

SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act, 1956)

Course & Branch: B.E/B.Tech - CSE/ECE/IT/ETCE

Title of the paper: Engineering Graphics - I

Semester : I

Max. Marks: 80

Sub.Code: ET207(2002/2003/2004)

Time: 3 Hours

Date: 15-05-2007

Session: FN

PART – A

(10 x 2 = 20)

Answer ALL the Questions

1. List out different types of dimensioning methods.
2. Name the different methods used to construct ellipse.
3. Write any two applications of involutes in engineering field.
4. Why engineers preferred orthographic views in the engineering field?
5. What is horizontal trace?
6. A line RS 60mm long lies in HP and 45mm in front of VP. Draw its projects.
7. List out different types of solids.
8. Differentiate frustums and truncated solids.
9. Why sectioning is necessary in drawing?
10. Define apparent shape of section.

PART – B

(5 x 12 = 60)

Answer All the Questions

11. Construct a parabola when the distance between the focus and directrix is 40mm. Draw tangent and normal at any point P on your curve.

(or)

12. Construct a hyperbola when the distance between the focus and the directrix is 40mm. The eccentricity is $\frac{4}{3}$. Draw a tangent and normal at any point on the hyperbola.

13. Draw epicycloids of rolling circle diameter ($2r$) 40mm, which rolls outside another circle (base circle) of 150mm diameter ($2R$) for one revolution. Draw a tangent and normal at any point on the curve.

(or)

14. Draw a hypocycloid when the radius of the directing circle is twice the radius of generating circle. Radius of the generating circle is 35mm.

15. The end A of a straight line AB is 20mm above HP and 15mm in front of VP. The line measures 80mm long and inclined at an angle of 30° to HP and 45° to VP. Draw its projections.

(or)

16. A square lamina of the side 40mm is perpendicular to VP and parallel to HP. Draw its projections and find its traces.

17. A hexagonal prism side of base 20mm and axis 60mm long lies with one of its rectangular faces on HP such that its axis is parallel to both HP and VP. Draw its projections.

(or)

18. A pentagonal prism side of base 25mm and axis 50mm long rests with one of its edges on HP such that the base containing that edge makes an angle of 30° to HP and its axis is parallel to VP. Draw its projections.

19. A pentagonal pyramid side of base 35mm and axis 60mm long rests with its base on HP such that one of the edges of the base is perpendicular to VP. A section plane perpendicular to HP and parallel to VP cuts the pyramid at a distance of 20mm from the corner of the base nearer to the observer.

(or)

20. A cone, base 50mm diameter and axis 65mm 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 35mm above the base. Draw the sectional top view and true shape of section.