

SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act,1956)

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

Title of the Paper :Engineering Graphics – I

Max. Marks :80

Sub. Code :4ET107-5ET107-6C0006

Time : 3 Hours

Date :11/12/2009

Session :FN

PART - A

(10 x 2 = 20)

Answer ALL the Questions

1. List various types of lines used in engineering graphics.
2. Write free hand the vertical lettering as per BIS specification of height 5 mm of the phrase: "HEALTH IS WEALTH".
3. What are projectors?
4. A point P is in third quadrant. Its front view is ----- XY and top view is ----- XY.
5. Sketch the first angle projection symbol.
6. Name the solid having pentagonal base and five triangular surfaces.
7. Differentiate between a prism and a pyramid.
8. What is the purpose of sectioning a solid?
9. Describe the method of obtaining the orthographic views of an object giving an example.

10. When a solid is resting on its base on HP,----- view is drawn first.

PART – B

(5 x 12 = 60)

Answer All the Questions

11. Write in detail about the general drawing instruments and materials used for engineering graphics.

(or)

12. Construct a logarithmic spiral of one convolution, given the shortest distance as 25mm and the ratio of the lengths of adjacent radii enclosing 30° as 9:10. Draw a normal and tangent to the curve at a point 40mm from the pole.

13. Construct a hypocycloid, rolling circle 50mm diameter and directing circle 175 mm diameter. Draw a tangent to it at a point 50 mm from the center of the directing circle.

(or)

14. A point 30mm above xy is the elevation of two points P and Q. The plan of P is 45mm above xy and that of Q is 40 mm below xy . Draw the projections of P and Q and state their locations with respect to the reference planes in a neat writing of height 6mm.

15. A line AB, 65mm long has its end A, 15mm above the HP and 15mm in front of VP. It is inclined at 55° to the HP and 35° to the VP. Draw its projections and find the apparent angles.

(or)

16. A square lamina ABCD of side 40mm rests on the ground on its corner A in such a way that the diagonal AC is inclined at 45° to the HP and apparently inclined at 30° to VP. Draw its projections.

17. A hexagonal prism of base side 30mm and axis 80mm is lying on HP on one rectangular face with axis 30° with VP. Draw front and top view.

(or)

18. A cone of base diameter 60mm and altitude 70mm is lying on HP on one of its generators. The plan of the axis is inclined at 45° to the VP. Draw its projections.

19. A pentagonal pyramid of base diameter 40mm and height 65mm rests on its base on HP. A cutting plane perpendicular to VP and 30° to HP cuts the cone passing through a point on the axis 30mm below apex. Draw sectional view and true shape of section.

(or)

20. A sphere of 70mm diameters is resting on HP. A cutting plane 30° to HP cuts the sphere 20 away from the center. Draw sectional view and true shape of section.