(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 1073 Roll No.

B. Tech.

(SEM. V) EXAMINATION, 2008-09

COMPUTER GRAPHICS

Time : 3 Hours] *[Total Marks : 100*

Note : *(i) Attempt **all** questions.*

*(ii) All questions carry **equal** marks.*

1 Attempt any **two** parts of the following : **10×2=20**

(a) Explain Bresenham's algorithm for line drawing.

(b) What are raster scan displays ? Explain generating a raster image.

(c) What do you understand by the term "corruption of display files" ? Discuss how to avoid it.

2 Attempt any **two** parts of the following : **10×2=20**

(a) Explain the algorithm for inside test to scan convert a polygon. Discuss its complexity.

(b) Write the algorithm for filling polygons and explain it with a suitable example.

(c) If the display device is storage tube type then discuss the relevance of segmented display files. Explain the algorithm for managing with the file to maintain a dynamically changing picture in such a case.

3 Answer any **two** parts of the following : **10×2=20**

(a) What do you understand by the term "Concatenation of transformations" ? What are its advantages ? If A and B are two different transformations, illustrate with suitable example that $A.B \neq B.A$.

(b) Explain with suitable example the Mid-point-sub division algorithm for line clipping. Discuss its complexity.

(c) Write notes on :

(i) Transformation routines

(ii) Display procedures.

4 Attempt any **two** parts of the following : **10×2=20**

(a) Describe the construction and functioning of 3D acoustic tablets.

(b) What do you mean by pointing and positing ? Give the construction and functioning of an input device that is good at pointing but bad for positing and interacts with the screen directly.

(c) Discuss the techniques for achieving realism in visualizing 3D scenes.

5 Attempt any **two** parts of the following : **10×2=20**

(a) What do you understand by back face removal ? Explain Warnock's algorithm.

(b) Explain the Binary Space-Partitioning method with a suitable example.

(c) Write note on rendering and illumination.