

2022
M.Sc. Information Technology
Third Semester
MS-39: Computer Graphics

Time allowed: 3 Hours

Max. Marks: 80

NOTE: Attempt five questions in all, including Question No. 9 (Unit-V) which is compulsory and selecting one question each from Unit I – IV.

x-x-x

Unit-1

- 1) What are the various Line drawing algorithms? Compare each of these? (16)
- 2) WAP to draw circle using Bresenham method and Midpoint method? (16)

Unit-II

- 3) Explain the following transformations: (16)
 - a) Rotation about an arbitrary point?
 - b) Reflection through an arbitrary line?
- 4) WAP to that performs the following transformation on a triangle object: (16)
 - a) Uniform Scaling?
 - b) Shearing?
 - c) Rotation w.r.t. origin?
 - d) Translation along y axis?

Unit-III

- 5) Write a program in C/C++ that the animation of converting a square into circle? (16)
- 6) WAP in C/C++ to save and print a graphical output? (16)

Unit-IV

- 7) Explain the concept of hidden line and surface eliminations? Explain any one algorithm that is suitable for this method? (16)
- 8) Which curve drawing method has more accuracy and why? Explain with example? (16)

Unit-V

9) Attempt the following:-

- a) Which color model is used in printers?
- b) What is Anode?
- c) What are the primary colors for printers?
- d) Which is the best hidden surface algorithm to deal with non-polygonal, non-planar surface patches?
- e) What is the purpose of glue.h file?
- f) The refresh rate below which a picture flickers is?
- g) Oblique projection with an angle of 45 degree to the horizontal plane then is called _____?
- h) If we want to resize a 1024×768 image to one that is 640 wide with the same aspect ratio, what would be the height of the resized image? (16)

x-x-x