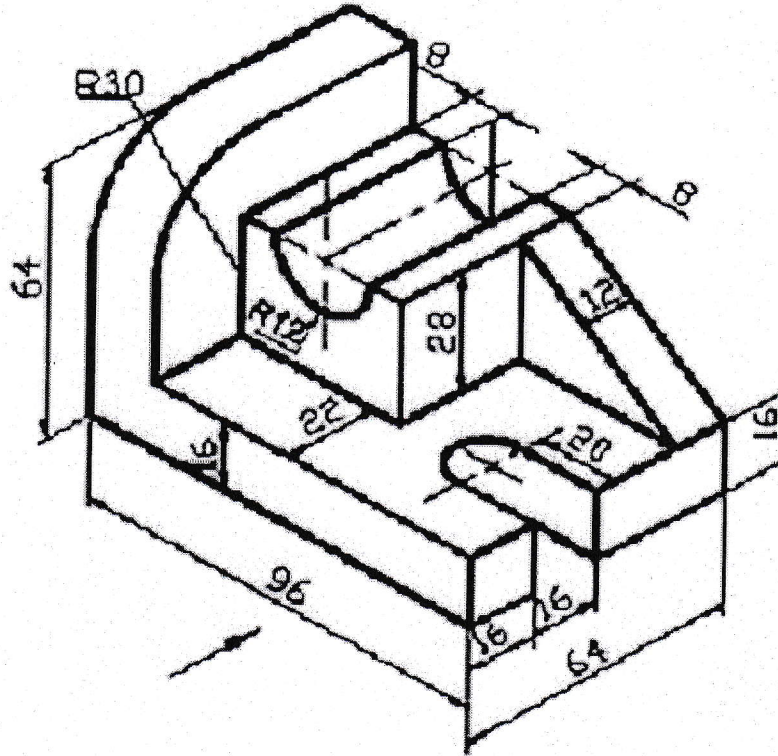
8. A rectangular block 32 mm × 22 mm × 16 mm is lying on the ground on one of its largest faces. One of its vertical edges is in the picture plane and the longer face containing that edge is inclined at an angle of 30^0 to the picture plane. The station point is 52 mm in front of the picture plane, 35 mm above the ground plane passing through the centre of the block. Draw the perspective view of the block.
[15]

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