

Punjab Technical University
Master of Computer Application Examination

MCA 5th Semester COMPUTER GRAPHICS 2008

(Effective from the admitted batch of 2004 – 2005)

Time: Three hours Maximum: 100 marks

First question is compulsory.

Answer any FOUR from the remaining

Answer all part of any question at one place

Question 1.

- a) Write fundamentals of vector graphics.
- b) Write basics of transformations.
- c) Write short notes on windowing.
- d) What is polygon clipping.
- e) Define projection.

Question 2.

- a) Describe simple DDA alg.
- b) Describe Bresenham's circle generation alg.

Question 3.

- a) Derive 2d-transformation matrices for scaling, rotation & translation.
- b) Discuss about the clipping alg.

Question 4.

- a) Describe edge list alg for scan converting polygon.
- b) Discuss about Display file segmentation.

Question 5.

- a) Explain datastructure used for implementing display files.
- b) Discuss about combined 3d transformations.

Question 6.

- a) Explain various coordinate system in 3d viewing.
- b) Explain various types of perspective projections.

Question 7.

- a) Explain Bezier curves & surfaces.
- b) Explain few B-splines which are useful for surface design.

Question 8. Discuss about design of graphic package