

# 2006 Punjab Technical University M.C.A

## Computer Graphics

MCA-501, 5th Semester (2096)

Time allowed: 3 Hours

Max Marks: 75

Note: Section A is compulsory. Attempt any 9 questions from Section B (marks 5 each)

### Section A

1.

- i. Discuss the working principal of mouse.
- ii. What is digitizer?
- iii. What is the difference between impact and non-impact printers?
- iv. How are the characters formed on an ink jet printer?
- v. What is LCD display
- vi. What is a pixel?
- vii. What is meant by resolution of display?
- viii. What is Graphic workstation?
- ix. Write an algorithm for Flood Fill.
- x. What are different text attributes?
- xi. Why is image scanner used?
- xii. Compute resolution of 2x2 inch image that has 512x512 pixels.
- xiii. What is persistence?
- xiv. How does basis Scan Line method determine which surface are hidden?
- xv. What are three major adverse side effects of Scan conversion?

### Section B

2. Write a short note on a. Keyboard.  
b. Joystick.
3. Discuss the working of CRT.
4. What is the difference between raster scan and random scan displays?
5. Discuss DDA algorithm for line drawing.
6. Explain Midpoint circle algorithm
7. Write down the procedure for Boundary Fill algorithm.
8. What can be procedures for increasing the width of a line?
9. Discuss the following basic transformations in 2 dimension: a. Rotation

b. scaling

10. Explain the procedure for Sutherland-Hodgeman polygon clipping.

11. Discuss z-buffer method for detecting visible surface.

12. Compare Constant Integrity method and Gouraud shading method of surface shading.

13. Write a procedure for establishing polygon tables for any input set of data points defining an object.

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