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 :18/05/2010   Session :AN

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

1.   A point is above HP and in front of VP. The top view of the point is _____ XY and the front view is _____ XY.

2.   What are apparent angles of inclination?

3.   What is a truncated solid?

4.   Define apex, axis and generator of a cone.

5.   What is meant by apparent section?

6.   Explain the radial line method of development

7.   Isomeric projection of a sphere is a circle of radius equal to that of the sphere (True) / (False)

8.   Name any two methods of drawing the isomeric projections of a circle.

9.   State the assumptions made in orthographic projection.

10. What are the principle planes of projection?

PART – B   (5 x 12 = 60)
Answer All the Questions

11. A line AB 75mm long is inclined at an angle of 35° to HP and 55° VP. The point A is 15mm above HP and 20mm in front of VP. Draw the projections of the line.

(or)

12. A line measuring 80mm long has one of its ends 60mm above HP and 15mm in front of VP. The other end is 25mm above HP and in front of VP. The front view of the line is 60mm long. Draw the top view.

13. A cylinder of base diameter 40mm and axis 70mm resting on HP by one of its generators. The base of the cylinder is inclined at an angle o 30° to the VP. Draw its projections.

(or)

14. A hexagonal pyramid of base 30m and axis 70mm long, rests with one of the edges of its base on HP. And its axis is inclined at 30° to HP. And parallel to VP. Draw its projections.

15. A pentagonal prism of base 25mm and length 60mm is lying on the HP on one of its rectangular faces with its axis perpendicular to VP. It is cut by a plane perpendicular to VP and inclined at 45° to HP. The shortest distance between the axis and the cutting plane is 10mm from the top. Draw the front view, sectional top view and the true shape of the section.

(or)

16. A cone of base diameter 50mm and height 70mm rests with its base on HP. A section plane perpendicular to HP and inclined at 25° to VP cuts the cone at a distance of 10mm from the axis. Draw the sectional front view and develop the lateral surface of the remaining portion of the cone.

17. A pentagonal pyramid, 25mm edge of base and 60mm height stands on HP such that an edge of the base is perpendicular to VP and nearer to it. A sectional plane perpendicular to VP and inclined at 30° to HP cuts the pyramid passing through a point on the axis at a height of 35mm from the base. Draw the isometric view of the truncated pyramid, showing the cut surface.

(or)

18. A frustum of a cone has its top and bottom diameters 35mm and 50mm respectively and altitude 45mm. it rests on the top face of a frustum of a square pyramid. The sides of the top and bottom faces of the pyramid are 55 mm 70 mm respectively. The height is 20mm. draw the isometric view.

19. Draw the three orthographic views of the objects shown in fig.1

27.2

3.8

8

12.8

8.4

13

4.3

12

6.3

52.8

17

All Dimensions are in meters
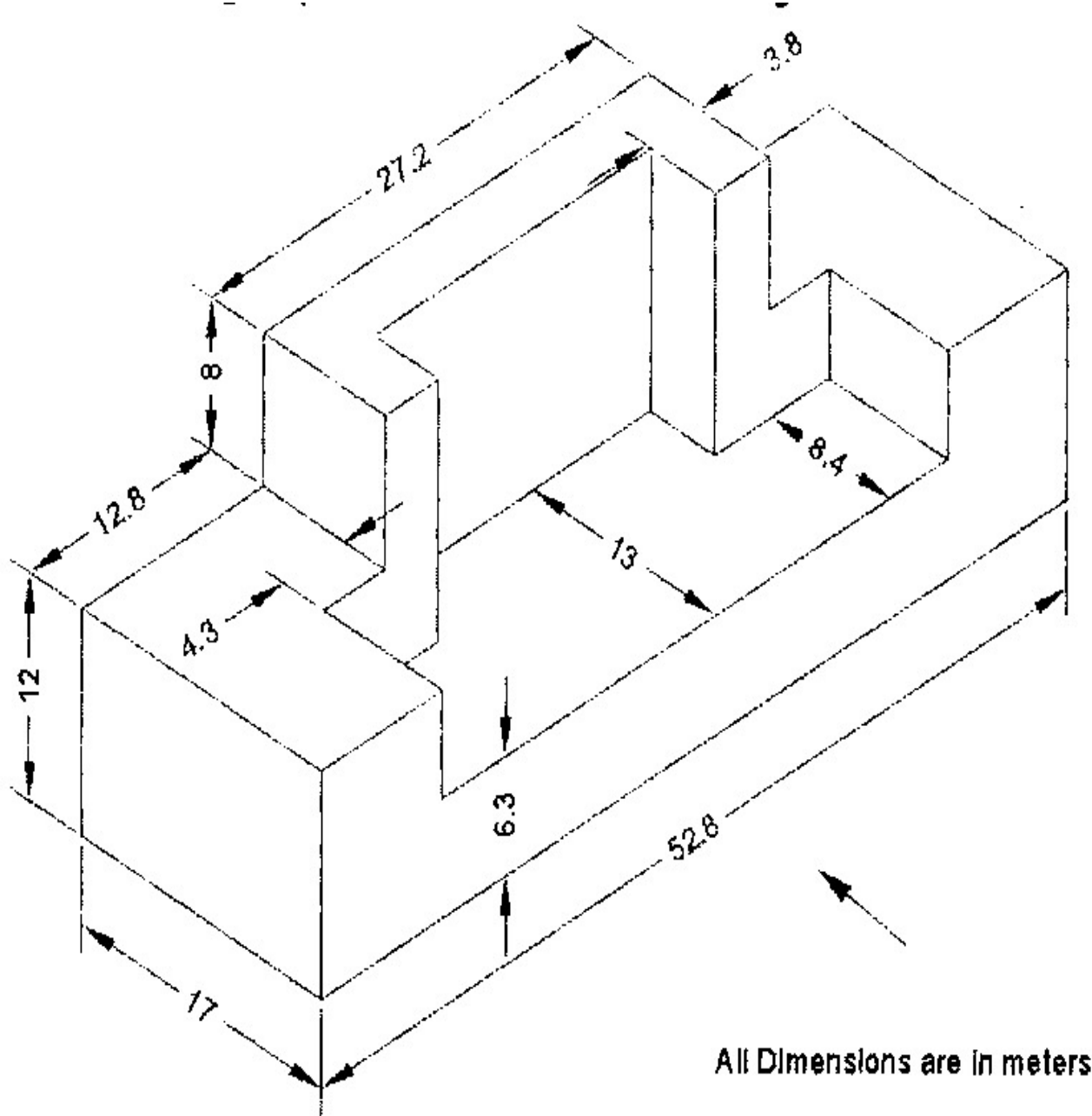
(or)

20. Draw the front view, top view and right side view of the object shown in fig.2.