R22 Regulation *Subject code: 4E1DD*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech I Semester Regular/Supplementary Examinations, January 2024

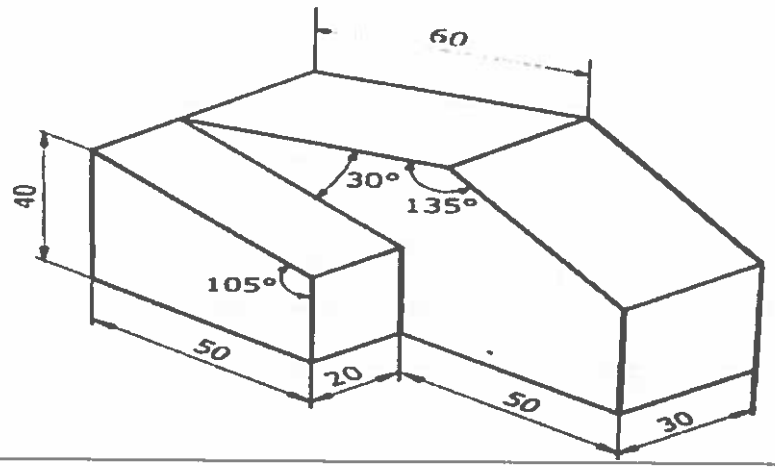
Computer Aided Engineering Graphics

(CSE(AI&ML))

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	Bloom Tx
1.	a	Name four drafting software.	1	I
	b	Give any four drawing commands.	1	I
	c	List the purpose of an auxiliary view.	2	II
	d	Why is first angle projection preferred over third angle projection?	2	III
	e	What is a section plane?	3	I
	f	Is a sphere a solid of revolution? Why?	3	II
	g	List the applications of development of solids.	4	I
	h	What will be the development of lateral surface of a cube?	4	II
	i	What is the principle of isometric projection?	5	II
	j	Mention the difference between isometric and orthographic projection.	5	III
		Part-B		
Answer All the following questions. (5X10M=50Marks)				
2		A circle of 50 mm diameter rolls along a straight line without slipping. Draw the curve traced by a point P on the circumference for one complete revolution. (10M)	1	IV
		OR		
3		Construct a parabola given the distance of the focus from the directrix as 50 mm. Also draw tangent and normal to the curve from any point on it. (10M)	1	III
4		A line MN has its end M, 15 mm in front of VP and 20 mm above the HP. The other end N is 55 mm in front of VP. The front view has a length of 80 mm. The distance between end projectors is 65 mm. Draw the projections of line. Find its true length and true inclinations. (10M)	2	III
		OR		
5		A hexagonal plate of side 20 mm rests on the HP on one of its sides inclined at 45° to VP. The surface of the plate makes an angle of 30° with the HP. Draw the front view and top view of the plate. (10M)	2	III

6	A pentagonal prism, side of base 20mm and axis 60 mm long lies on one of its longer edges on HP and its axis is parallel to both HP and VP. Draw its projections. (10M)	3	III
	OR		
7	A cylinder of diameter 50 mm and height 60 mm rests on its base on HP. It is cut by a plane perpendicular to VP and inclined at 45° to HP. The cutting plane meets the axis at a distance of 15 mm from the top. Draw the sectional plan and true shape of the section. (10M)	3	IV
8	A square pyramid of base side 25 mm and altitude 50 mm rests on its base on the HP with two side of the base parallel to VP. It is cut by a plane bisecting the axis and inclined at 30° to the base. Draw the development of the lower part of the pyramid. (10M)	4	IV
	OR		
9	A cone of base diameter 50 mm and height 75 mm rests vertically on its base on the ground. It is cut by a sectional plane 45° to HP and 35mm above the base line. (10M)	4	IV
10	Draw the isometric projection of a hexagonal prism of base side 25 mm and height 50 mm when it rests on one of its ends on HP with two its base sides parallel to VP. (10M)	5	V
	OR		
11	Draw the three orthographic views for the displayed figure. (Dimensions are in mm) (10M) 	5	V