## Answer any three questions All questions carry equal marks

1. Construct a cycloid given the diameter of the generating circle as 40 . Draw tangent to the curve at a point on it, 35 from the line.
2. Draw the projection of a regular hexagon of 25 side having one of its sides in HP and 40 in front of VP and its surface making an angle of $45^{\circ}$ with HP.
3. Draw the projection of a square prism, side of base 30 mm and axis 60 long, resting with one of the edges of its base on HP. Its axis is inclined at $30{ }^{0}$ to HP and the top view of the axis is $45^{\circ}$ to xy line.
4. A cylinder of base 80 diameter and axis 110 long, is resting on its base on HP. It has a circular hole of 60 diameter, drilled through centrally such that, the axis of the hole is perpendicular to VP and bisects the axis of the cylinder at right angles. Develop the lateral surface of the cylinder.
5. Draw its isometric view shasin in (Figure 1). (All dimensions are in mm)


Figure 1
6. Draw the front top and side view of the following product. (All dimensions are in mm ) (Figure 2)


Figure 2

