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

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CS-5004-CBGS

B.E. V Semester

Examination, December 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 generation algorithm. Draw a circle of radius 5 about centre point (2,2) with the help of this algorithm.
   b) Derive a general 2D transformation matrix of rotation of a point P(x,y) through an angle θ in counterclockwise direction with respect to origin .

3. a) Explain Cohen Sutherland line clipping algorithm. State the merits and demerits of cohen sutherland algorithm over Cyrus beck line clipping algorithm.
   b) Define :
      i) World coordinate system
      ii) Screen coordinate system

4. a) Derive expression for converting RGB colour parameter to HSV values?
   b) Write down the steps in designing animation sequences.

5. a) Construct a uniform B-spline curve of third order with four polygon vertices P(1, 1), Q(2,3), R(4,3) and S(6,4).
   b) Write down the method for simulating acceleration in computer graphics.

6. a) Differentiate between:
      i) Phong Vs Gauraud Shading
      ii) Diffuse Vs specular reflection
   b) Explain about the blending function of Bezier curves.

7. a) Define Multimedia? Write down the characteristics of multimedia presentation?
   b) i) Explain the various audio components of an audio system?
      ii) Write down various video file format.

8. a) Describe different types of authoring tools.
   b) What are the different animations techniques?

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