	Reg. No.								
Question Paper Code 12776									
M.E. / M.Tech DEGREE EXAMINATIONS, APRIL / MAY 2024									
First Semester									
M.E - CAD/CAM									
20PCDPC103 - COMPUTER GRAPHICS									
Regulations - 2020									
Duration: 3 Hours Max. Marks: 100									
PART - A $(10 \times 2 = 20 \text{ Marks})$ Answer ALL Questions				Marks $\frac{K}{Level}$ CO					
1. Define the significance of Pixel Addressing in computer graphics.						2	K1	<i>CO1</i>	6
2.	2. Explain the Line Drawing Algorithm contribute to graphics rendering.			g.		2	K2	COI	,
3.	3. Define the composite transformations in a 2D space.					2	K1	<i>CO2</i>	!
4.	. Explain the simple line clipping algorithm.					2	K2	<i>CO2</i>	?
5.	Define the role of polygon tables in the three-dimensional objects.					2	K1	CO3	!
6.	Explain the visible surface detection method.					2	K2	CO3	!
7.	Tell the significance of the chromaticity diagram.					2	K1	<i>CO4</i>	!
8.	Explain the role of standard primaries in the intuitive color of	of standard primaries in the intuitive color concepts.				2	K2	CO4	!
9.	List the main components of a key frame system in animatic	tem in animation.				2	K1	<i>CO5</i>	
10.	Explain the principles of turtle graphics to generate a space-filling curve					2	K2	CO5	ī

PART - B $(5 \times 13 = 65 \text{ Marks})$

Answer ALL Questions

11. a) Explain the importance of Object Geometry in the context of computer ¹³ K² CO1 graphics.

OR

- b) Explain the differences between Video Display Devices and Hard ¹³ K² CO1 Copy Devices in terms of their output capabilities.
- 12. a) Examine the three components of a matrix representation used in two- 13 K3 CO2 dimensional geometric transformations.

OR

b) Examine the comprehensive algorithm for the window-to-viewport ¹³ K3 CO2 coordinate transformation process.

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13. a) Apply the concept of a polygon mesh to create a basic representation ¹³ K3 CO3 of a three-dimensional object.

OR

- b) Examine the importance of the viewing pipeline in three-dimensional ¹³ K³ CO³ graphics, providing examples.
- 14. a) Apply the basic principles of illumination models used in computer ¹³ K³ CO4 graphics.

OR

- b) Apply the role of standard primaries in the context of intuitive color ¹³ K³ CO⁴ concepts and their representation in computer graphics.
- 15. a) Explain the primary function of an animation function in computer ¹³ K² CO5 graphics.

OR

b) Explain the impact of grammar-based models on the creation of ¹³ K² CO5 fractals and their application in computer graphics.

PART - C $(1 \times 15 = 15 \text{ Marks})$

- 16. a) i) Show the impact of halftone patterns and dithering techniques on 8 K3 CO4 image quality.
 - ii) Apply a recursive function to generate a Koch curve. 7 K3 CO5

OR

- b) i) Demonstrate the application of the YIQ color model in representing a 8 K3 CO4 color.
 - ii) Apply the principles of morphing to design a complex animation 7 K3 CO5 sequence.