Code No: R1621056 **R16** SET - 1

II B. Tech I Semester Supplementary Examinations, October/November - 2020
COMPUTER GRAPHICS
(Computer Science & Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **FOUR** Questions from **Part-B**

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PART –A

1.	a)	What is the significance of 4-bit region code is Cohen-Sutherland algorithm?	(3M)
	b)	Determine the blending functions for uniform, periodic B-spline curves for d = 5.	(3M)
	c)	Write the functions of computer animation.	(2M)
	d)	What is diffuse reflection?	(2M)
	e)	What is a Fractal?	(2M)
	f)	What is reflection mapping?	(2M)

PART –B

2.	a)	Determine a sequence of basic transformations that are equivalent to the y-direction shearing matrix.	(7M)
	b)	Develop a text-clipping algorithm that clips individual characters assuming that the characters are defined in a pixel grid of a specified size.	(7M)
3.	a)	Derive expressions for calculating the forward differences for any specified quadratic curves.	(7M)
	b)	Compute the B-spline blending functions.	(7M)
4.	a)	Write the procedure for converting HSV color values to RGB values.	(7M)
	b)	Explain how the kinematic descriptions are simulated in key frame systems.	(7M)
5.	a)	Explain how to add texture to the faces with an example.	(7M)
	b)	Explain the classification of shading models.	(7M)
6.	a)	Write a routine to interactively select different color combinations for displaying the Mandelbrot set.	(7M)
	b)	Explain the following i. Julia sets ii. Random Fractals.	(7M)
7.	a)	Discuss the intersection of the ray with transformed objects.	(7M)
	b)	Explain about procedural texturing methods.	(7M)

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