R22 Regulation *Subject code: 4E2AK*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech II Semester Supplementary Examinations, January 2024

COMPUTER AIDED ENGINEERING GRAPHICS

(Electronics and Communication Engineering)

Maximum Marks: 60 Date:23.01.2024 Duration: 3 hours

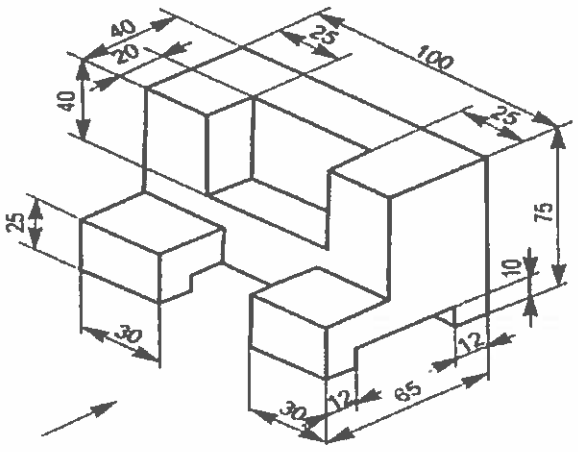
Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10x1M=10 Marks)			CO	Bloom Tx
1.	a	What are the two system of placing the dimensions on a drawing	CO1	L1
	b	Write the differences between conics and curves	CO1	L1
	c	Sketch the symbols used to present first angle projection	CO2	L2
	d	Name the Principal Planes of Projection's?	CO2	L1
	e	What are the conditions of lines?	CO3	L1
	f	What is the difference between true inclination of line and apparent angle?	CO3	L1
	g	What are the applications of development of surfaces.	CO4	L1
	h	What are Auxiliary planes? What is the use of Auxiliary planes	CO4	L1
	i	Distinguish clearly between isometric view and isometric projection	CO5	L1
	j	Why are the projections of objects not drawn in the second and fourth angle of projections?	CO5	L2

Part-B

Answer all the following questions. (5X10M=50Marks)				
2		Draw a straight-line AB of any length. Mark a point F, 65mm from AB. Trace the paths of a point P moving in such a way that the ratio of its distance from the point F to distance from AB is 2:3. Draw a normal and a tangent to the curve at a point on it 50mm from F. [10M]	CO1	L3
		OR		
3		A circle of 50mm diameter rolls on the circumference of another circle of 175mm diameter and outside it. Trace the locus of a point on circumference of the rolling circle for one complete revolution. Name the curve. Draw a tangent and normal to the curve at a point 125mmfrom the center of the directing circle. [10M]	CO1	L3
4		Draw the projections of the following points on the same ground line, keeping the projectors 20mm apart. [10M] (i) Point C in the VP and 40mm above HP. (ii) Point D 25mm below the HP and 25mm behind the VP. (iii) Point E 15mm above the HP and 50mm behind the VP. (iv) Point F 40mm below the HP and 25mm in front of the VP.	CO2	L2

	OR		
5	A regular hexagon of 30mm side has a corner in HP. Its surface is inclined at 40 degrees to the HP. And the top view of the diagonal passing through the corner on which it is resting makes an angle of 30 degrees with XY. Draw its projections. [10M]	CO2	L3
6	Draw the projections of a pentagonal prism 25 mm side of base and axis 60 long resting on a corner such that the base edges passing through the corner makes equal inclinations with HP and its base is inclined at 50° to HP and the axis appears to be inclined at 30° to VP in the top view. [10M]	CO3	L3
	OR		
7	A pentagonal prism of base side 30 mm and axis length 65 mm is inclined to H.P at 30^0 and its axis is inclined to V.P at 45^0 draw its projections. [10M]	CO3	L3
8	A hexagonal prism of base side 30 mm and axis length 70 mm rests on one of its ends on the HP with two base sides parallel to the VP. It is cut by a plane perpendicular to the VP and inclined at 30° to the HP. The cutting plane meets the axis at 30 mm from the top. Draw the front view, sectional top view and the true shape of the section. [10M]	CO4	L3
	OR		
9	A rectangular pyramid, side of base 30 mm × 40 mm and axis 50 mm long, stands with its base on the HP and a diagonal of its base parallel to the VP. It is cut by a section plane perpendicular to the VP, inclined at 45^0 to the HP and intersecting the axis at a point 20 mm distant from the vertex. Draw the development of the lateral surface of the truncated pyramid. [10M]	CO4	L3
10	Draw the isometric view of a cone, base 40mm diameter and axis 55mm long (a) when its axis is vertical and (b) when its axis is horizontal [10M]	CO5	L4
	OR		
11	Draw the front view, top view and left side view of the object shown in figure. [10M] 	CO5	L4