Code.No: 07A50503

R07

SET-1

III B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010
COMPUTER GRAPHICS
(COMMON TO CSE, IT, CSSE, E.COMP.E)

Time: 3hours   **Max.Marks:80**

Answer any FIVE questions
All questions carry equal marks
- - -

1.a) Discuss the operation of raster scan system with a neat sketch.
  b) Write about any one input device.   [8+8]

2.a) Derive the necessary equztions to generate bresenhaum line algorithm.
  b) Write the bresenhaum line algorithm.   [8+8]

3.a) Give the transformation matrix to rotate a point about an arbitrary point.
  b) Show that the transformation matrix for a reflection about the line $y=-x$ is equivalent to a reflection relative to the y-axis followed by a counterclockwise rotation of 90^0.   [8+8]

4.   With an example explain Cohen Sutherland linc clipping algoprithm.   [16]

5.a) Enumerate the properties of B spline curves.
  b) Explin Gouraud shading.   [8+8]

6.a) Derive the transformation matrix for parallel projections.
  b) Give the transformation matrix for rotation about X-axis in 3D.   [8+8]

7.a) Write about area subdivision algorithm for back face detection.
  b) Enumerate due disadvantages of depth buffer algorithm.   [8+8]

8.a) Write about different motion specifications.
  b) Write about different computer animation languages.   [8+8]

--ooOoo--

Code.No: 07A50503 | R07 | SET-2

III B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010
COMPUTER GRAPHICS
(COMMON TO CSE, IT, CSSE, E.COMP.E)

Time: 3hours   **Max.Marks:80**

Answer any FIVE questions
All questions carry equal marks

- - -

1.a) Differentiate raster and random scan display systems.
 b) Discuss about any one display device. [8+8]

2. Derive the necessary equations required to generate circle algorithm. [16]

3.a) Derive the transformation matrix to rotate a point about origin.
 b) Give the transformation matrix to reflect a point about an arbitrary axis. [8+8]

4. Explain cyrus-beck line clipping algorithm. [16]

5.a) Enumerate the properties of Beizer curves.
 b) List the properties to be considered for calculating the intensity to be rendered at a point on an object. Give the basic illumination model. [8+8]

6.a) Give transformation matrix to rotate a point about X-axis.
 b) With a block diagram, explain 3D viewing. [8+8]

7.a) Explain depth-buffer algorithm for hidden surface removal.
 b) Write about octree method for back face detection. [8+8]

8.a) What are the steps in the design of animation sequence.
 b) List various motion specfications. [8+8]

--ooOoo--

Code.No: 07A50503 | R07 | SET-3

III B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010
COMPUTER GRAPHICS
(COMMON TO CSE, IT, CSSE, E.COMP.E)

Time: 3hours   **Max.Marks:80**

Answer any FIVE questions
All questions carry equal marks
- - -

1.a) Write about flat-panel displays.
 b) Write about Digitizers. [8+8]

2.a) Explain scan line polygon filling algorithm.
 b) Differentiate scan line and seed fill algorithms for polygon filling. [8+8]

3.a) Derive transformation matrix to rotate a point about origin.
 b) Show that the transformation matrix for a reflection about the line y=x is equivalent to a reflection relative to the x-axis followed by a counterclocwise rotation of 90^0. [8+8]

4. Explain sudherland – hodgman algorith for polygon clipping with an example. [16]

5.a) List the properties of B-splines.
 b) Write about phong shading model. [8+8]

6.a) Give the transformation matrix in 3D for the following:
 i) To rotate a point about the y-axis by 45^0 in counter clock wise direction. [8+8]
 ii) Reflect a point about x-axis.
 b) With a block diagram, write about 3D viewing. [8+8]

7. Write about the following hidden surface methods
 a) Depth sorting
 b) BSP-bee. [8+8]

8.a) What are the steps involved in the design of animation sequence.
 b) Write about different computer animation languages. [8+8]

--ooOoo--

III B.TECH – I SEM EXAMINATIONS, NOVEMBER - 2010
COMPUTER GRAPHICS
(COMMON TO CSE, IT, CSSE, E.COMP.E)

Time: 3hours   **Max.Marks:80**

Answer any FIVE questions
All questions carry equal marks

- - -

1.a) Discuss the operation of random scan system with a neat sketch.
 b) Write about any one display device.   [8+8]

2.a) Differentiate scan-line and seed fill algorithms for polygon filling.
 b) Explain scan-line polygon filling algorithm.   [8+8]

3.a) Derive the transformation matrix to rotate, a point about aribitrary point.
 b) Give the transformation matrix for the following
    i) To shaft left by 2 units and due to rotate by 45^0 clockwise.
    ii) To reflect w.r.t. y=-x axis.   [8+8]

4.   Explain Cohen – Sutherland algorithm for line clipping with an example.   [16]

5.a) Explain hermite method of curve generations.
 b) Discuss the necessary factors contributing to intersity calculations. Give Basic
    illumination model.   [8+8]

6.a) Derive the transformation matrix for perspective transformation.
 b) Give transformation matrix to rotate a point about Y-axis in counterclockwise direction.
                                                                                 [8+8]

7.   Explain the following hidden surface removal algorithms.
    i) Dept – Sorting.
    ii) Octree.   [16]

8.a) What are key frames? Write about morping.
 b) Explain some of motion specification for computer animation.   [8+8]

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