KUMARAGURU
college of technology
character is life

B.E / B.Tech. DEGREE EXAMINATIONS: NOV /DEC 2024

(Regulation 2024)

First Semester

COMMON TO TXT / MCE

24MEI101: Engineering Graphics

COURSE OUTCOMES

CO1: Apply the construction of curves such as ellipses, parabolas, and hyperbolas to accurately visualize and communicate design ideas using drafting tools.

CO2: Analyze the projections of points, lines, and planes to determine true lengths and inclinations for effective representation of objects in design.

CO3: Evaluate the projections and sections of solids like prisms, pyramids, cylinders, and cones to create accurate sectional views and true shapes in engineering drawings.

CO4: Create developments of surfaces for simple solids and construct isometric projections to enhance the design process with three-dimensional visualizations.

CO5: Design free-hand sketches of orthographic views using AutoCAD.

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-
PART A (4 x 20 = 80 Marks)

1.	A circle of 60 mm diameter rolls over a horizontal line clockwise for 1½ revolution. Draw the path traced by point P on the circumference of the circle. Also, draw a tangent and normal at any point on the curve.	20	CO1	[K3]
2.	A line AB 80 mm long has its end A 20 mm above HP and 25 mm in front of VP. The line is inclined at 45° to HP and 35° to VP. Draw its projections.	20	CO2	[K3]
3.	A cylinder with a base diameter of 50 mm and a height of 70 mm rests on its base on the ground. A cutting plane inclined at 40° to H.P., perpendicular to V.P. and meeting the axis 35 mm from the base. Draw the development of the lower portion of the cylinder.	20	CO4	[K3]
4.	Draw Front View, Top view and Side view for the figure shown below with	20	CO5	[K3]

free hand sketching. All dimensions are in mm.

Answer any one question:-
PART B (1 x 20 = 20 Marks)

5.   A cone with a base diameter of 50 mm and an altitude of 75 mm rests on its   20   CO3   [K₃]
base on the HP. It is cut by a plane inclined at 45° to HP and perpendicular to
VP and bisecting the axis. Draw the front view, sectional top view and true
shape of the section.

OR

6.   A pentagonal prism of the base side 30 mm and axis length 60 mm is resting on   20   CO3   [K₃]
HP on one of its base corners with its axis inclined at 40° to HP and parallel to
the VP. Draw its projections when the base sides containing the resting corner
are equally inclined to HP.

CO distribution summary:

	CO1	CO2	CO3	CO4	CO5
Marks (%)	20	20	40	20	20

****