D 50506   (Pages 2)   Name.....................

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SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, NOVEMBER 2013

IT 09 701—COMPUTER GRAPHICS

Time : Three Hours   Maximum : 70 Marks

Part A

I. (a) Differentiate colour CRT and LCD Panels.

   (b) Write the sequence of transformations to convert window area into the viewport area.

   (c) List the properties of circle.

   (d) Define perspective projection.

   (e) Draw the block diagram of two-dimensional viewing- transformation pipeline.

                                                      (5 × 2 = 10 marks)

Part B

II. (a) Describe the functionality of random scan monitors.

   (b) Explain about the explicit line clipping algorithm.

   (c) Discuss about the properties of ellipses.

   (d) Describe about the Orthographic parallel projection of objects.

   (e) What is scaling ? Explain scaling of straight line.

   (f) write short notes on computing the vanishing point of an object.

                                                      (4 × 5 = 20 marks)

Part C

III. (a) Discuss how touch panels and light pens are used for giving graphics input.

                              Or

    (b) Explain the process of rotation and mirror reflection of a 2D object.

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

                              Or

    (b) Explain about the scan line seed fill algorithm in detail.

Turn over

V. (a) Explain Breseham's circle drawing algorithm with an example.

Or

(b) List the properties of Bezier Čurves and Explain the process of drawing cubic Bezier curves.

VI. (a) Explain the process of scaling and rotation of an object using 3D graphics.

Or

(b) Explain the perspective view of an object with the viewpoint lying on z-axis.

(4 × 10 = 40 marks)