R18 Regulation *Subject code:2E1AE*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech I Semester Supplementary Examinations, March/April 2023

Engineering Graphics

(Common to CE,EEE,ME & IT)

Maximum Marks: 70 Date:12.04.2023 Duration: 3 hours

Note: 1. Consists of 5 Units. Answer any one full question from each unit which carries 14M.
2. Each question carries 14 marks and may have a, b, c, d as sub questions.

All the following questions carry equal marks **(5x12M=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 Construct a cycloid given the radius of the generating circle is 30mm. also draw a tangent and normal at any point on the cycloid. [14M]

3 The top view of a line is 65mm long and inclined to XY at 30°. One end is 20mm above HP and 10mm in front of VP. The other end is 60mm above HP and is in front of VP. Identify and find the true length of the line, its inclination with HP and VP. [14M]

OR

4 A thin circular plate of diameter 60mm appears in the front view as an ellipse of major and minor axes 60mm and 40mm respectively. Draw its projections when one of the diameters is parallel to both the reference planes. [14M]

5 A hexagonal prism of base side 30mm, axis height 50mm is resting on HP on one of its base corners with its base inclined at 35° to HP and parallel to VP. Draw the projections of the prism. [14M]

OR

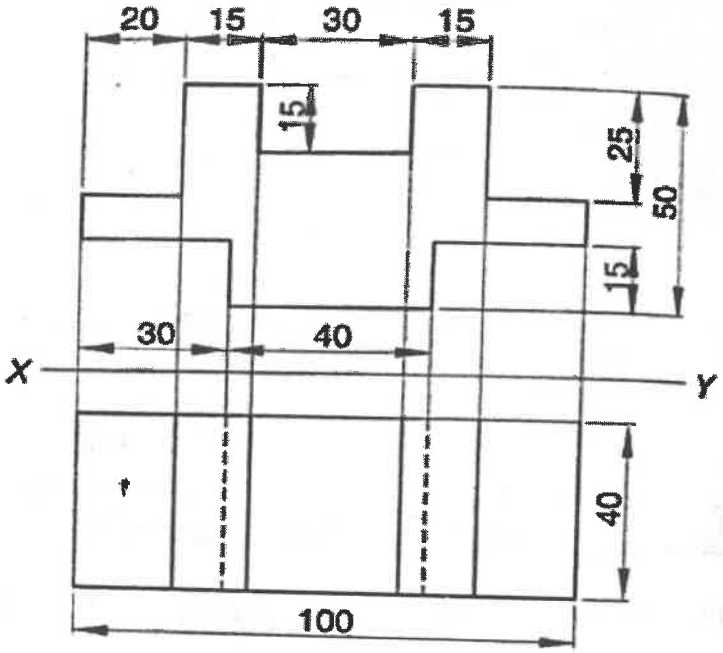
6 A square pyramid of base side 30mm, axis height 60mm is resting on HP on one of its base corners with its axis inclined at 50° to HP and parallel to VP. Draw its projections when the base sides containing the resting corners are equally inclined to HP. [14M]

7 A cylinder of base diameter 50mm and height 65mm rests on its base on HP. It is cut by a plane perpendicular to VP and inclined at 30° to HP and meets the axis at a distance 30mm from the base. Draw the front view, sectional top view. [14M]

OR

8 A hexagonal prism of base side 30mm and axis 60mm is resting on HP on one of its bases with two of the vertical faces perpendicular to VP. It is cut by a plane inclined at 50° to HP and perpendicular to VP passing the axis at a distance of 35mm from the top surface. Draw the development of the remaining portion of the prism. [14M]

9 Draw the following orthographic projection into isometric projection. [14M]



OR

10 Draw the front view, Left side view and top view of the given block. [14M]