Code No: 111AG

R13

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B.Tech I Year Examinations, June - 2014
ENGINEERING DRAWING
(Common to ECE, EIE, ETM, ECOMPE, ICE)

Time: 3 hours **Max. Marks: 75**

Answer any five questions
All questions carry equal marks

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1.a) A ball thrown up in the air reaches a maximum height of 45 meters and travels a horizontal distance of 75 meters. Trace the path of the ball, assuming it to be parabolic.

b) Construct a hypo cycloid, rolling circle 50 mm diameter and directing circle 175 mm diameter. Draw a tangent to it at a point 50 mm from the centre of the directing circle.

OR

2.a) A regular pentagonal plate of 20 mm side is fixed at its centre. An inelastic rope is circumscribed along the perimeter of the pentagonal plate. Draw the path of the free end of the rope when it is unwounded keeping, tight for one complete revolution.

b) Draw a diagonal scale of 1:2.5, showing centimeters and millimeters and long enough to measure up to 20 cm.

3. The end A of a line AB is in the H.P. and 25 mm behind V.P. The end B is in the V.P. and 50 mm above the H.P. The distance between the end projectors is 75 mm. Draw the projections of AB and determine its true length, traces and inclinations with the two planes.

OR

4. Draw the projections of a regular pentagon of 40 mm side, having its surface inclined at 30^0 to the H.P. and a side parallel to the H.P. and inclined at an angle of 60^0 to the V.P.

5. A pentagonal pyramid, base 25 mm side and axis 50 mm long has one of its triangular faces in the V.P. and the edge of the base contained by that face makes an angle of 30^0 with the H.P. Draw its projections.

OR

6. A hexagonal prism has a face on the H.P. and the axis parallel to the V.P. It is cut by a vertical section plane, the H.T of which makes an angle of 45^0 with xy and which cuts the axis at a point 20mm from one of its ends. Draw its sectional front view and true shape of the section. Side of base 25 mm long; height 65 mm.

7. Draw the development of the lateral surface of the cylinder cut as shown in the following figure 1. All dimensions are in mm.

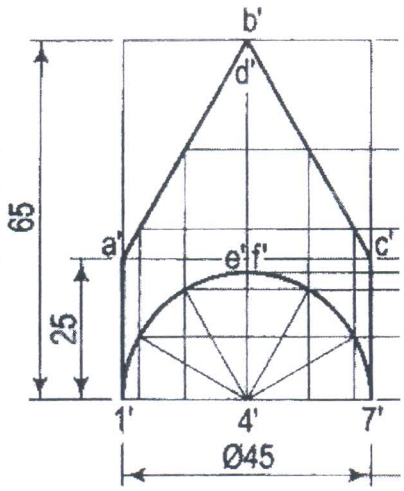

Figure: 1

OR

8. A vertical cylinder of 80 mm diameter is completely penetrated by another cylinder of 60 mm diameter, their axes bisecting each other at right angles. Draw their projections showing curves of penetration, assuming the axis of the penetrating cylinder parallel to the V.P.

9. Draw the isometric view of the object whose orthographic projections are given in figure 2. All dimensions are in mm.

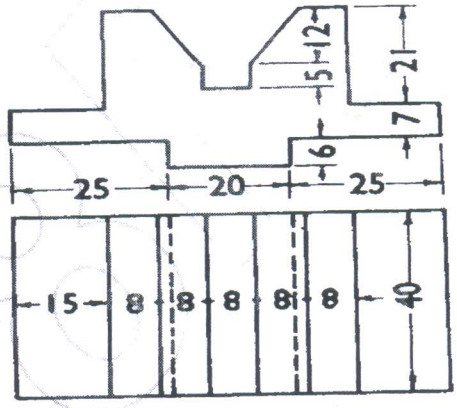

Figure: 2

OR

10. Draw the following views of the object given in figure 3. All dimensions are in mm.

a) Front View b) Top View and c) Side View from the right.

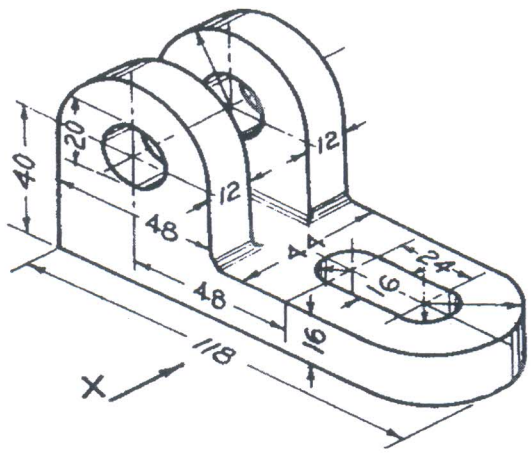

Figure: 3

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