SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act, 1956)

Course & Branch: B.E/B. Tech – Common to all Branches
(Except to Bio Groups)
Title of the paper: Engineering Graphics - I
Semester: I Max. Marks: 80
Sub.Code: ET107/3ET107/4ET107/5ET107/6C0006/
ET207/3ET207/4ET207 Time: 3 Hours
Date: 19-05-2008 Session: AN

PART – A (10 x 2 = 20)

Answer All the Questions

1. List the standard sizes of Drawing Papers.
2. Write any two rules for Lettering.
3. What is an epi-cycloid?
4. What is the significance of First and Third Angle Projection?
5. Check the possibility of keeping a line perpendicular to both HP and VP.
6. Define trace of a line.
7. List the basic classifications of solids.
8. What is an octahedron?
9. Why sectioning of solid is required in practical applications?
10. How to obtain true shape of section?

PART – B (5 x 12 = 60)

Answer All the Questions

11. Draw an ellipse when the distance between the focus and directrix is equal to 40mm and the eccentricity is 0.75. Also draw a tangent and a normal to the ellipse at a point 35mm from the focus.

(or)

12. Using the tangent method, draw a parabola with 60mm base length and 25mm axis length.

13. Draw a hypo-cyloid when the diameters of the rolling and directing circles are equal to 50mm respectively. Draw a normal and a tangent to the curve at a convenient point.

(or)

14. A point P is 20mm above the HP and 30mm in front of VP. Point Q is 45mm below the HP and 35mm behind VP. Draw the projections of P and Q keeping the distance between their projectors equal to 80mm. Draw lines joining their top views and front views.

15. The front view of a 60mm long line AB measures 48mm. Draw the projections of AB, if end point A is 10mm above the HP and 12mm in front of VP and the line is inclined at 45° to the HP. Draw the projections of AB and find the angle of inclination of the line AB with the VP. Also, locate traces.

(or)

16. A hexagonal plate of 30mm sides is resting on the ground on one of its sides which is parallel to the VP and surface of the lamina is inclined at 45° degrees to the HP. Draw its projections.

17. A hexagonal pyramid having 20mm sides at its base and an axis 70mm long, has one of the corners of its base in the VP and its axis inclined at 45° to the VP and parallel to the HP.

(or)

18. A tetrahedron of 25mm long edges is resting on one of its edges with a face containing that edge perpendicular to the HP. Draw the projections of the tetrahedron if the edge on which it rests is inclined at 30° to the VP.

19. A pentagonal prism with 25mm base edge and 50mm axis, rests on one of its rectangular faces with the axis inclined at 30° to the

VP. It is cut by a cutting plane perpendicular to the VP, inclined at 45° to the HP and passing through the centre of one base so that a smaller part of the object is removed. Draw the front view, sectional top view.

(or)

20. A cone, 60mm diameter of base and axis 75mm high, rests on the ground on one of its generators, so that the axis is parallel to the VP. It is cut by a sectional plan perpendicular to the HP, inclined at 30° to the VP and bisecting the axis. Draw the sectional front view and the top view of he cone, if apex is retained.