R17 Regulation *Subject: 1E2AJ*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous & Accredited by NAAC with 'A' Grade)

B.Tech. I Year II Semester Supplementary Examinations, September 2023

Engineering Graphics

(ECE)

Maximum Marks: 70 Date:27.09.2023 Duration: 3hours

Part-A

Answer all the following questions 5x14M=70 Marks

1. Construct an ellipse when the distance of its focus from its directrix is equal to 50mm and the eccentricity is 2/3. Also draw a tangent and normal to any point P on the curve. (14marks)

(OR)

2. A coin of 40 mm diameter rolls over a horizontal table without slipping. A point on the circumference of the coin is in contact with the table surface in the beginning and after one complete revolution. Draw the path traced by the point. Draw a tangent and normal at any point on the curve. (14marks)

3. A line CD measuring 80 mm is inclined at an angle of 30^0 to HP and 45^0 to VP. The point C is 20 mm above HP and 30 mm in front of VP. Draw the projections of the straight line. (14marks)

(OR)

4. The front view of a line AB 80mm long measures 55mm while its top view measures 70mm. End A is in both HP and VP. Draw the projections of the line and find its inclinations with the reference planes. (14marks)

5. A hexagonal prism, side of base 25 mm and axis 50 mm long rests with one of its base corners on HP such that its base makes an angle of 60^0 to HP and its axis is parallel to VP. Draw its projections. (14marks)

(OR)

6. Draw the projections of a cylinder, base 30 mm diameter and axis 40 mm long, resting with a point of its base circle on HP such that the axis is making an angle of 30^0 with HP and parallel to VP. (14marks)

7. A square prism of side 40mm and height 80mm rests with its base on HP such that one of its rectangular faces is inclined at 30° to VP. A section plane perpendicular to VP and inclined at 60° to HP passes through a point on the axis at a height of 60mm from its base. Draw the sectional top view, front view and true shape of the section. (14marks)

(OR)

8. A cone of diameter 60mm and 80mm long is resting on its base on HP. It is cut by a section plane that passes through the axis at a point 40mm above HP and is inclined 30° to HP. Draw the development of the lateral surfaces of the truncated cone. (14marks)

9. Draw the isometric projection of a pentagonal prism of side of base 30mm and height 60mm, resting on its pentagonal base with one rectangular face parallel to VP which is sectioned by a cutting plane inclined at 40° to the base and passing through the axis at a height of 40mm from the base. (14marks)

(OR)

10.For the pictorial view shown in figure below, draw the following views

(a) Front view (b) Top view and (c) Right side view using first angle projection. (14marks)