

R5

Code: R5 100107

B.Tech I Year (R05) Supplementary Examinations, May 2012

ENGINEERING GRAPHICS

(Common to CE and ME)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions

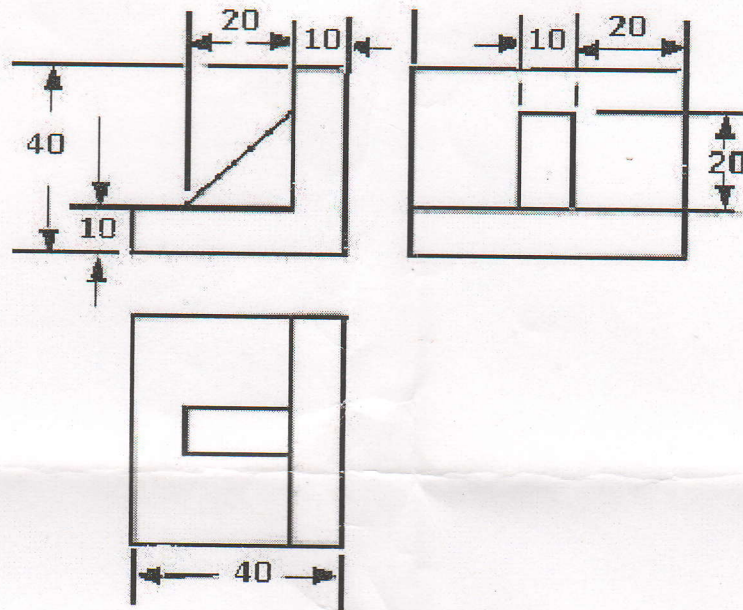
All questions carry equal marks

- 1 (a) Construct a full-size vernier scale of inches and show on it lengths 3.67", 1.54" and 0.48".
(b) How are hidden lines represented?
- 2 Construct an ellipse, with distance of the focus from the directrix as 50 mm and eccentricity as $\frac{2}{3}$. Also draw the normal and tangent to the curve at a point 40 mm from the directrix.
- 3 (a) A line PQ 100 mm long is inclined at 30° to the H.P and at 45° to the V.P. Its mid-point is in the V.P and 20 mm above the HP. Draw its projections, if its end P is in the third quadrant and Q is in the first quadrant.
(b) A regular hexagonal plane of 30 mm side has a corner at 20 mm from VP and 50 mm from HP. Its surface is inclined at 45° to VP and perpendicular to HP. Draw the projections of the plane.
- 4 Draw the projections of a cone, has 45 mm diameter and axis 50 mm long, when it is resting on the ground on a point on its base circle with (i) The axis making an angle of 30° with the HP and 45° with the VP. (ii) The axis making an angle of 30° with the HP and its top view making 45° with the VP.
- 5 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 to be parallel to the VP.
- 6 Draw the isometric view of the model of steps, two views of which are shown in figure1 given in page 2.[All dimensions are in mm]
- 7 Draw the following views of the object shown pictorially in figure 2 given in page 2.
(i) Front view (ii) Top view (iii) Side view from the right. [All dimensions are in mm]
- 8 A rectangular block, 3 cm $\times$ 2 cm $\times$ 1.5 cm, is lying on the ground plane on one of its largest faces. A vertical edge is in the picture plane and the longer face containing the edge makes an angle 30° with the picture plane.
The station point is 5 cm in front of the picture plane, 3 cm above the ground plane and lies in a central plane, which passes through the centre of the block. Draw the perspective view of the block.

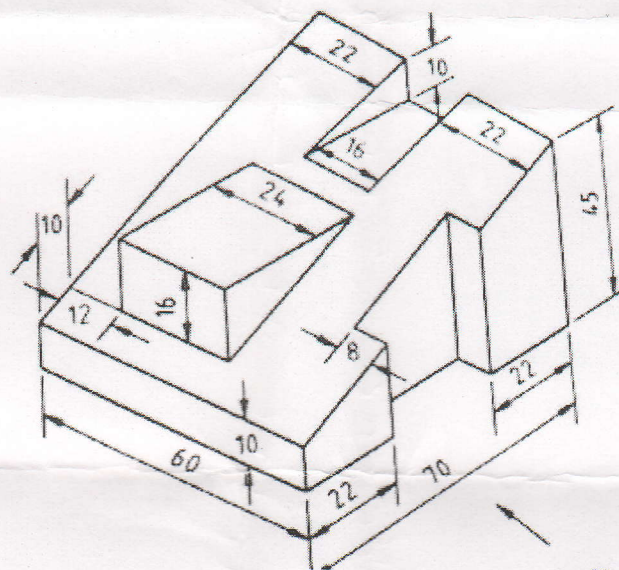
Contd. in Page 2

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Problem 6, Figure 1



Problem 7, Figure 2