R20 Regulation Subject Code: 3E1AE

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech I Semester Supplementary Examinations, September 2023

Engineering Graphics

(Common to CE,ME,CSE,CSE(AI&ML), CSE(DS) and IT)

Maximum Marks: 70 Date:05.10.2023 **Duration: 3 Hours**

All the following questions carry equal marks **(14x5M=70 Marks)**

1. A circle of 40 mm diameter rolls on a straight line for Half revolution and for the remaining Half on vertical line draw the curve traced by a point P on circumference of the circle taking the top most point on the revolving circle as the initial position of the generating point. [14M]

(OR)

2. A Fixed point is at a distance of 50mm from fixed straight line trace the path of the curve if e =3/2. Draw tangent and normal to it at a dist. of 40mm from directrix. [14M]

3. The Front view and Top view of a straight-line PQ measures 50mm and 65mm respectively. the point P is in the HP and 20mm in front of VP, and the front view of the line is inclined at 45 ° to XY. Determine the true length and true angle. [14M]

(OR)

4. Draw the projections for the following points keeping the distance between the projectors as 25mm on the same reference line. [14M]

   A point K on HP and 30mm in front of VP
   B 50mm below HP 30mm behind VP
   C 35mm below HP on VP
   D 50mm below HP 20 in front of VP
   E on HP 30mm above 50mm behind VP
   F on VP and 30 above HP

5. A Pentagonal Plane of side 30mm is inclined to HP at 30° and its surface is inclined to VP at 45°. Draw its Projections draw its projections when one of the side is perpendicular to HP. [14M]

(OR)

6. A Pentagonal Prism of side 30mm axis length 70mm has its axis inclined to HP at 30° and its edge inclined to VP at 45°. Draw its projections. [14M]

7. Draw the development of a cone of diameter 40mm axis length 65mm is sectioned by a plane inclined at 35° to HP and passing through midpoint of the axis of the cone. [14M]

(OR)

8. A Pentagonal Pyramid of side 30mm axis length 60mm is resting on its base on the HP with an edge of the base parallel to VP. It is cut by a sectional plane perpendicular to VP and inclined at 60° to the HP and bisecting the axis. Draw its front view and sectional top view and true shape of the section. [14M]

9. Draw the isometric view of frustum of a hexagonal prism of side 25mm axis length 65mm sectioned at 30mm above HP. A cone is resting on the top base of the prism of diameter 50mm axis 65mm. [14M]

(OR)

10. Draw front View top view and side view for the following figure: [14M]