Code No: NR10107 **NR**

I B.Tech Supplementary Examinations, June 2005
ENGINEERING GRAPHICS
(Common to Civil Engineering, Mechanical Engineering, Mechatronics, Metallurgy & Material Technology, Production Engineering and Aeronautical Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Draw a Plain scale of 1cm= 5 metres and show on it 3.6 metres.

2. The major axis of an ellipse is 160 mm long and the minor axis 90 mm long. Find the foci and draw the ellipse by 'Arcs of circles method'. Draw a tangent to the ellipse at a point on it 25 mm above the major axis.

3. A pipe- line from a point A, running due north-east has a downward gradient of 1 in 5. Another point B is 12 m away from and due east of A and on the same level. Find the length and slope of a pipe- line from B which runs due 15 degrees east of north and meets the pipe-line from A.

4. Draw the front view, top view and side view for the picture shown in figure1 below in first angle projection.

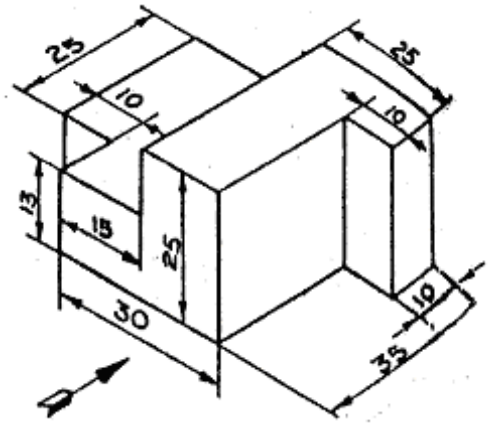

Figure 1:

5. A square prism, base 40 mm side and height 65 mm, has its axis inclined at 45 degrees to the H.P. and has an edge of its base, on the H.P. and inclined at 30 degrees to the V.P. Draw its projections.

6. A hexagonal prism of side of base 30 mm and height 60 mm is resting on HP with one of its base edges parallel to VP. Right half of the solid is cut by an upward plane inclined at 60° to the ground and starting from the axis and 30 mm below the top end. The left half of the solid is cut by a plane inclined at 30° to the HP downwards from the axis. The two section planes are continues. Draw the development of the lower portion.

7. Draw the isometric view of a cone 40 mm diameter and axis 55 mm long when its axis is horizontal. Draw isometric scale.

8. Draw the perspective projection of a hollow cylinder of 60 mm external diameter and 80 mm long, with a wall thickness of 10 mm. It is resting on a generator on the ground, with its axis inclined at 60° to and touching the PP.

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