Reg. No. : ....

Name : ....

Combined First and Second Semester B.Tech. Degree Examination, May 2013
(2008 Scheme)
08.104 : Engineering Graphics
(MNHTABS)

Time: 3 Hours

Max. Marks : 100

Instruction : *Answer **any two** questions from **each** Module.*

MODULE – 1 (2×16=32 Marks)

1. ABC is a triangle such that AB = 100 mm. AC = 80 mm and BC = 60 mm. Draw an ellipse passing through, points A, B and C. Find Focus, Major axis and Minor axis of the ellipse. Draw a tangent and normal at any point on the curve.

2. A thin semi-circular plate with C as centre and radius equal to 32 mm is fixed. OP is the inelastic rope of 140 mm horizontal length. End O of the rope is fixed. The end O is 20 mm above and 20 mm on the left of centre C. The rope is wound in anti-clockwise direction around the circumference of the semi-circular plate. Draw the locus of the free end P of the rope. Name the curve.

3. The projectors of two points A and B in space are 55 mm apart. A is 32 mm in front of VP and 18 mm above HP and B is 25 mm-in front of the VP and 45 mm above the HP. A third point C is 35 mm from A and 60 mm from B and is in the VP. Draw the projections of the point C and measure its distance from the HP.

MODULE – 2 (2×17=34 Marks)

4. A square pyramid side of base 30 mm and the height 60 mm is resting on HP on its vertex in such away that one of its slant edges is vertical and the triangular face containing that slant edge is perpendicular to the V.P. Draw the projections of the solid.

5. A tetrahedron of 70 mm long edges is resting on one face on the ground. It is cut by a plane perpendicular to V.P. so that the true shape of the section is an isosceles triangle of base 30 mm and altitude 40 mm. Draw sectional top view of the solid and true shape of the section. What is the angle made by the cutting plane with the H.P. ?

P.T.O.

6. A pentagonal prism of base side 25 mm and height 65 mm is resting on the ground on its base, with a base side parallel to VP. In the elevation it is cut by two planes.

1) Perpendicular to VP and inclined at 50° to HP passing through the right extreme of the top face. and

2) A circular cut of radius 25 mm with the bottom right corner as the centre.

Draw the lateral surface development of the truncated solid.

MODULE – 3 (2×17=34 Marks)

7. Draw an isometric projection of hemisphere resting centrally on the curved surface on the top horizontal rectangular face of an equilateral triangular prism ; keeping two triangular bases parallel to the VP. The triangular prism lying on the ground on one of its longer edges. Base side of equilateral triangle is 50 mm and length of the prism is 70 mm. Diameter of the hemisphere is 60 mm.

8. A vertical square prism; edge of base 45 mm and height 85 mm resting on its base in HP with a vertical face inclined at 60° to VP. It is penetrated by a horizontal square prism edge of base 35 mm and 90 mm long having one of its rectangular faces inclined at 30° to the VP. The axes of the prisms bisect each other. Draw the projections of the solids showing lines of intersection.

9. A pentagonal pyramid of sides of base 30 mm and height 60 mm is resting on the ground on its base with one of the base edges making 50° with the VP. The corner nearest to the PP is 15 mm behind it. The station point is 35 mm to the right of the nearest corner to the PP and 60 mm away from the PP. The horizon plane is 80 mm above the ground plane. Draw the perspective view of the object.