

2.11
52

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : 23395

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Seventh Semester

Computer Science and Engineering

CS 2401 — COMPUTER GRAPHICS

(Common to Information Technology

(Regulations 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Digitize a line from (10, 12) to (15, 15) on a raster screen using Bresenham's straight line algorithm.
2. List the different types of text clipping methods available.
3. What is 'Mesh Modeling'?
4. Draw the 3D Viewing pipeline.
5. Draw the Colour Model HLS double cone.
6. What is dithering?
7. List the various camera movements.
8. How will you add texture to an object?
9. List down the properties of Bezier curves.
10. Write down the significance of Julia sets.

PART B — (5 × 16 = 80 marks)

11. (a) Explain the following :
- (i) Line drawing algorithm (8)
 - (ii) Line clipping algorithm. (8)

Or

- (b) With suitable examples, explain the following :
- (i) Rotational transformation (8)
 - (ii) Curve clipping algorithm. (8)
12. (a) (i) Enumerate the differences between a window and a viewport. (8)
- (ii) Demonstrate local scaling taking scaling vectors along the x, y, z axes as 2, 3, 1 respectively for a cube with homogeneous position vectors. (8)

Or

- (b) (i) Explain the advantages and disadvantages of B spline surfaces over Bezier surfaces. (8)
- (ii) Explain the different types of data with the techniques of visualization applied over the data. (8)
13. (a) Describe about the most commonly used color models used in Computer Graphics. (16)

Or

- (b) (i) Write short notes on techniques for Computer Animation. (8)
- (ii) Write code snippet for drawing basic 2D primitives in OpenGL. (8)
14. (a) (i) Explain the method of adding shadows to objects. (8)
- (ii) Explain Gouraud shading technique and write the deficiencies in that method and how it is rectified using Phong shading technique. (8)

Or

- (b) (i) Explain how to add texture to faces. (8)
- (ii) How will you build and fix camera position in a graphics program? Explain. (8)

15. (a) (i) Discuss the ray tracing process with an example. (8)
- (ii) Explain how refraction of light in a transparent object changes the view of the three dimensional object. (8)

Or

- (b) Write short notes on :
- (i) Mandelbrot sets (5)
 - (ii) Fractal geometry (5)
 - (iii) Boolean operations on objects. (6)