No. of Printed Pages : 05 Roll No. .....

48579

B.C.A. EXAMINATION, 2022

(Fifth Semester)

(2021-22 Onwards)

COMPUTER GRAPHICS

BCA-19-51

Time : 3 Hours] *[Maximum Marks : 80*

Note : Attempt all questions.

Section A

1. (a) What is function of lookup table ? 1

(b) Explain Random Scan Display. 1

(c) What does resolution mean in computer ? 1

(d) What do you mean by coordinate system ? 1

(e) Which methods are used for circle drawing ? 1

(f) What is the purpose of frame buffer ? 1

(g) What do you mean by scaling ? 1

(h) What is reflection about X-axis ? 1

(i) What is Shearing ? 1

(j) Differentiate between windowport and viewport. 1

(k) What is line clipping ? 1

(l) What do you mean by zooming ? 1

Section B

2. Explain the operation of CRT in computer. 3

3. Explain simple DDA line drawing algorithm in detail. 3

4. Describe the 2-D transformation matrix for rotation about origin. 3

5. Why is clipping used in graphics ? Discuss line clipping. 3

Section C

6. Explain Raster scan display with the help of diagram.

Or

What is Computer Graphics ? Write the essential application of computer-graphic. 6

7. Discuss Bresenham's circle drawing algorithm in detail.

Or

Explain the symmetry of an ellipse in computer graphics. 6

8. Explain Matrix Representation of 2D Transformation.

Or

Discuss rotation about any given point other than the origin. 6

9. How can zooming and panning be acheived in a graphics ?

Or

Explain Cohen Sutherland algorithm for line clipping with example. 6

Section D

10. Explain various interactive input devices.

Or

What is Display Processor ? Explain the block diagram of display processor. 8

11. Explain polynomial method for circle drawing.

Or

Explain Bresenham's line drawing algorithms along with their derivations. 8

12. Explain Composite Transformation with example.

Or

What are the various transformations possible in 2D ? Discuss it. 8

13. Explain Sutherland-Hodgeman Polygon Clipping with their disadvantage.

Or

Discuss Mid Point Subdivision Line Clipping Algorithm in detail. 8