I B.Tech Examinations,June 2011
ENGINEERING GRAPHICS
Common to CE, ME, CHEM, MECT, MEP, AE, AME, MMT

Time: 3 hours   Max Marks: 80
Answer any FIVE Questions
All Questions carry equal marks
⋆ ⋆ ⋆ ⋆ ⋆

1. A vertical cylinder of 60 mm diameter, is penetrated by a horizontal square prism of 35 mm side. The axes of the two solids intersect each other. A rectangular face of the prism is inclined at 60° to V.P. Draw the lines of intersection.   [16]

2. A vertical cylinder of base diameter 30 mm and axis 45 mm long is sectioned such that its front view appears as isosceles triangle of 30 mm and height 45 mm. Develop its surface.   [16]

3. Draw the following views of the object given in figure 7. All dimensions are in mm.

   (a) Front View
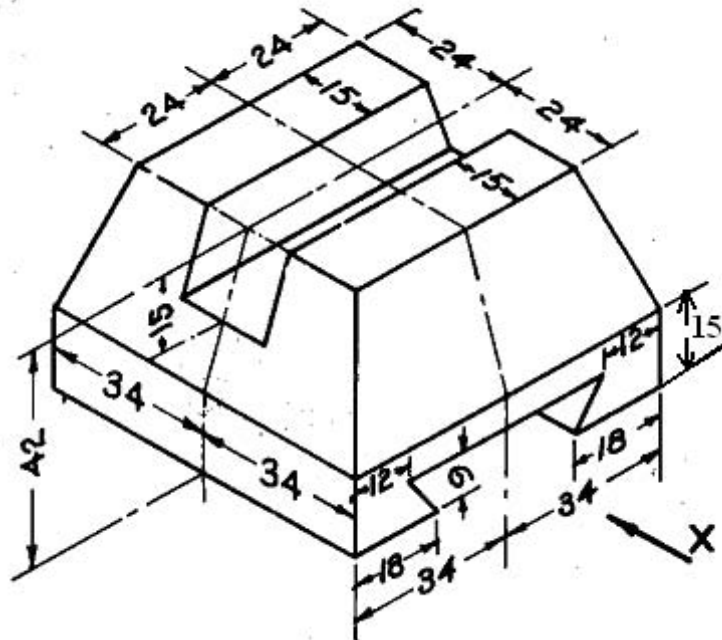
   (b) Top View and

   (c) Side View.   [16]

Figure 7

4. A line PQ 65 mm long has its end P in both HP and VP. It is inclined at an angle of 30^0 to HP and 45^0 to the VP. Draw the projections and locate its traces.   [16]

5. Draw the perspective view of a straight line AB, 55 mm long is parallel to and 15 mm above the ground plane and inclined at 40^0 to Picture Plane. The end A is 20

mm behind the picture plane. The station point is 30 mm, 35 mm in front of the picture plane and 45 mm above the ground plane and lies in central plane passing through the mid point of AB. [16]

6. An ideal gas undergoes an isothermal expansion (i.e. the product of pressure P and volume V is constant) from 5 kN/cm^2 to 60 kN/cm^2. One of the states of the gas is described by P = 25 kN/cm^2 and V = 0.1 m^3. Draw the curve. [16]

7. Draw the isometric view of the object whose orthographic projections are given in figure 8. All dimensions are in mm. [16]
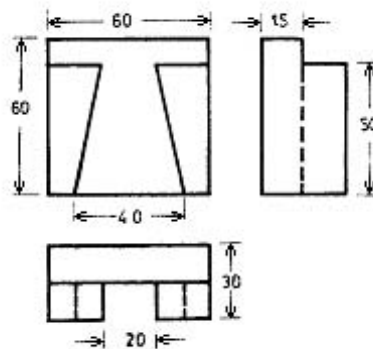

Figure 8

8. A regular pentagon of side 40 mm has its surface inclined to HP at 45^0. It is resting with its base on HP and the line joining the vertex to mid-point of the base making an angle of 60^0 with VP. Draw its projections. [16]

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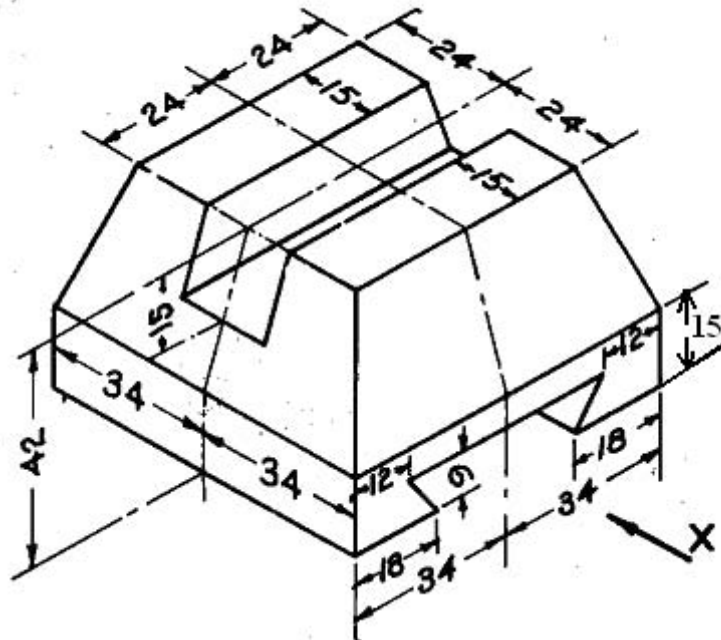
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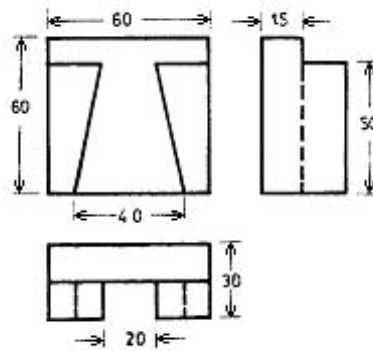

