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**TBC/TBI-602**

**B. C. A./B. Sc. (IT)  
(SIXTH SEMESTER)**

**MID SEMESTER EXAMINATION, 2021  
COMPUTER GRAPHICS AND ANIMATION**

**Time : 1½ Hours**

**Maximum Marks : 50**

**Note : (i) Answer all the questions by choosing  
any *one* of the sub-questions.**

**(ii) Each question carries 10 marks.**

**1. (a) Differentiate the working of LCD and  
LED in terms of color formation process.**

**10 Marks (CO1)**

**OR**

**(b) Analyze the working of cathode ray tube.  
Explain the difference between raster scan  
and random scan display. 10 Marks (CO1)**

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2. (a) Derive DDA line algorithm ? What are the limitations of DDA algorithm.

10 Marks (CO2)

OR

- (b) Apply the Bresenham's line drawing algorithm for the line joining the points  $(-1, 2)$  and  $(7, 5)$ .

10 Marks (CO2)

3. (a) Consider two raster systems with the resolutions of  $640 \times 480$ ,  $1280 \times 1024$ . Evaluate the size of frame buffer (in KB) needed for each of these systems to store 12 bits/pixel ?

10 Marks (CO1)

OR

- (b) Consider two raster systems with the resolutions of  $640 \times 480$ ,  $1280 \times 1024$ . What size frame buffer (in KB) is needed for each of these systems to store 12 bits/pixel ?

10 Marks (CO1)

4. (a) Apply the Cohen-Sutherland line clipping algorithm to clip the line AB having coordinates A (100, 200) and B (200, 300) with a clipping window coordinates (top = 100, bottom = 100, right = 200, left = 200).

10 Marks (CO2)

(3)

OR

- (b) Describe the mid-point circle drawing algorithm.

10 Marks (CO2)

5. (a) Briefly explain Sutherland Hodgeman polygon clipping algorithm.

10 Marks (CO2)

OR

- (b) Explain the terms, Pixel, aspect ratio, horizontal retrace.

10 Marks (CO1)