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CMR ENGINEERING COLLEGE: : HYDERABAD

UGC AUTONOMOUS

I-B.TECH-II-Semester End Examinations (Supply) - December- 2025

ENGINEERING GRAPHICS

(Common for CSE, IT, CSD, CSC)

[Time: 3 Hours]

[Max. Marks: 70]

70 Marks

1.a) Draw the curve traced by a point on the circumference of a circle of 40 mm diameter, which rolls on another circle of 160 mm diameter, for one complete revolution. Name the curve. [7M]

b) An area of 144 sq.cm on a map represents an area of 36 sq.km on the field. Find the RF of the scale, and draw a diagonal scale to show kilometers, hectometers and decameters and to measure up to 10 km. Mark a length of 7 km, 5 hm and 6 dm on the scale. [7M]

OR

2. Show by means of drawing that when the diameter of the directing circle is twice that of the generating circle, the hypocycloid is a straight line. Take the diameter of the generating circle is equal to 50 mm. [14M]

3. The front view of a 125mm long line PQ measures 75mm and its top view measures 100mm. Its end Q and the mid-point M are in the first quadrant, M being 20mm from both the planes. Draw the projections of the line PQ. [14M]

OR

4. Draw the projections of a regular pentagon of 40mm side, having its surface inclined at 30° to the H.P and a side parallel to the H.P and inclined at an angle of 60° to the V.P. [14M]

5. A square prism having base with a 45 mm side and 65 mm long axis has its axis parallel to and 55 mm in front of the V.P. An edge of its base is parallel to the H.P. and inclined at 30° to the V.P. Draw its projections. [14M]

OR

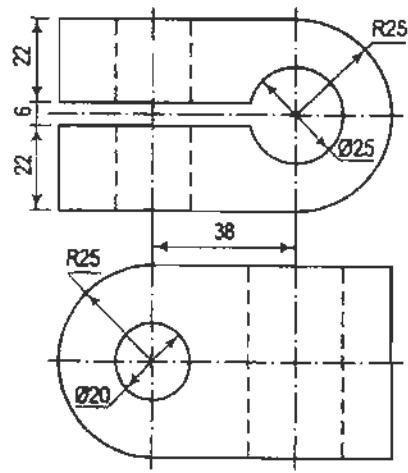
6. A Cylinder 65 mm diameter and 90 mm long, has its axis parallel to the H.P. and inclined at 30° to the V.P. It is cut by a vertical section plane in such a way that the true shape of the section is an ellipse having the major axis 75 mm long. Draw its sectional front view and true shape of the section. [14M]

7. A hexagonal pyramid, base 50mm side and axis 100mm long, is lying on the H.P on one of its triangular faces with the axis parallel to the V.P. A vertical sectional plane the H.T of which makes an angle of 30° with the reference line passes through the center of the base and cuts the pyramid, the apex being retained. Draw the top view, sectional front view, true shape of the section. [14M]

OR

8. Draw the isometric projection of a cone of 30 mm diameter, height 40 mm placed centrally on the top face of truncated square pyramid of top face side 40 mm and bottom face side 50 mm with the height of 50 mm. [14M]

9. Draw the isometric view of the object whose front view and top view are as shown in Figure below. (All dimensions are in mm) [14M]



OR

10. Draw the front view, side view from the left and top view of the block as shown in figure below. (All dimensions are in mm) [14M]

