A–0797

Total Pages : 3 **Roll No. .....**

BCA-17

Bachelor of Computer Application (BCA)

(Interactive Computer Graphics)

Examination, June 2025

Time : 2:00 Hrs. Max. Marks : 70

Note* :–** This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these sections according to the detailed instructions given therein. ***Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

Section–A

(Long Answer Type Questions) 2×19=38

***Note* :–** Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. Explain the Raster Scan Systems. Explain the following concepts :

   (a) Random Scan

   (b) Boundary Fill

   (c) Flood Fill

2. Explain Viewing Pipeline. Explain Viewing Coordinate Reference Frame. What is Window-to-Viewport Coordinate Transformation ?

3. What is 2D Transformation ? Explain Matrix Representations and Homogeneous Coordinates.

4. Describe General Rotation in transformation ? Explain Basic Transformations. What is Composite Transformations ?

5. Explain Clipping Operations. Explain Cohen-Sutherland Line Clipping detail. Explain Liang-Barsky Line Clipping.

Section–B

(Short Answer Type Questions) 4×8=32

***Note* :–** Section 'B' contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Explain line clipping and point clipping techniques.
2. What Flat-Panel Displays ? Explain Graphics Monitors and Workstations.
3. Explain 3D Translation and Scaling.
4. Explain of the following :
   (a) Color models (RGB)
   (b) Plasma Panels
   (c) Image Scanners
   (d) Graphics Functions
5. What is Morphing ? Explain the Design of Animation Sequences.
6. Explain Viewing Pipeline. Explain Viewing Coordinate Reference Frame
7. Explain the following :
   (a) Tyes of animation
   (b) Parallel Projection
8. Describe Raster Animations. Explain Key-Frame Systems.

****