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: 6C0006/ ET107/ 3ET107/ 4ET107/ 5ET107   Time: 3 Hours
Date: 09-05-2007   Session: AN

PART – A   (10 x 2 = 20)
Answer ALL the Questions

1.   What are the two systems of dimensioning?
2.   Give the dimensions of an A2 size drawing sheet.
3.   What is an involute?
4.   Define cycloid.
5.   A line AB 60 mm long is parallel to HP and inclined 40° to VP. The point A is 15 mm above HP and 20 mm infront of VP.
6.   What are apparent angles of inclination?
7.   Define truncated solid.
8.   A cylinder of diameter 'd' and height 'h' is resting on its base on the HP with its axis vertical. What is the shape of the front view?
9.   What are section lines?
10. A section plane is parallel to the base of the cone and passing through the middle of the axis. What is the true shape of the 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 40 mm and eccentricity is 0.75.Also draw a tangent and normal to the ellipse.

(or)

12. A bullet, fired in the air reaches a maximum height of 75 m and travels a horizontal distance of 110 m. Trace the path of the bullet.

13. Draw a cycloid generated by a point P on the circumference of a circle of diameter 56 mm when the circle rolls along a straight line. Draw a normal and tangent to the curve at any convenient point.

(or)

14. Draw an involute of a pentagon having each side of 25 mm length. Draw a normal and tangent at a point P on the curve.

15. A straight line AB of 50 mm length is inclined at 45° to the HP and 30° to the VP. Draw the projections of the line AB if its end point A is 15 mm above HP and 20 mm infront of VP.

(or)

16. The end A of a line AB is 20 mm above HP and 25 mm infront of VP. This line is inclined at 30° to HP. Its top view is 60 mm long and 45° to XY. Draw the projections. Locate the traces. Find true length and inclination with VP.

17. A hexagonal pyramid of base side 25mm and height 70 mm is resting on one of its slant edges on HP. Its axis is parallel to VP. Draw its projections.

(or)

18. A cylinder of 30 mm diameter and 60 mm axis rests on HP with a point of its base such that the axis is inclined at 30° to HP and its axis of the plan inclined at 40° to XY. Draw its projections.

19. A cone of base of diameter 30 mm and axis height 70 mm is resting on its base on HP. It is cut by a section plane parallel to HP and perpendicular to VP so that it bisects the axis. Draw the front view and sectional top view.

(or)

20. A pentagonal pyramid of base side 40 mm and altitude 75 mm rests with its base on HP and with a side of base parallel to VP. It is cut by a section plane perpendicular to VP and inclined at 35° to HP and bisecting the axis. Draw the sectional plan and true shape of the section.