



R22 Regulation
TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A+' Grade)

Subject code: 4E1DB

B.Tech I Semester Regular/Supplementary Examinations, January 2024
Computer Aided Engineering Graphics
(Computer Science and Engineering)

Maximum Marks: 60

Date: 27.01.2024 Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10x1M=10 Marks)-			CO No.	Bloom Tx
1.	a	List the benefits of CAD.	1	II
	b	Mention a few editing commands.	1	I
	c	Define orthographic projection.	2	I
	d	Compare first angle and third angle projection.	2	II
	e	What is a regular solid? Give examples.	3	I
	f	Why do we need sections of solids? How is a section shown in drawing?	3	III
	g	List the methods of development of surfaces.	4	II
	h	What will be the development of lateral surface of a cylinder?	4	I
	i	Mention the difference between isometric and orthographic projection.	5	II
	j	Isometric drawings are drawn using a 30-degree angle. Why?	5	III

Part-B

Answer All the following questions. (5X10M=50Marks)			
2	Draw an epicycloid generated by a rolling circle of diameter 40 mm and the diameter of the directing circle is 140 mm. Also draw tangent and normal to the curve from any point on it. [10M]	1	III
OR			
3	Construct an ellipse given the distance of the focus from the directrix as 60 mm and eccentricity as 2/3. Also draw tangent and normal to the curve from any point on it. [10M]	1	IV
4	The end P of a line PQ is 30 mm above HP and 35 mm in front of VP. The line is inclined at 35° to HP. Its top view is 70 mm long and inclined at 40° to XY. Draw the projections of straight line. Find the true length and inclination of the line with VP. [10M]	2	III
OR			
5	A regular hexagonal lamina of side 30 mm rests on one of its edges on HP. The lamina makes 60° with HP and the edge on which it is resting makes an angle of 60° with VP. Draw its projections. [10M]	2	III

6	A pentagonal prism of base side 30 mm and axis length 55 mm is lying on the ground on one of its rectangular faces. Draw its top view and front view, when its axis is perpendicular to VP and the end nearer to the VP is 15 mm away from it. [10M]	3	III
OR			
7	A cube of side 30 mm rests on the HP on its end with the vertical faces equally inclined to the VP. It is cut by a plane perpendicular to the VP and inclined at 30° to HP meeting the axis at 25 mm above the base. Draw its front view, sectional top view and true shape of the section. [10M]	3	III
8	A cylinder of diameter 45 mm and height 70 mm is resting vertically on one of its ends on the HP. It is cut by a plane perpendicular to VP and inclined at 45° to HP. The plane meets the axis at a point 35 mm above the base. Draw the development of the lateral surface of the lower portion of the truncated cylinder. [10M]	4	III
OR			
9	A hexagonal pyramid of base side 30 mm and height 65 mm rests on its base on the ground with a base edge parallel to VP. It is cut by a plane perpendicular to VP and inclined at 55° to HP and meets the axis at a height of 30 mm from the base. Draw the lateral surface development. [10M]	4	V
10	Draw the isometric projection of the frustum of a square pyramid of bottom edge 50 mm, top edge 25 mm and height 50 mm. [10M]	5	IV
OR			
11	Draw the three orthographic views for the figure. (Dimensions in mm) [10M]	5	V

