Code: R7 100107

R7

B.Tech I Year (R07) Supplementary Examinations, May 2012

ENGINEERING GRAPHICS

(Common to CE and ME)

Time: 3 hours Max Marks: 80

Answer any FIVE questions

All questions carry equal marks

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1 Draw a hypo-cycloid of a circle of 40 mm diameter, which rolls inside another circle of 160 mm diameter, for one revolution counter clockwise. Draw a tangent and normal to it at a point 65 mm from the center of the directing circle.

2 The top view of a 75 mm long line AB measures 65 mm, while the length of its front view is 50 mm. Its one end A is in the H.P. and 12 mm in front of the V.P, draw the projections of AB and determine its inclination with the H.P. and V.P.

3 A regular hexagonal plane of 45 mm side has a corner on H.P and its surface is inclined at 45^0 to H.P. Draw the projections. When the diagonal through the corner which on H.P makes 30^0 with V.P.

4 (a) Draw the projections of a pentagonal prism of base 25 mm side and axis 50 mm long, when it is resting on one of its rectangular faces on H.P., the axis of the solid is inclined at 45^0 to V.P.

(b) A hexagonal prism of side4 50 mm is resting on HP on one of its base with two vertical faces being parallel to VP. It is cut by a vertical plane inclined at 45^0 to VP and is 8 mm away from the axis. Draw its top view, sectional front view and true shape of section.

5 A pentagonal pyramid, 30 mm edge of base and 65 mm height, stands on H.P such that an edge of the base is parallel to VP and nearer to it. A section plane perpendicular to VP and inclined at 30^0 to HP cuts the pyramid passing through a point on the axis at a height of 35 mm from the base. Draw the isometric projection of the truncated pyramid.

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6 Draw the elevation, plan and side view of the part shown in the picture in page number 3 (All dimensions in mm).

7 A square prism, having base with a 50 mm side, is resting on its base on H.P. with the faces equally inclined to the V.P. It is completely penetrated by a horizontal cylinder with a 50 mm base diameter such that their axes bisect each other at right angles. Assuming suitable lengths of both the solids, draw their projections and show the curves of intersection.

8 A rectangular plane with 60 mm and 40 mm sides is lying in the GP with the longer side parallel to and 15 mm behind the PP. The station point is 50 mm in front of the PP, 60 mm above GP and lies in the CP passing through the centre of the object. Draw its perspective view.

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Picture for question number 6 in page 3.

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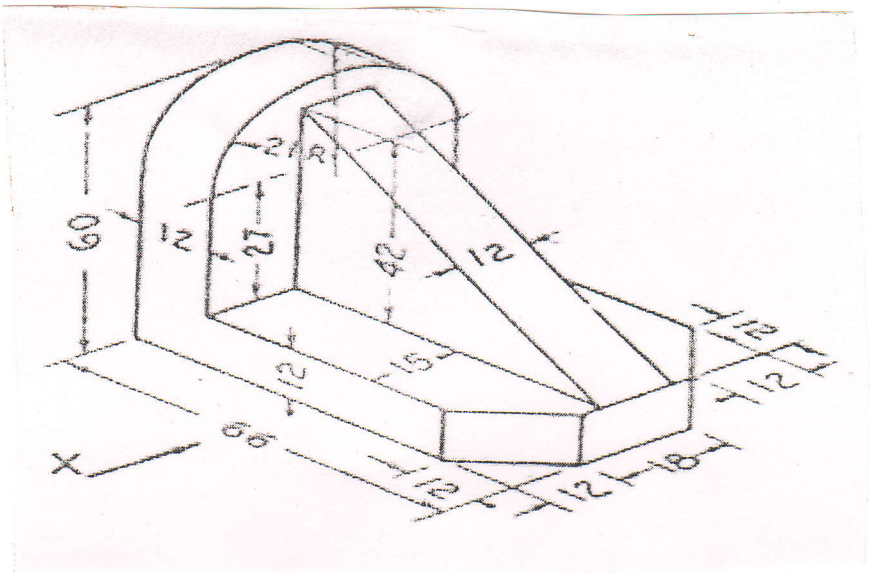

Picture for question number 6