Combined First and Second Semester B.Tech.
Degree Examination, April 2016
(2008 Scheme)
08.104 : ENGINEERING GRAPHICS

Time : 3 Hours
Max. Marks : 100

Instructions:  
   i) First angle projection to be followed.
   ii) Answer any two questions from each Module.

MODULE – I  
(2x16=32 Marks)

1. Draw a pair of hyperbolas when the distance between the foci is 70 mm and the length of the transverse axis is 45 mm. Locate the asymptotes and directrices. Find the eccentricity of the curve.

2. A circle of 40 mm diameter rolls on a horizontal line. Draw the curve traced out by a point R on the circumference for one half revolution of the circle. For the remaining half revolution the circle rolls on a vertical line. The point R is vertically above the centre of the circle in the starting position.

3. Two mangoes on a tree are 2.0 m and 2.5 m respectively above the ground and 0.8 m and 1.50 m from a 0.3 m thick compound wall of a bungalow, but on the opposite sides of the wall. The distance between the mangoes, measured along the ground and parallel to the wall is 2.0 m. Find the real distance between the two mangoes.

MODULE – II  
(2x17=34 Marks)

4. Draw the front and top views of an octahedron of edges 30 mm when one face is in HP and one edge of that face makes 45° with VP.

5. A cone, base 50 mm diameter and axis 65 mm long, rests with its base on HP. It is cut by a section plane perpendicular to VP, inclined at 45° to HP and passing through a point on the axis 35 mm above the base. Draw the sectional top view, sectional side view and true shape of the section.

P.T.O.
6. A cone of base diameter 50 mm and height 70 mm rests on its base on the ground. A string is wound round the curved surface of the cone starting from left extreme point and ending at the same point. Find the shortest length of the string required. Trace the path of string in front and top views.

MODULE – III  

(2×17=34 Marks)

7. An object consists of a hemispherical vessel of 80 mm diameter which is placed centrally over a cylinder of 50 mm diameter and height of 60 mm. The cylinder in turn is placed centrally over a square prism of 60 mm base side and 20 mm height. Draw the isometric view of the object.

8. Draw the projections showing the curves of intersection when a vertical cylindrical pipe of 40 mm diameter is joined with a horizontal cylindrical pipe of the same size. The axes of both the pipes are parallel to VP and at right angles to each other.

9. A square prism of base 3 cm × 3 cm and height 6 cm stands on GP with the edge of base making 45° with PP. The nearest corner is 3 cm to the right of station point and 3 cm behind the PP. The station point is 5 cm above the GP and 10 cm in front of the PP. Draw the perspective view of the square prism.