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

Question Paper Code: U5201

B.E./B.Tech. DEGREE EXAMINATION, NOV 2023

Fifth Semester

Computer Science Engineering

21UCS501 GRAPHICS AND MULTIMEDIA

(Regulation 2021)

Duration: Three hours | Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1.	Digitize the line with end points (1,1) and (8,7) using DDA algorithm.	CO2-App
2.	Define Cartesian slope intercept equation.	CO1- U
3.	Scale and translate the point using 2D for(3,3) with sx=2 sy=1.5 and tx=3, ty=1	CO2-App
4.	Draw a diagrammatic representation for window to viewport mapping.	CO1- U
5.	What is projection? What are the types of projection?	CO1- U
6	Differentiate interpolation and approximation spline.	CO1- U
7	Differentiate flat and smooth shading.	CO1- U
8	Define rendering.	CO1- U
9	What are the challenges to access the multimedia databases?	CO1- U
10	Mention some of the image formats used in multimedia.	CO1- U

PART – B (5 x 16= 80 Marks)

11.	(a)	Explain in detail about Bresenham's line drawing algorithm with suitable example? List the advantages of Bresenham's line drawing algorithm over DDA algorithm.	CO1-U	(16)
		Or		
	(b)	Explain the attributes of output attributes in computer graphics with suitable example.	CO1-U	(16)

12.	(a)	Use the concept of 2D Transformation to Translate a polygon with coordinates A(2,5),B(7,10),C(0,2) by 3 units and 4 unit along x and y axis respectively .also, perform rotation by 180 degree anticlockwise direction.	CO2-App	(16)
		Or		
	(b)	Use the Cohen Sutherland algorithm to clip line p1(70, 20) and p2(100,10) against a window lower left-hand corner (50,10) and upper right-hand corner (80,40).	CO2-App	(16)
13.	(a)	List the properties of the Bezier Curve and also explain Bezier techniques of generating curves.	CO1-U	(16)
		Or		
	(b)	Describe the following visible surface detection methods. (i) Depth –Buffer method (8) (ii) Back face detection (8)	CO1-U	(16)
14.	(a)	Explain about Halftone approximation and Dithering techniques in detail	CO1-U	(16)
		Or		
	(b)	Illustrate the basic color models in detail.	CO1-U	(16)
15.	(a)	What is multimedia? Explain the objects involved in multimedia system and describe various applications.	CO1-U	(16)
		Or		
	(b)	Explain in detail about various compression techniques in detail	CO1-U	(16)