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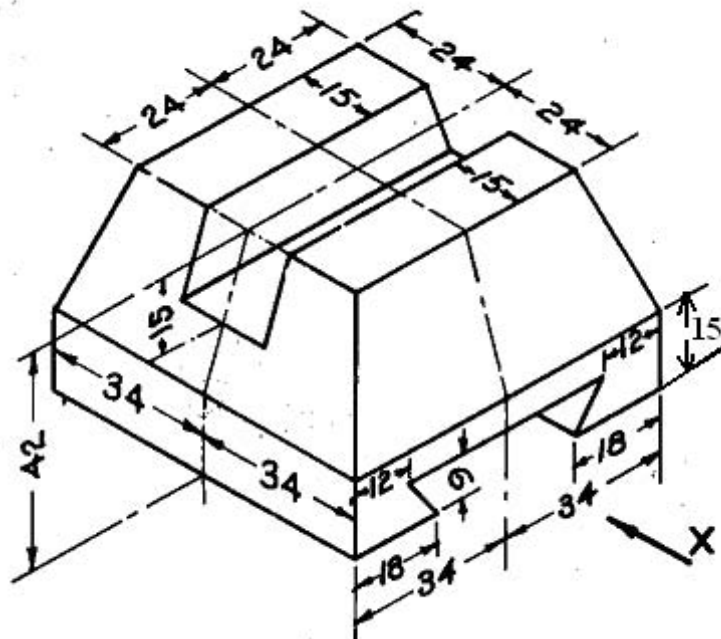   (a) Front View

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Figure 7

5

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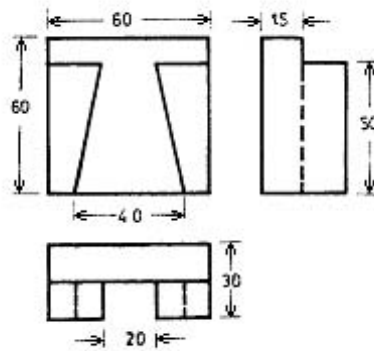

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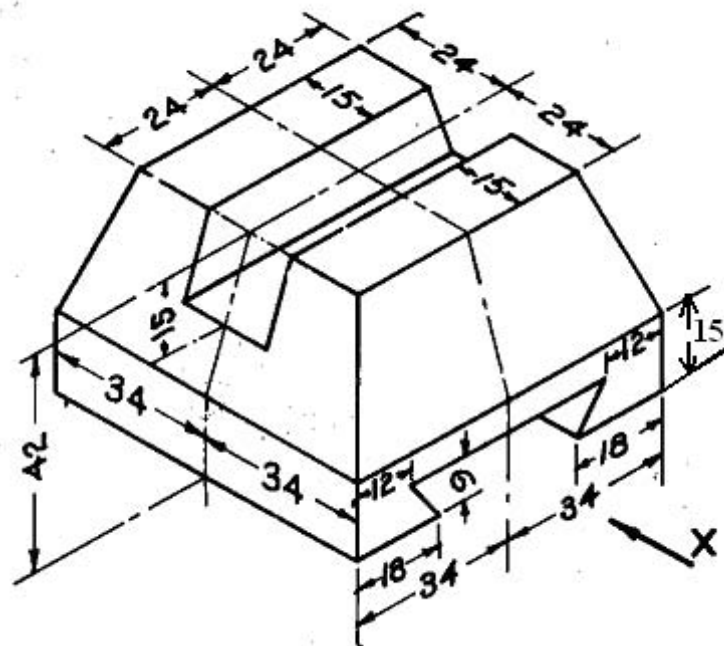Figure 7

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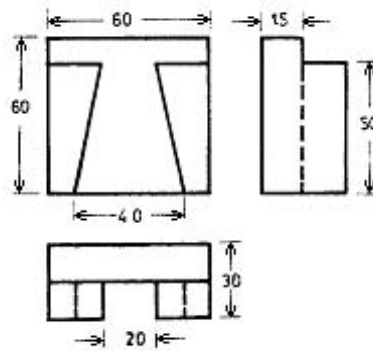

Figure 8

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