Reg. No. : | | | | | | | | | | | | |

Question Paper Code: R1710

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2025

First Semester

Computer Science and Design

R21UME110 – ENGINEERING DRAWING AND DESIGN

(Regulations R2021)

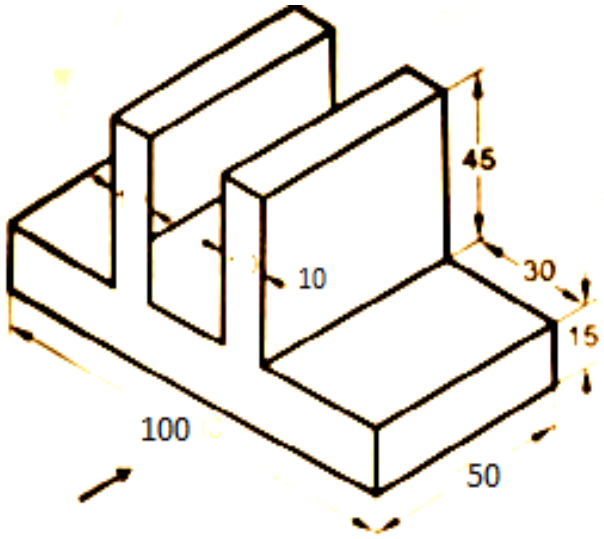
Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1.	(a)	Construct an ellipse when the distance of focus from the directrix is equal to 35 mm and eccentricity is 3/4.Also draw a tangent and a normal at any point on the ellipse	CO1- App	(20)
		Or		
	(b)	Construct an involute of an equilateral triangle of side 30 mm. Draw a tangent and normal at any point on the curve.	CO1- App	(20)
2.	(a)	A cylinder of base diameter 50mm and axis height 65mm is resting on the ground with one of its base point. The axis is inclined at 40º to HP and parallel to VP. Apply projection methods to construct its top and front views, showing the inclination using the change-of-position.	CO2- App	(20)
		Or		
	(b)	A cone of base diameter 50 mm and axis length 65 mm is resting on HP. The axis is inclined 45° to HP and parallel to VP. Apply projection methods to construct its top and front views, showing the inclination using the change-of-position.	CO2- App	(20)
3.	(a)	Apply surface-development principles to construct the true-shape development of a Square prism of base side 35mm and axis length 70mm is resting on HP with its base such that two of its base edges parallel to VP. It is cut by a plane inclined at 30 ˚ to HP and passing through the axis at 20mm from the top.	CO3 - App	(20)
		Or		

	(b)	A Pentagonal pyramid of base side 35 mm and axis height 75 mm resting on HP with its base parallel to VP. It is cut by a cutting plane inclined at 35° to HP and bisecting the axis. Apply development techniques to draw the complete surface development of the truncated pyramid.	CO3 - App	(20)
4.	(a)	Apply isometric drawing principles to construct the isometric view of a Square prism of base side 40 mm and height 65 mm is resting on one of its base sides on HP.	CO4- App	(20)
		Or		
	(b)	A hexagonal prism of base side 20 mm and height 50 mm stands on its base on the ground with a base side parallel to the PP and 20 mm behind the picture plane. The station point is 65 mm above the ground and 55 mm in front of PP and located at 30 mm to the left of left extreme corner of the prism. Apply the visual-ray method to construct the perspective projection of the prism.	CO4- App	(20)
5.	(a)	Apply orthographic-projection principles to construct its three views of the blocks shown pictorially in figure according to first angle projection	CO2- App	(20)



Or

(b) Apply orthographic-projection principles to construct its three views of the blocks shown pictorially in figure according to first angle projection CO2- App (20)