



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

(Regulation 2024)

First Semester

COMMON TO AERO / CIVIL

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.

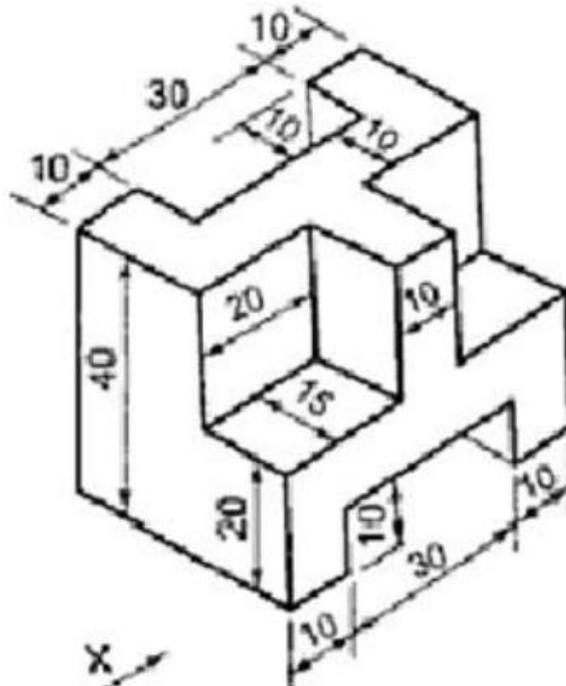
Time: Three Hours

Maximum Marks: 100

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

1. An architectural design includes a hyperbolic arch with a focus 50 mm from directrix and an eccentricity of $5/3$. Construct the hyperbola using the eccentricity method. 20 CO1 [K₃]
2. A line EF, 100 mm long, is inclined at 35° to the HP and 25° to the VP. The end E is 20 mm above the HP and 25 mm in front of the VP. Draw the projections of the line. 20 CO2 [K₃]
3. A pentagonal pyramid with a base side of 30 mm and a height of 50 mm is resting on HP with its base such that one of its base side is perpendicular to VP. A section plane inclined 30° to HP, perpendicular to VP and passing through the axis 25 mm from the apex. Develop the surface of the truncated pyramid. 20 CO4 [K₃]

4. Draw Front View, Top view and Side view for the figure shown below. All 20 CO5 [K₃] dimensions are in mm.



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

5. A Hexagonal prism of base 28mm and height 60 mm is resting on VP with one 20 CO3 [K₃] of its base corners. Such that the vertical edge contained by that corner is inclined 45° to VP and parallel to HP. Draw the projections of the prism.

OR

6. A Pentagonal pyramid with a base side of 30 mm and a height of 60 mm is 20 CO3 [K₃] resting on HP with its base such that one of its triangular face is perpendicular to VP. Draw the projections of the pyramid.

CO distribution summary:

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