

(i) Printed Pages : 2



Roll No.

(ii) Questions : 9

Sub. Code :

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Exam. Code :

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M.Sc. Information Technology 3rd Semester

(2125)

COMPUTER GRAPHICS

Paper : MS-39

Time Allowed : Three Hours]

[Maximum Marks : 80

Note :— Attempt **FIVE** questions in all, including Question No. 9 (Unit-V), which is compulsory and select **ONE** question each from Units I-IV.

UNIT-I

1. Explain the working principle of raster-scan display systems. How do they differ from random-scan systems? 16
2. Derive Bresenham's Line Drawing Algorithm. Why is it better than DDA? 16

UNIT-II

3. Explain homogeneous coordinate representation. Why is it necessary in transformations? 16
4. Describe the Cohen-Sutherland line clipping algorithm with region codes? 16

UNIT-III

5. Write and explain a C program to implement line drawing using graphics.h? 16

6. How can animation be implemented in C/C++ graphics? Give an example. 16

UNIT-IV

7. Discuss Z-buffer algorithm for hidden surface removal? 16
8. Compare flat shading, Gouraud shading, and Phong shading? 16

UNIT-V

9. (a) What is a frame buffer?
- (b) Name any two circle drawing methods.
- (c) What is shearing?
- (d) Which algorithm is more efficient: Cohen-Sutherland or Liang-Barsky?
- (e) What is the use of `initgraph()`?
- (f) What is double buffering in animation?
- (g) Name one hidden surface elimination method.
- (h) Give one application of Bezier curves. 16