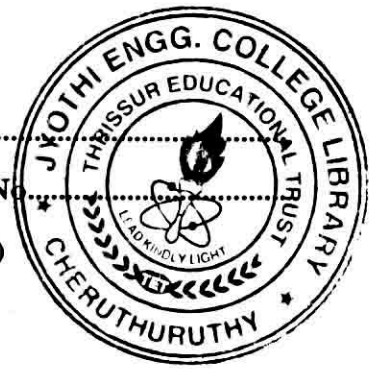


C 61497

(Pages 2)

Name.....

Reg. No.....



**SIXTH SEMESTER B.TECH. (ENGINEERING)
DEGREE EXAMINATION, APRIL 2014**

(2009 Scheme)

CS/PTCS 09 605—COMPUTER GRAPHICS

(Regular/Supplementary/Improvement)

Time : Three Hours

Maximum : 70 Marks

Part A

Short answer questions (one / two sentences).

1. Distinguish between captured image format and stored image format.
2. What are the components of Computer Graphics ?
3. Define Rasterization.
4. State any two properties of Beizer Curves.
5. What are the different representations for drawing lines and curves ?

(5 × 2 = 10 marks)

Part B

Answer any four questions.

Analytical / Problem solving questions.

6. State and explain any four of the applications in Graphics.
7. What is Antialiasing ? How is it overcome using Bresenham's technique ?
8. Explain the working of CRT.
9. Explain the steps involved in depth-buffer algorithm.
10. Explain Cohen Sutherland line clipping algorithm.
11. How the rotation of an object about the pivot point is performed ?

(4 × 5 = 20 marks)

Part C

Answer section (a) or section (b) of each question.

Descriptive / Analytical / Problem solving questions.

12. (a) What is transformation ? What is the need for transformation ? Elaborate on the two dimension transformations of Scaling and Rotations with its matrix representations.

Or

- (b) Explain the working of Touch Panel Screen.

Turn over

13. (a) Explain Bresenham's circle drawing algorithm. Discuss how it can be extended for ellipses.

Or

- (b) Elaborate on the following :—

- (i) Fine Clipping ;
- (ii) Text Clipping ;
- (iii) Raster and random scan displays.

14. (a) Explain vanishing point and principal vanishing point.

Or

- (b) Give the 3×3 homogeneous transformation matrix for each of the following transformation sequence :

- (i) Rotate counter clockwise about the origin by 45° and then scale the x -direction by one half as large.
- (ii) Scale the y -direction by twice as tall, shift down by 1 unit and then rotate clockwise by 30° .

15. (a) Discuss in detail about the 3 dimensional composite transformations.

Or

- (b) Explain the concept of parallel projections in 3D.

(4 × 10 = 40 marks)