

Student Registration Number

F

COURSE CODE: DCAP504
COURSE TITLE: COMPUTER GRAPHICS

Time Allowed: 3 hours

Max. Marks: 80

1. *This paper contains 10 questions divided in two parts on 1 page.*
2. **Part A is compulsory.**
3. **In Part B (Questions 2 to 10), attempt any 6 questions out of 9. Attempt all parts of the selected question.**
4. *The marks assigned to each question are shown at the end of each question in square brackets.*
5. *Answer all questions in serial order.*
6. **The student is required to attempt the question paper in English medium only.**

PART-A

Q:1

- a) What is Image File? What are the types of image representation?
- b) What is texturing?
- c) Draw diagram for region code of Cohen Sutherland line clipping algorithm.
- d) Define the terms: Window and Viewport.
- e) What are the disadvantages of Sutherland Hodgeman polygon clipping algorithm?
- f) Differentiate between Horizontal and Vertical Retrace.
- g) Define Image Persistence.
- h) What is Geometric Translation? Explain it with a diagram, equations and matrix.
- i) What is antialiasing?
- j) Write down various hidden surface removal algorithms.

[10×2=20]

PART-B

- Q:2 "The most notable special aspect of direct coding is the black, white and gray scale image representations". Explain. [10]
- Q:3 Differentiate between Raster Scan Display and Random Scan Display. [10]
- Q:4 Elaborate the process of vertex morphing. [10]
- Q:5 Explain Z-Buffer Algorithm and Painter's algorithm. [10]
- Q:6 Differentiate between Ray-Tracing and Rasterization. [10]
- Q:7 Differentiate between Gouraud and Phong Shading Model. [10]
- Q:8 Explain Sutherland Hodgeman polygon clipping algorithm with example. [10]
- Q:9 Differentiate between Geometric and Coordinate Transformations. What is Geometric Shearing? Explain it with a diagram, equations and matrix. [10]
- Q:10 Write down steps for Bresenham line drawing algorithm. [10]