Reg. No.															

Question Paper Code	13359

M.E. / M.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2024 (JAN - 2025)

First Semester

M.E. - CAD/ CAM

24PCDPC103 - COMPUTER GRAPHICS

Regulations - 2024

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	What is the purpose of Object Geometry in computer graphics?	2	K1	CO1
2.	Describe the process of loading the frame buffer in a graphics system.	2	K1	CO1
3.	Illustrate a step-by-step process for the window-to-viewport coordinate transformation in 2D graphics.	2	K2	CO2
4.	Show a composite transformation matrix that combines translation, rotation, and scaling for a fun graphics application.	2	K2	CO2
5.	Outline a simple algorithm for performing a three-dimensional translation transformation.	2	K2	CO3
6.	Explain a composite transformation matrix for a three-dimensional object that involves translation, rotation, and scaling.	2	K2	CO3
7.	How an intuitive explanation of how the RGB color model is applied in computer graphics?	2	K1	CO4
8.	Illustrate a simple scenario where the YIQ color model might be preferable over other color models.	2	K2	CO4
9.	Explain a simple animation function for a given sequence, considering key frames and motion specification.	2	K2	CO5
10.	Devise a motion specification for an animated sequence, outlining the movement of objects over time.	2	K2	CO5

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

			Marks	K – Level	CO
11.	a)	What are the key features of Graphics Software? Write its role in enhancing graphic output.	13	K1	CO1
		OR			
	b)	Tell the importance of Object Geometry in the context of computer graphics.	13	K1	CO1
12.	a)	Explain the step-by-step algorithm for the window-to-viewport coordinate transformation process in two-dimensional graphics.	13	K2	CO2

OR

b) Devise a composite transformation matrix that combines translation, rotation, and scaling operations for a practical graphic application, illustrating its application. *13 K2 CO2*

13. a) Develop a step-by-step algorithm for a three-dimensional translation transformation. *13 K3 CO3*

OR

b) Develop a composite transformation matrix for a three-dimensional object, incorporating translation, rotation, and scaling. *13 K3 CO3*

14. a) Explain an intuitive explanation of how the RGB color model is practically used in Computer Graphics. *13 K2 CO4*

OR

b) Devise a scenario where the YIQ color model might be more suitable or advantageous compared to other color models. *13 K2 CO4*

15. a) Develop a short animation sequence that utilizes both morphing and tweening. *13 K3 CO5*

OR

b) Develop a motion specification for an animated sequence, incorporating various elements such as key frames and morphing. *13 K3 CO5*

PART - C (1 × 15 = 15 Marks)

16. a) Show the interdependence between Input Devices, Graphics Software, and Output Primitives in a computer graphics system. *15 K2 CO1*

OR

b) Explain the role of Bezier curves and surfaces in three-dimensional modeling, highlighting their advantages and potential limitations. *15 K2 CO3*