

May-2003

Bachelor of Computer Application (BCA) Examination

VI Semester

## Computer Graphics and Multimedia

Time 3 Hours]

[Max. Marks 50

**Note :** Attempt all five questions.

1. (a) Define following terms :  
Pixel, resolution, aliasing, frame buffer, video controller.
- (b) Describe the working principle of color CRT monitor.
2. (a) Write Bresenham's Line drawing algorithm for slope  $m > 1$ .
- (b) Write Boundary fill polygon algorithm considering 4-connected pixels.
3. (a) Write steps is Cohen-Sutherland line clipping algorithm.
- (b) What is meant by segmentation of picture database? Write create segment algorithm.
4. (a) Explain following terms :  
MIDI devices, MIDI message, MIDI standard.
- (b) Define Computer Animation. Write steps in creation of animation sequences.
5. (a) Briefly explain NTSC video broadcast standard.
- (b) Discuss video encoding of MPEG standard.
6. (a) Explain working principles of following devices :  
Inkjet Printer, Scanner.
- (b) Write series of transformation matrix to take mirror reflection of a given object about  $y = mx + c$  axis.
7. (a) Briefly explain following terms :  
Color palate, MCI, Morphing.
- (b) Write 3D transformation matrix to rotate a point about x-axis by 30 degree anticlockwise.
8. Write short notes on : (any two)
  - (a) Applications of Computer Graphics.
  - (b) 3D Modelling.
  - (c) Video Capture Board.
  - (d) Window to Viewport Transformation.

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