

B.Tech I Year(R05) Supplementary Examinations, May/June 2010
ENGINEERING GRAPHICS

(Common to Civil Engineering and Mechanical Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Construct a vernier scale to read distances correct to a decimeter on a map in which the actual distances are reduced in the ratio of 1:40000. The scale should be long enough to measure 6 kilometers. Mark on the scale the lengths of 3.34 km and 0.57 km. [16M]
2. Construct an ellipse, when the distance of the focus from the directrix is equal to 60 mm and eccentricity $\frac{2}{3}$. Also draw a normal and tangent to the curve at a point 35 mm from the focus. [16M]
3. The top view of a 75mm long line AB measures 65mm, while length of its front view is 50mm. Its one end A is in the H.P. and 12mm in front of the V.P. Draw the projections of AB and determine its inclinations with the H.P. and the V.P. [16M]
4. A hexagonal pyramid, side of base 25mm and axis 50mm long, rests with one of the corners of its base on HP. Its axis is inclined at 30° to HP and 45° to VP. Draw its projections. [16M]
5. A vertical cone of 40 mm diameter of base and height 50 mm is cut by a cutting plane perpendicular to V.P and inclined at 30° to the H.P so as to bisect the axis of the cone. Draw the development of the lateral surface of the truncated portion of the cone. [16]
6. Draw the isometric projection of a Frustum of hexagonal pyramid, side of base 30 mm the side of top face 15mm of height 50 mm. [16]
7. A rectangular prism 30 x 20 x 60 mm lies on HP on one of its largest faces with its axis parallel to both HP and VP. Draw its isometric projection. [16]
8. A square is resting on ground plane on one of its corners and is some distance behind VP. Its plane is perpendicular to HP and inclined at 30° to the VP and the sides containing the corner are equally inclined to the HP. Determine the line of heights for points lying in its top view and then draw its perspective view from the given position of the station point. [16M]
