Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

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CS-5004-CBGS

B.E. V Semester

Examination, June 2020

Choice Based Grading System (CBGS)

Computer Graphics and Multimedia

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) Explain the working of CRT with the help of diagram. Give the function of each component of CRT.
   b) Differentiate between:
      i) Raster Scan Vs Random Scan
      ii) Beam Penetration Vs Shadow Mask CRT.

2. a) Explain midpoint circle algorithm? Draw a circle of radius 6 about the origin.
   b) Compare Boundary fill algorithm with flood fill algorithm.

3. a) Explain in detail the Cohen Sutherland line clipping algorithm with an example.
   b) Explain on the following 2D transformations:
      i) General Pivot Point Scaling
      ii) General Pivot Point rotation

4. a) Consider a triangle with vertices A(1, 1), B(5, 2), C(3, 4). Find out the transformation matrix which rotates a triangle by angle 45° with reference to vertex C. Also find the new vertices.
   b) Explain z-buffer visible surface determination algorithm.

5. a) State the difference between:
   i) Hermite and Bezier curve
   ii) Bezier and B-spline curve
   b) Derive 3D rotation matrix for rotation about arbitrary line.

6. a) Derive a perspective projection of point p(x, y, z) on a view plane positioned at z = 0 and centre of projection is on negative z-axis at distance d.
   b) Write short note on following color modes:
   i) CMY color model
   ii) YIQ color model

7. a) Define Multimedia? What are its characteristics? Also give the uses of multimedia?
   b) Discuss various audio components of an audio system.

8. a) What is an Animation? Discuss its applications? Give animation file formats.
   b) Explain briefly: (any two)
   i) Multimedia Databases
   ii) Lossless/Lossy compression
   iii) Multimedia Architecture

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