

Bachelor of Computer Application (B.C.A.) Semester-V (CBS) Examination**COMPUTER GRAPHICS—I****Paper—1**

Time : Three Hours]

[Maximum Marks : 50

N.B. :— (1) All questions are compulsory and carry equal marks.

(2) Draw a well labelled diagram wherever required.

EITHER

1. (A) What is Raster Scan System ? Explain in detail. 5
- (B) Explain the term frame buffer and pixel. 5

OR

- (C) Describe the role of display devices. Discuss its need. 5
- (D) What is Random Scan Systems ? Explain its working. 5

EITHER

2. (A) What is line ? Explain Bresenham's algorithm for line generation. 5
- (B) Write scan line polygon fill algorithm. 5

OR

- (C) Write an algorithm for flood fill. 5
- (D) What is a Pixel ? Write a procedure to retrieve address of any pixel. 5

EITHER

3. (A) What is translation ? Explain 2D translation with suitable figure. 5
- (B) Explain composite transformation in detail. 5

OR

- (C) Explain the following :—
 (i) Scaling
 (ii) Rotation. 5
- (D) Explain shear transformation in detail with its type. 5

EITHER

4. (A) Explain the following :—
 (i) Window
 (ii) Viewport. 5
- (B) Write an algorithm for Cohen Sutherland clipping algorithm. 5

OR

- (C) Write a clipping algorithm for Sutherland — Hodgeman. 5
- (D) What do you mean by viewing transformation ? Discuss their implementation. 5

5. Attempt **ALL** :—

- (A) Explain light pen. 2½
- (B) What is mid-point circle ? 2½
- (C) What is 2D transformation ? 2½
- (D) Explain viewing co-ordinate reference frame in detail. 2½