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(Pages 2)

Name...................................

Reg. No...................................

SEVENTH SEMESTER B.TECH. (ENGINEERING) (09 SCHEME) DEGREE EXAMINATION, NOVEMBER 2015

IT 09 701—COMPUTER GRAPHICS

Time : Three Hours

Maximum : 70 Marks

Part A

I. (a) What is meant by cross product of two vectors ?

(b) Give examples for point clipping.

(c) List the properties of Ellipses.

(d) Define oblique view.

(e) Give the matrix representation for a periodic Beta-spline.

(5 × 2 = 10 marks)

Part B

II. (a) Describe the working of Raster-Scan monitor.

(b) Discuss about the scan-line seed fill algorithm.

(c) Explain the midpoint ellipse algorithm.

(d) Discuss how a character is generated in computer graphics.

(e) Explain the perspective view with viewpoint lying on z-axis.

(f) Explain Rubber-band method for drawing and positioning a straight line segment.

(4 × 5 = 20 marks)

Part C

III. (a) Explain the following :—

(i) Parametric functions. (5 marks)

(ii) Scalar product. (5 marks)

Or

(b) Explain the process of zooming and panning of a 2D object.

IV. (a) Describe the process of eliminating totally invisible line with respect to a rectangular window using line and point codes.

Or

(b) Explain in detail about the stack based seed fill algorithm.

V. (a) Explain the midpoint ellipse drawing algorithm with an example.

Or

Turn over

(b) List the properties of B-spline curves and Explain any *two* classification of it based on knot vectors.

VI. (a) Describe the process of projecting an object on *xy* plane with rays along a given direction.

Or

(b) Explain the Back face removal method with an example.

(4 × 10 = 40 marks)