1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
Q. 1 (a) Refer the object shown in FIGURE-1. Draw the following views using the first angle
projection method. (draw elevation in the direction of X)
(i) Sectional Front View
(ii) Right Hand Side View
(b) A wheel rolls over the horizontal straight line path and covers 1980 mm distance in one
rotation. Draw the path traced by the point P which is initially at the point of contact between
the wheel and the horizontal straight line. Name the path traced by the point P .
Q. 2 (a) The top view of an object is a square of 60 mm side while the front view is a circle of radius
Q. 230 mm . Draw the isometric projection of the object.
A square plate of 60 mm side is resting on HP on one of its corners in such a way that its
suassing makes an angle of $45^{\circ}$ to HP. Draw the projections of the square plate when diagonal
parner on HP makes an angle of $30^{\circ}$ to VP.
Q. 230 mm . Draw the isometric projection of the object.
A square plate of 60 mm side is resting on HP on one of its corners in such a way that its
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A square plate of 60 mm side is resting on HP on one of its corners in such a way that its
suassing makes an angle of $45^{\circ}$ to HP. Draw the projections of the square plate when diagonal
parner on HP makes an angle of $30^{\circ}$ to VP.
Q. 3 (a) The top view of 75 mm long line AB measures 65 mm , while the length of its front view is 50 mm . Its one end A is in the H.P. and 12 mm in front of the V.P. Draw the projections of line $A B$ and its inclinations with the H.P. and the V.P.
(b) ABC is an equilateral triangle of side 60 mm long. Its corner A is on H.P and side BC is 20 rotation. Draw the path traced by the point $P$ which is initially at the point of contact between the wheel and the horizontal straight line. Name the path traced by the point $P$. mm above HP. Draw the projections of the triangle when side BC is inclined to V.P at an angle of $50^{\circ}$
Q. 4 (a) Classify the solids. Differentiate prism and pyramid with figure.
(b) A pentagonal prism rests on one of itsedges of the base on H.P. with its axis inclined at $45^{\circ}$
to the H.P. The top view of the axis is inclined at $30^{\circ}$ to the V.P.
Draw the projections of the prism, assuming the edge of the base to be 30 mm and the axis 70 mm long.
Q. 5 (a) Draw the symbol for first and third angle projection. Describe the types of system of dimensioning with figure.
(b) A cube with a 30 mm side resting on one of its corners on HP. Draw the projections when the base is inclined at $45^{\circ}$ to HP and axis parallel to VP.
Q. 6 (a) Draw a plain scale to show kilometer and hectometer when R.F. $=1 / 35000$ and long enough to measure 5 km . Measure 3.7 km on scale
(b) A cone, base 40 mm diameter and axis 60 mm long, rests on its base on the HP. It is cut by a section plane perpendicular to the VP and parallel to one of its generators and passing through a point on the axis at a distance of 25 mm from the apex. Draw the sectional top view
Q. 7 (a) An inelastic string 150 mm long has its one end attached to the circumference of a circular 07
disc, of 40 mm diameter. Draw the curve traced out by the other end of the string when it
completely wound around the disc keeping the disc always tight
(b) Draw a rectangle of $120 \mathrm{~mm} \times 60 \mathrm{~mm}$. draw ellipse in it.


FIGURE-1

