

Question Bank (I scheme)

Name of subject: COMPUTER GRAPHICS

Unit Test :I

Subject code: 22318

Course : CM

Semester: III

CHAPTER1: Basics of Computer Graphics (CO1) (08 Marks)

2 Marks

- 1 Define pixel and resolution.
- 2 List any four areas of applications of computer graphics.
- 3 State any two graphics functions with its syntax.
- 4 What is Graphics Mode.
- 5 Define scan conversion.

4 Marks

- 1 Explain graphics pipeline in detail.
- 2 Write a program in C to draw following shapes with given points.
 - i. Line (20,20,60,60)
 - ii. Circle (100,100,25)
- 3 Differentiate between Vector scan display and Raster scan display.
- 4 Explain Virtual and Augmented Reality.

CHAPTER 2 : Raster Scan Graphics(CO2) (18 Marks)

2 Marks

- 1 List two polygon filling methods.
- 2 Draw 8-way symmetry of circle.
- 3 Define convex and concave polygon.
- 4 State equation of line in slope intercepts form.

4 Marks

- 1 Write procedure to fill polygon using Flood fill.
- 2 Explain following character generation methods with example.
 - i) Stroke method
 - ii) Starburst method
- 3 Consider the line from (0, 0) to (4, 6).Use DDA algorithm to rasterize this line.
- 4 Derive the expression for decision parameter used in Bresenham's Circle algorithm.
- 5 Write DDA line drawing algorithm.
- 6 Consider the line from (5, 5) to (13, 9).Use the Bresenham's algorithm to rasterize this line.
- 7 Write a program in C to fill polygon using Boundary fill algorithm.

CHAPTER 3: Overview of Transformations(CO3) (18 Marks)

2 Marks

- 1 Give the matrix representation for 2D Scaling.
- 2 What is homogeneous coordinates? Why is it required?

4 Marks

- 1 A point (4, 3) is rotated counterclockwise by an angle of 45° . Find the rotation matrix and the resultant point.
- 2 Translate the polygon with co-ordinates A(2,5),B(7,10) and C(10,2) by 3 units in x direction and 4 units in y direction.
- 3 Explain 2D transformations with its basic types.