29702

Name : .....

Reg. No: .....

SEVENTH SEMESTER B.TECH DEGREE EXAMINATION, OCTOBER 2012

IT 09 701 – COMPUTER GRAPHICS

Time : Three Hours **Maximum : 100 Marks**

Part A

I. (a) What is light pen? State its use.
(b) Define clipping. List the methods used for clipping lines.
(c) State the Beta-Spline continuity conditions.
(d) Differentiate orthographic parallel projection and oblique parallel projection.
(e) How do you compute the vanishing point?

5×2=10 Marks

Part B

II. (a) Describe about the necessary components of a graphics software.
(b)Explain the matrix operations with examples.
(c)Discuss the importance of filling algorithms in the generation of pie charts.
(d) Explain Bresenham's circle drawing algorithm with example.
(e) With neat diagram explain the process of translation in three dimensions.
(f) Describe about the back face removal method used in 3D graphics.

4×5=20 Marks

Part C

III.(a) Write in detail about the display devices used for graphical display.

(OR)

(b) Explain the process of Translation and Scaling of a 2D line.

IV.(a) Discuss about the Scan line seed fill algorithm with an example.

(OR)

(b) Explain the Sutherland Cohen Line clipping algorithm in detail.

V. (a) Write the algorithm which performs transformation of circle to generate ellipse. Give an example.

(OR)

(b) What are Bezier curves? Explain the properties and the design technique of Bezier curves.

VI. (a) Describe the coordinate reference frames which is required in 3D graphics.

(OR)

(b) Explain how Depth-Buffer method is applied in removing hidden surface.

4×10=40 Marks