R22 Regulation *Subject code:4E1DA&4E1DC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech I Semester Supplementary Examinations, July 2025

COMPUTER AIDED ENGINEERING GRAPHICS

(Common to EEE & IT)

Maximum Marks: 60 Date: 14.07.2025 Duration: 3 hours

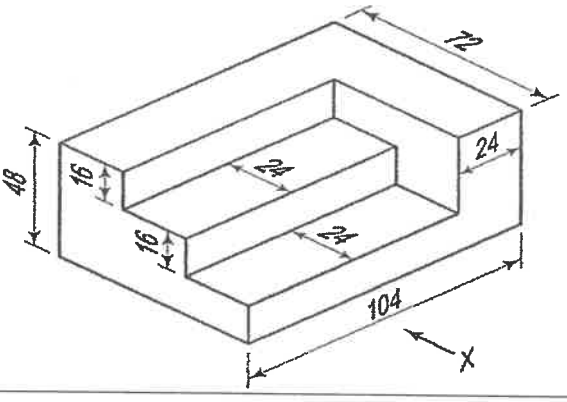
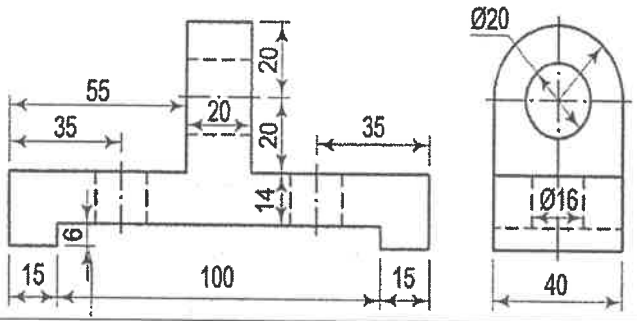
Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X1M=10 Marks)		Marks	CO	BTL
1 a	Write eccentricity values for parabola, ellipse, and hyperbola.	1M	1	L1
b	Define a Hypocycloid	1M	1	L1
c	What is an orthographic projection	1M	2	L1
d	If the top view of a plane is a straight line, will its front view always be the true shape?	1M	2	L1
e	Differentiate between truncated and frustum of a solid	1M	3	L1
f	Define a prism	1M	3	L1
g	What is meant by the development of a solid?	1M	4	L1
h	Explain the method for the development of prisms and cylinders	1M	4	L1
i	Differentiate between isometric projection and isometric view	1M	5	L1
j	Draw the isometric view of pentagonal plane of 25mm when its surface is parallel to HP	1M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
2	The vertex of the hyperbola is 66mm from its focus. Draw the curve if the e = 3/2. Draw also a tangent and normal to the curve at any point. Also find the distance between the focus and directrix.	10M	1	L2
	OR			
3	A circle of diameter 50 mm rolls on a horizontal line for a half revolution and then on a vertical line upwards for another half revolution. Draw the curve traced out by a point lying on the circumference of the circle and touching the ground initially.	10M	1	L2
4	a) Two points A and B are in the H.P. Point A is 30 mm in front of the V.P., while B is behind the V.P. The distance between their projectors is 75 mm and the line joining their top views makes an angle of 45° with xy. Find the distance of point B from the V.P. b) An 80 mm long line PQ has end P 20 mm above H.P. and 40 mm in front of the V.P. The line is inclined at 30° to the H.P. and is parallel to the V.P. Draw the projections of the line.	5M 5M	2	L2
	OR			
5	A hexagonal plane of side 30 mm has an edge in the V.P. The surface of the plane is inclined at 45° to the V.P. and the edge on which it rests is inclined at 30° to the H.P. Draw its projections.	10M	2	L2

6	A cylinder of base diameter 50 mm and axis 65 mm is resting on one of its generators on the HP. Draw its projections when the axis is inclined at 30° to the VP	10M	3	L2
	OR			
7	A triangular prism of 50 x 50 lies on one of its rectangular faces on the HP with its axis inclined at 30° to the VP. It is cut by a horizontal section plane at 5mm from the axis. Draw its front view and sectional top view.	10M	3	L2
8	A pentagonal prism of base side 30 mm and axis 70 mm is resting on its base on the HP with a rectangular face parallel to the VP. It is cut by an auxiliary inclined plane (A.I.P.) which is inclined at 45° to the HP and passes through the mid-point of the axis. Draw the development of the lateral surface of the truncated prism.	10M	4	L2
	OR			
9	A square pyramid of base side 40 mm and axis 60 mm is resting on its base on the HP such that all the sides of the base are equally inclined to the VP It is cut by a sectional plane perpendicular to the VP and inclined at 60° to the HP, bisecting the axis. Draw the development of its lateral surface.	10M	4	L2
10	Draw the front view, top view and side view of the figures shown below. All dimensions are in mm 	10M	5	L2
	OR			
11	Draw an isometric diagram from given orthographic projection views shown in figures 	10M	5	L2