

Roll No. ....

Total Pages : 03

BCA/M-23

1878

COMPUTER GRAPHICS

BCA-363

Time : Three Hours]

[Maximum Marks : 80

**Note :** Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. 1 is compulsory. All questions carry equal marks.

1. (a) What is the meaning and purpose of refresh rate ?  
(b) State the purpose of a lookup table.  
(c) State the various side effects of scan conversion ?  
(d) Enlist the various methods to draw a line in computer graphics.  
(e) What is meant by inverse transformations ?  
(f) Enlist the various pointing techniques used in computer graphics.  
(g) What do you mean by viewing transformation ?  
(h) - Enlist the various three-dimensional display methods.

8×2=16

### Unit I

2. Explain working of (i) Colour CRT monitors and (ii) LCD monitors, in detail along with advantages and disadvantage of both in detail.

16

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3. Write short notes on the following :
- (i) Interlacing
  - (ii) General purpose graphics software.

## Unit II

4. Write down the algorithm for drawing a line using DDA line algorithm and explain its steps using suitable example. 16
5. (a) Write down the steps to plot a line using the slope method. 8
- (b) Write and explain the flood fill algorithm. 8

## Unit III

6. How can you perform ? 16
- (i) Scaling
  - (ii) Translation
  - (iii) Rotation
  - (iv) Reflection, in two-dimensional transformation ?
7. Write short notes on the following : 16
- (i) Gravity field technique
  - (ii) Rubber band technique
  - (iii) Inking and painting
  - (iv) Dragging.

## Unit IV

8. Write and explain the Sutherland-Hodgeman algorithm for polygon clipping. 16
9. Define window and viewport. Derive window to viewport transformation. 16

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