



Programme: BCA

Course: Computer Graphics and Multimedia

Course Code:3CCC205

Enrolment no. _____

Full Marks: 70

Time: 3 Hrs.

Q. No.	Questions	CO	Bloom Taxonomy Category	Marks
Section I				
1	Short Answer type questions.			4 x 5 = 20
a	With the help of a block diagram explain the components of Computer Graphics System.	CO1	Understand	
	or			
b	Explain the role of Computer Graphics in Presentation, Visualization and Image processing.	CO1	Understand	
	or			
c	Explain basic concepts of circle drawing.	CO3	Understand	
	or			
d	Illustrate C functions for drawing Ellipse, Arc, line, Rectangle and circle.	CO3	Understand	
	or			
e	Differentiate between window coordinates and viewport coordinates in 2D viewing transformation.	CO4	Analyze	
	or			
f	Define point clipping. If a point lies outside a defined window, describe how point clipping would determine its visibility.	CO4	Apply	
	or			
g	Describe multimedia. List the main features of the Multimedia system.	CO5	Remember	
	or			
h	Compare NTSC and PAL video broadcast standards in terms of resolution and frame rate.	CO5	Analyze	
	or			
Section II				
Long Answer type questions.				
2	Describe the working of a Refresh CRT with the help of a diagram. Differentiate between Random and Raster Scan System.	CO2	Understand	3 x 10 = 30
	or			
3	Analyze the performance of DVST (Direct View Storage Tube) over Cathode Ray tube.	CO2	Analyze	
	or			
4	Explain the procedure of Nicholl Lee Nicholl line clipping algorithm along with its advantages and disadvantages.	CO4	Analyze	
	or			
5	Explain the steps involved in Window-to-Viewport coordinate transformation.	CO2	Understand	
	or			
6	Explain the different components of multimedia. Explain the principles of animation and discuss how morphing and kinematics are applied in modern multimedia presentations.	CO5	Analyze	
	or			
7	Explain any two multimedia platforms. Also describe the features of any two multimedia tools for multimedia applications.	CO5	Apply	
	or			
Section III				
Application based questions				
8	Prove that: a. Two successive Translations are additive. b. Two successive Rotations are additive. c. Two successive scalings are multiplicative.	CO3	Apply	1 x 20 = 20
	or			
9	a. Explain homogeneous co-ordinate and its application in computer graphics. b. Design the matrix for homogeneous co-ordinates of: i. Translation ii. Rotation iii. Scaling	CO3	Analyze	
	or			

Course Outcomes

CO1 Explain the core concepts of computer graphics, including viewing, projection, perspective, modeling and transformation in two and three dimensions.

CO2 Apply the concepts of color models, lighting and shading models, textures, ray tracing, hidden surface elimination, anti-aliasing, and rendering.

CO3 Interpret the mathematical foundation of the concepts of computer graphics.

CO4 Describe the fundamentals of animation, parametric curves and surfaces, and spotlighting.

CO5 Identify a typical graphics pipeline and apply graphics programming techniques to design and create computer graphics.