KUMARAGURU
college of technology
character is life

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

(Regulation 2024)

First Semester

COMMON TO AUTO / MECH)

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 Auto CAD.

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

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

1.	Draw a parabola having a distance of 50 mm between the focus and directrix. Draw a normal and tangent to the parabola at a point 35 mm from the focus.	20	CO1	[K3]
2.	A line AB, 100 mm long, is inclined at 30° to the HP and 40° to the VP. The end A is 25 mm above the HP and 20 mm in front of the VP. Draw the projections of the line.	20	CO2	[K3]
3.	A pentagonal prism with a base side of 33 mm and a height of 60 mm is resting on HP with its base such that one of its rectangular face is parallel to VP. It is cut by a cutting plane inclined 40° to HP, perpendicular to VP and bisecting the axis. Develop the surface of the truncated prism.	20	CO4	[K3]

4.   Draw with freehand Front View, Top view and Side view for the figure shown   20   CO5   [K3]
      below. All dimensions are in mm.
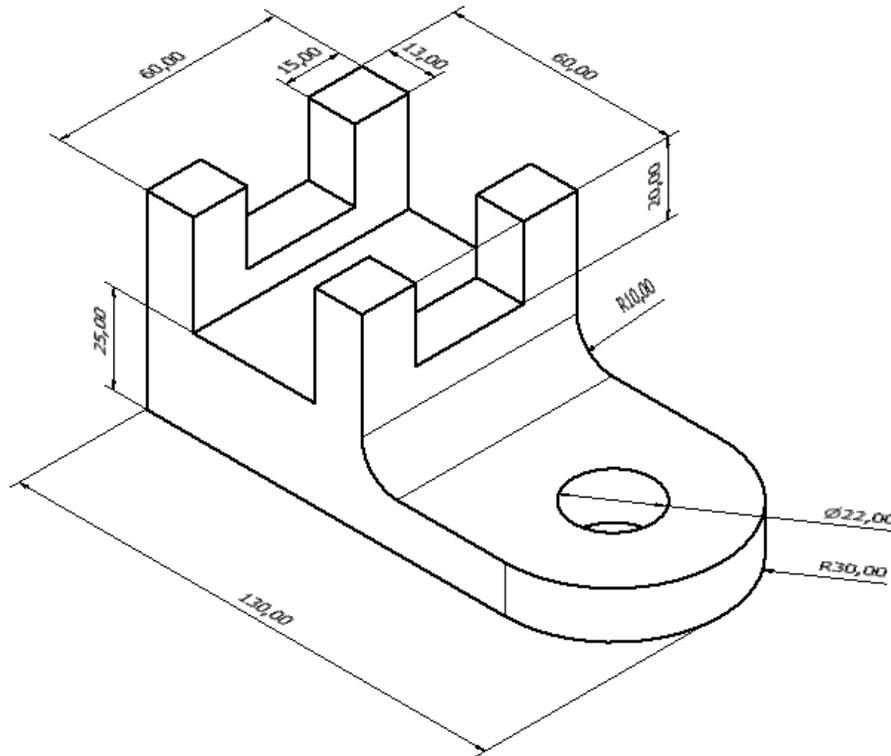
PART B (1 x 20 = 20 Marks)
Answer any one question:-

5.   A cone of base 40 mm diameter and axis 50 mm long touches VP on a point of   20   CO3   [K3]
      its base circle. Its axis is inclined at 30o to VP and parallel to HP. Draw its
      projections.

6.   A cube of 70 mm long edges has its vertical faces equally inclined to the VP. It   20   CO3   [K3]
      is cut by a cutting plane in such a way that the true shape of the cut part is a
      regular hexagon. Determine the inclination of the cutting plane with the HP.
      Draw FV, sectional TV and true shape of the section.

CO distribution summary:

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

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