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

II B. Tech I Semester Regular/Supplementary Examinations, October/November - 2018
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 aliasing and antialiasing?	(2M)
	b)	Explain about polygon tables?	(2M)
	c)	Write about color model?	(2M)
	d)	Define black body?	(2M)
	e)	When curves are said to be statistically self-similar?	(3M)
	f)	Define environment array?	(2M)

PART -B

2.	a)	Briefly explain Bresenham's line drawing algorithm with its advantages and disadvantages?	(7M)
	b)	Explain the following reflection in brief? (i) Reflection of an object about the x axis (ii) Reflection of an object about the y axis Reflection axis as the diagonal line y = x	(7M)
3.	a)	Discuss about visual representations for scalar fields?	(7M)
	b)	Illustrate 3d scaling with examples?	(7M)
4.	a)	How CMY and YIQ color models differ from RGB color model? Briefly explain?	(7M)
	b)	What are the five functions initialize and display the screen window in OpenGl program? Explain briefly?	(7M)
5.		Explain the following two types of smooth shading? (i) Gouraud shading (ii)Phong shading	(14M)
6.	a)	What is the filled-in julia set kc ? Explain how to draw filled-in julia sets?	(7M)
	b)	How to control the spectral density of the fractal curve? Explain briefly?	(7M)
7.	a)	How to intersecting rays with the following primitives? i) Intersecting with a square ii) intersecting with a tapered cylinder iii) intersecting with a cube (or any convex polyhedron)	(14M)
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Code No: R1621056 **R16** SET - 2

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COMPUTER GRAPHICS
(Computer Science & Engineering)

Time: 3 hours Max. Marks: 70

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PART –A

1.	a)	Discuss various types of text clippings?	(2M)
	b)	How to describe quadric surfaces?	(2M)
	c)	What type of information present in **Y, I,Q** parameters in YIQ color model?	(3M)
	d)	Write about specular reflections?	(2M)
	e)	What is koch snowflake?	(2M)
	f)	Describe bump mapping and its applications.	(2M)

PART -B

2.	a)	What is the principle used for midpoint circle drawing? Illustrate with example.	(7M)
	b)	Explain briefly Cohen-Sutherland line clipping with suitable example?	(7M)
3.	a)	How depth buffer method is used to detecting visible surfaces? Explain briefly?	(7M)
	b)	Discuss how to establishing the viewing coordinate system and explain how to transform from world to viewing coordinate system?	(7M)
4.	a)	How many glut functions provided by OpenGl to assist the event driven programming? List and explain?	(7M)
	b)	Discuss the following graphic primitives? Glbegin() (ii) Glend() (iii) Glvertex()	(7M)
5.	a)	How to apply texture modulate to surface? Explain different ways of it.	(7M)
	b)	Explain briefly, how to rendering images incrementally?	(7M)
6.		Discuss how to creating an image by means of iterative function systems. Write all the steps in detail and explain.	(14M)
7.		Explain the following briefly? a) Texture mapping. b) Procedural texturing methods	(7M+ 7M)
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Code No: R1621056 **R16** SET - 3

II B. Tech I Semester Regular/Supplementary Examinations, October/November - 2018
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 pixel phasing?	(2M)
	b)	How to identify visible line and surfaces?	(2M)
	c)	Write about animation and its applications.	(3M)
	d)	When diffuse scattering occurs?	(2M)
	e)	What is Julia set? How to define it?	(2M)
	f)	What is reflection mapping?	(2M)

PART -B

2.	a)	What are the two common shearing transformations are used? Explain with examples?	(7M)
	b)	Discuss briefly about the following attributes of output primitives? i) Line attributes ii) Character attributes.	(7M)
3.	a)	What is the limitation of binary space partitioning? Explain briefly about BSP-tree method.	(7M)
	b)	Illustrate about general three-dimensional rotations?	(7M)
4.	a)	How to perform 3D transformation in OpenGL? Explain briefly?	(7M)
	b)	What is morphing? Explain early transformations and digital morphing in detail.	(7M)
5.	a)	How to add texture to faces? Explain the procedural steps.	(7M)
	b)	Explain, how to create shadows with the use of a shadow buffer?	(7M)
6.		Discuss briefly about Mandelbrot sets and iterated function systems? How they are useful in referring general class of fractal sets?	(14M)
7.		Explain in-detail the following: 1) Boolean operations on compound objects. 2) Ray tracing **csc** objects. 3) Intersecting rays with Boolean objects.	(5M+ 5M+4 M)

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Code No: R1621056 **R16** SET - 4

II B. Tech I Semester Regular/Supplementary Examinations, October/November - 2018
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 shearing? Explain. (2M)
   b) Explain the need of surface rendering? (2M)
   c) Describe the need of OpenGL? (3M)
   d) Define achromatic light? (2M)
   e) What is Koch curve? Give its applications. (2M)
   f) What is bump function? How to define it. (2M)

PART -B

2. a) Briefly explain the following two-dimensional basic geometric transformations? (7M)
      i) Translation (ii) scale (iii) rotation
   b) Explain the two-dimensional viewing transformation pipeline with example? (7M)

3. a) How splines are represented? Explain three methods to specify a spline representation? (7M)
   b) Discuss briefly about parallel projections? (7M)

4. a) What is the **RGB** color model? Explain briefly? (7M)
   b) Explain step by step design of animation sequences? (7M)

5. a) What is Phong model? Explain briefly? (7M)
   b) Illustrate, how to creating shadows with the use of a shadow buffer? (7M)

6. a) How to draw a Koch curve? Explain with the help of pseudo code? (7M)
   b) What is chaos game? Give the pseudo code for playing the chaos game? (7M)

7. Discuss the following? (14M)
   1. Frame mapping
   2. Solid texture
   3. Wood grain texture
   4. Turbulence
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