

SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act, 1956)

Course & Branch: B.E/B.Tech – CHEM/EEE/EIE/AERO/M&P/
MECH/CIVIL/AUTO

Title of the paper: Engineering Graphics - I

Semester: I

Max.Marks: 80

Sub.Code: 3ET107-4ET107-5ET107-6C0006(06-07-08)Time: 3

Hours

Date: 17-05-2009

Session: AN

PART - A

(10 X 2 = 20)

Answer ALL the Questions

1. What is meant by tangents to the curves?
2. What is parabola?
3. Give any two differences between first angle and third angle projections.
4. Draw any two views to of a cylinder of 40 mm diameter and 60 mm height by free hand.
5. What is HT?
6. When a line is parallel to HP and perpendicular to the VP, what shape will appear in the front view?
7. What is tetrahedron?
8. What is frustum of cone?
9. What is the purpose of sectioning a solid?

10. When the cutting plane is perpendicular to both the HP and VP, the sectional ----- will give the true shape of the section.

PART – B

(5 x 12 = 60)

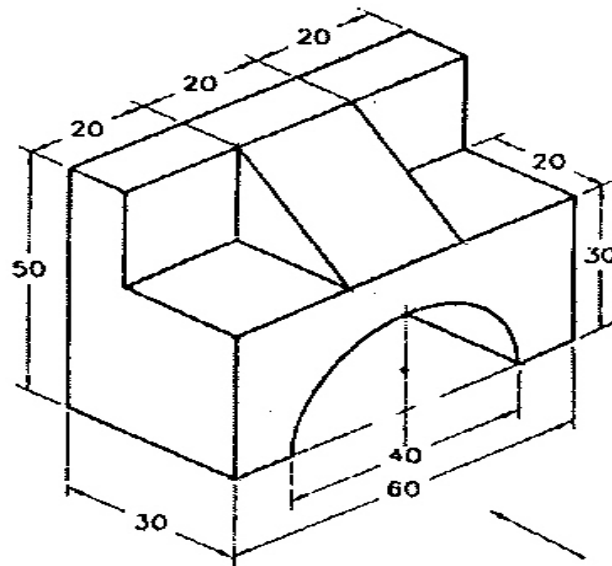
Answer All the Questions

11. Draw an ellipse as distance of the focus from the directrix is 60 mm with the eccentricity of 0.75. Also, draw tangent and normal to any point on the curve.

(or)

12. Draw a hyperbola given the distance of the focus from the directrix as 55 mm and eccentricity as 1.5. Also, draw tangent and normal to any normal to any point on the curve.

13. Draw the front and top view of the following element:



(or)

14. Draw the projections of the following points on a common line and also state their quadrants:

- a. A, 30 mm behind the VP and 20 mm below the HP
- b. B, 35 mm in front of the VP and 25 mm above HP
- c. C, 45 mm behind the VP and 20 mm above HP
- d. D, 35 mm below the HP and in the VP
- e. E, 30 mm in front of the VP and 40 mm below the HP
- f. F, in both the VP and the HP

15. A line EF, 85 mm long has its end E, 25 mm above the HP and 20 mm in front of the VP. The top and front views of the line have lengths of 55 mm and 70 mm respectively. Draw the projections of line and find its true inclinations with the VP and the HP.

(or)

16. A pentagonal plate of side 40 mm rests on HP on one of its sides perpendicular to the VP. Draw its projections when its surface is inclined at 45° to the HP. Also show its traces.

17. Draw the projections of a cube of side 40 mm when it rests on one of its corners with a diagonal of the solid vertical.

(or)

18. A square prism of base side 35 mm and axis length 60 mm lies on the HP on one of its longer edges with its faces equally inclined to the HP. Draw its projections when its axis is inclined at 30° to the VP. Draw its projections.

19. A hexagonal prism of base side 30 mm and axis length 70 mm rests on one of its ends on the HP with the base sides parallel to VP. It is cut by a plane perpendicular to the VP and inclined at 30° to the HP. The cutting plane meets the axis at 30 mm from the top. Draw the front view, sectional top view and the true shape of the section.

(or)

20. A right circular cone of base diameter 50 mm and axis length 60 mm rests on its base on the HP. It is cut by a plane perpendicular to the HP and inclined at 60° to the VP. The shortest distance between the cutting plane and the top view of the axis is 8 mm. Draw the sectional front view and the true shape of the section.

