

**PRAGATI ENGINEERING COLLEGE: SURAMPALEM
(AUTONOMOUS)**

I B.Tech II Semester Regular Examinations, June-2024

**ENGINEERING GRAPHICS
(ECE-A,B and C Sections)**

Time: 3 hours

Max. Marks: 70

**Answer ONE Question from each Unit
All Questions Carry Equal Marks**

Q. No.	Questions	BTL	CO	Marks
UNIT – I				
1.	a) Construct a regular pentagon of side 25mm when one of its side is horizontal.	K2	CO1	4M
	b) Construct an ellipse when the distance of the focus from the directrix is equal to 50mm and eccentricity is $\frac{2}{3}$. Draw tangent and normal at a point 40 mm from the directrix.	K3	CO1	10M
OR				
2.	a) Draw cycloid of a circle of 50 mm diameter, which rolls on another circle of 175 mm diameter for one revolution clockwise.	K3	CO1	7M
	b) Draw an involute of a circle of 35 mm diameter. Draw also a normal and tangent to it at a point 75 mm away from the centre of the circle.	K2	CO1	7M
UNIT – II				
3.	Draw the projections of the following, keeping the distance between the projectors as 30 mm on the same reference line: (i) P - 35mm above HP and 40mm in front of the VP (ii) Q - 30 mm below HP and 45mm in front of the VP (iii) R - 20 mm above HP and 25mm behind VP (iv) S - on H.P and on the V.P	K2	CO2	7M
	b) The top view of a 75 mm long line measures 55 mm. The line is in the V.P., Its one end being 25 mm above the H.P. Draw its projections.	K3	CO2	7M
OR				
4.	A regular pentagon lamina of 30 mm side, surface is inclined at 30° to VP and side on which it rests on V.P makes an angle of 45° to H.P. Draw its projections.	K3	CO2	14M
UNIT – III				
5.	A pentagonal prism, base 25mm side and axis 50mm long is resting on one of its edges in the H.P. The axis of the solid makes 45° with H.P. Draw its projections.	K3	CO3	14M
OR				
6.	A hexagonal pyramid side of base 30 mm, axis 60 mm resting on V.P. on one of its base corners. Its axis is inclined to V.P. by an angle of 60° and parallel to H.P. Draw its projections.	K3	CO3	14M
UNIT – IV				
7.	A Cone of base 60mm diameter and axis 70mm long, is resting on its base on HP. It is cut by a section plane, inclined at 60° to V.P and 10mm away from its axis. Draw the projections of the cut solid and obtain the true shape of the section.	K3	CO4	14M

OR

8.	A Square pyramid with side of base 30mm and axis 50mm long, is resting on its base on HP with an edge of the base parallel to VP. It is cut by a section plane perpendicular to VP and inclined at 45° to HP. The section plane is passing through the mid point of the axis. Draw the development of the surface of the cut pyramid.
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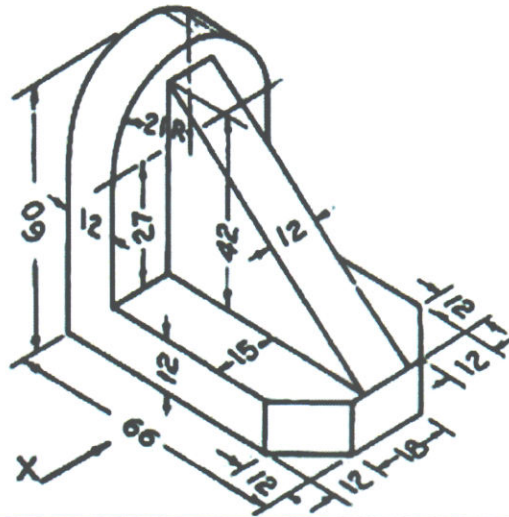
K3

CO4

14M

UNIT – V

Consider the picture shown in figure and draw the front view, top view and side view in first angle projection.



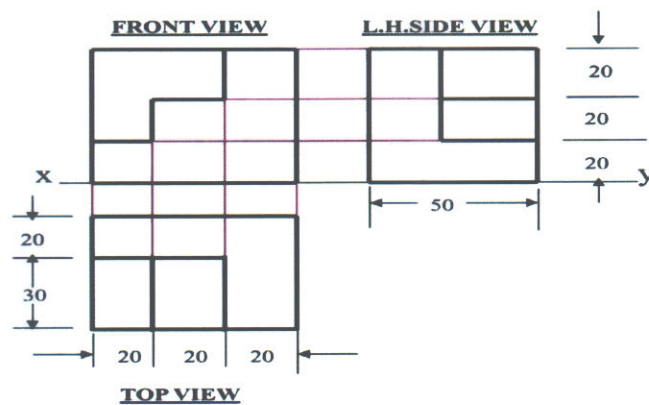
K3

CO5

14M

OR

Draw the isometric view for the given orthographic projections as shown in the figure.



K3

C05

14M