

Tribhuvan University
Institute of Science and Technology

2079

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Bachelor Level/Third Year/Fifth Semester/Science
Bachelors in Information Technology (BIT304)
(Computer Graphics)

Full Marks: 60
Pass Marks: 24
Time: 3 Hours

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Section A

Long Answer Questions

Attempt any TWO questions.

[2x10=20]

1. List the major differences between DDA and Bresenham's algorithm. Illustrate the Bresenham's algorithm to the line with end points(10, 6) and (12, 1). [3+7]
2. Draw the block diagram of vector and raster graphics display architecture and write the advantages and disadvantage of both display architecture. [10]
3. How decision parameter can be used to draw circle? Calculate the points to draw a circle having radius 5 and center as (10, 5). [6+4]

Section B

Short Answer Questions

Attempt any EIGHT questions.

[8x5=40]

4. Explain how can line method detects the visible surface with example. [5]
5. Differentiate Phong Shading with Gouraud Shading method. [5]
6. Explain Cohen-Sutherland line clipping Algorithm. [5]
7. What is Beizer curve? Describe its properties. [1+4]
8. Discuss the use of computer graphics in different areas. [5]
9. Describe polygon, vertex and edge table of a polygon. [5]
10. What is boundary representation technique? Explain. [5]

11. Explain the Phong illumination model for specular reflection. [5]

12. Write short notes on: [2.5*2=5]

a. Shearing and Scaling

b. Line Clipping