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**

3. Write short notes on the following :
   (i) Interlacing
   (ii) General purpose graphics software. **16**

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**