Code No.: ME204ES

| R20 | H.T.No. | | | 8 | R | | | | |

[Time: 3 Hours]   [Max. Marks: 70]

Note: Question paper consists of 5 Units. Answer any one full question from each unit. Each question carries 14 marks.

1. a) Draw a diagonal scale of RF = 3/100, showing meters, decimeters and centimeters and to measure up to 5 meters. Show the length of 3.69 meters on it. [7M]

   b) Draw the hyperbola when the focus and the vertex are 25 mm apart. Consider eccentricity as 3/2. Draw a tangent and normal to the curve at a point of 35 mm from the focus. [7M]

OR

2. a) Construct a scale of 1:5 to show decimeter and centimeter and long enough to measure up to 1m. Show a distance of 5.8 decimeter on it. [7M]

   b) Draw the locus of a point on the periphery of a circle which rolls from the inside of a curved path. Take diameter of rolling circle 50 mm and radius of directing circle (curved path) 75 mm. [7M]

3. A straight line AB of true length 100 mm has its end A is 30 mm above H.P and 20 mm in front of V.P. The top view of the line is 80 mm and the front view is 70 mm. Draw the projections (Top View and Front View) of the line AB and obtain the true inclinations of the line AB with H.P and V.P. [14M]

OR

4. A regular pentagonal lamina of 30 mm side is resting with one of its side on V.P and the surface is inclined at 30^0 to V.P and side on which it rests on V.P makes an angle of 45^0 to H.P. Draw its projections. [14M]

5. A cone having a base with a 50 mm diameter and a 70 mm long axis is resting on one of its generators on the ground and is inclined at 30^0 to the V.P. Draw its projections when the apex is nearer to the V.P than to the base. [14M]

OR

6. A hexagonal prism having a base with a 30 mm side and a 75 mm long axis has its base side on the H.P. and the axis is parallel to V.P. It is cut by a plane, which is perpendicular to V.P and makes an angle of 45^0 with the H.P bisecting the axis. Draw the sectional front view and true shape of the section. [14M]

7. A cylinder 50mm diameter and 70mm axis is completely penetrated by another of 40 mm diameter and 70 mm axis horizontally, both the axes are intersect & bisect each other. Draw the projections by showing curves of intersections. [14M]

OR

8. A cone made up of Aluminum sheet with base circle diameter 60 mm and axis length 70 mm is kept with its base on the ground. A circular hole of 25 mm diameter is cut through the cone such that its axis remains perpendicular to V.P. and 5 mm to the right of the axis of cone and 20 mm above the base of cone. Develop the surface of the cone. [14M]

9. A square pyramid of 30 mm base side and 50 mm long axis is centrally placed on the top of a [14M] cube of 50 mm long edge. Draw isometric view of the pair.

OR

10. Draw the Front, Top and Side views. [14M]

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