Register Number:……..

KUMARAGURU college of technology
character is life

B.E/B.TECH DEGREE EXAMINATIONS: NOV/DEC 2024

(Regulation 2018)

Sixth Semester

COMPUTER SCIENCE AND ENGINEERING

U18CSE0009**:** Graphics and Multimedia

COURSE OUTCOMES

CO1: Illustrate graphics input and output primitives.
CO2: Construct 2D and 3D geometric transformations on objects.
CO3: Summarize the graphics modeling process.
CO4: Apply the techniques of multimedia, compression, communication and authoring.
CO5: Design a simple application with animation.

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-
PART A (10 x 2 = 20 Marks)
(Answer not more than 40 words)

1.	Differentiate between active and passive computer graphics	CO1	[K_2]
2.	Infer the working principle of Raster Scan System.	CO1	[K_2]
3.	Derive the general form of scaling matrix about a fixed point (x_i,y_i)	CO2	[K_3]
4.	Give the final coordinates of a polygon A(2,5),B(7,10) and C(10,2) by moving 2 units in X direction and two units in Y direction.	CO2	[K_3]
5.	Differentiate between window and view port.	CO3	[K_2]
6.	Summarize the pipeline process for transform world-coordinate scene to device coordinate.	CO3	[K_2]
7.	Differentiate static and dynamic media with examples.	CO4	[K_2]
8.	What is meant by illumination?	CO4	[K_1]
9.	List the operations of general computer animation functions.	CO5	[K_2]
10.	Define Morphing	CO5	[K_1]

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks)
(Answer not more than 400 words)

11.	a)	Explain the mid-point circle drawing algorithm and derive the decision parameters. Compute the intermediate pixel position along the circle path form x=0 to x=y with radius 20.	16	CO1	[K_3]

12.	a)	Find a transformation of triangle A(1,0),B(0,1),C(1,1) by a) Rotating 45 degree about the origin and then translating one unit in x and y direction b)Translating one unit in x and y direction and then rotating 45 degree about the origin	8	CO2	[K_3]
	b)	List the steps of Cohen-Sutherland line clipping algorithm for clipping in window boundary. Clip the line PQ having coordinates P(4,1) and Q(6,4) against the clip window having vertices A(3,2),B(7,2),C(7,6) and D(3,6) using Cohen-Sutherland line clipping algorithm.	8	CO2	[K_3]
13.	a)	Explain the three dimensional geometric and modeling transformation with suitable examples.	16	CO3	[K_2]
14.	a)	Find the 3x3 homogeneous co-ordinate transformation matrix for each of the following: a) Shift an image to the right by 3 units. b) Shift the image up by 2 units and down 1 units. c) Move the image down 2/3 units and left 4 units.	8	CO3	[K_3]
	b)	Explain the following color models in detail 1. RGB Color Model 2. HSV Color Model	8	CO4	[K_2]
15.	a)	Summarize the various projection methods in 3D graphics with necessary illustration.	16	CO4	[K_2]
16.	a)	Summarize the steps involved in designing the animation sequence.	8	CO5	[K_1]
	b)	Explain the design issues for multimedia authoring systems	8	CO5	[K_1]

****