R20 Regulation *Subject code: 3E2AP*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech II Semester Regular/Supplementary Examinations, October 2022

Engineering Graphics

(EEE)

Maximum Marks: 70 Date:20.10.2022 Duration: 3 hours

Answer All the following questions. **(14MX 5=70Marks)**

1 Construct an ellipse, with distance of the focus from the directrix as 50 mm and eccentricity as 3/4. Also draw normal and tangent to the curve at a point 40 mm from the directrix. [10]

OR

2 A circle of 50 mm diameter rolls along a straight line without slipping. Draw the curve traced by a point on the circumference for one complete revolution of the circle. Name the curve. Also draw tangent and normal to the curve at a point 30 mm above the straight line. [10]

3 An equilateral triangular lamina of 25 mm side lies with one of its edges on HP such that the surface of lamina is inclined to HP at 60°. The edge on which it rests is inclined to VP at 60°. Draw its projections. [10]

OR

4 A line AB has its end A, 20 mm above HP and 25 mm in front of VP. The other end B is 45 mm above HP and 55 mm in front of VP. The distance between the end projectors is 60 mm. Draw its projections. Also find the true length and true inclinations of the line with HP and VP. [10]

5 Draw the projections of a pentagonal prism, base 25 mm side and axis 50 mm long, resting on one of its rectangular faces on the HP, with the axis inclined at 45° to the VP. [10]

OR

6 A cone of base diameter 40 mm and height 56 mm is freely suspended from one of its base points such that its axis is parallel to the VP. Draw its projections. [10]

7 A square pyramid, base 40 mm side and axis 65 mm long, has its base on the HP with two edges of the base perpendicular to the VP. It is cut by a section plane, perpendicular to the VP, inclined at 45° to the HP and bisecting the axis. Draw its sectional top view and true shape of the section. [10]

OR

8 A pentagonal prism, 30 mm base side & 50 mm axis is standing on HP on its base with one side of the base perpendicular to VP. It is cut by a section plane inclined at 45° to the HP, through mid-point of axis. Draw the true shape of section and development of surface of remaining solid. [10]

9 Draw the isometric projection of frustum of a cone of diameter 30 mm at smaller end, diameter 50 mm at bigger end and the axial height as 70 mm. It is resting on its bigger end on HP, keeping its axis vertical. [10]

OR

10 Draw the orthographic views of the following object. All dimensions are in mm. [10]