5E1354

B.Tech. V- Semester (Main) Examination, Nov. - 2019
PCC/PEC Computer Sc. and Engg.
5CS4-04 Computer Graphics and Multimedia
(Common With CS,IT)

Time : 3 Hours **Maximum Marks : 120**
Min. Passing Marks : 42

Instructions to Candidates:

*Attempt **all ten** questions from **Part A**, **five** questions out of **Seven** from **Part B** and **Four** questions out of **Five** from **Part C**.*

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly. Use of following supporting materials is permitted during examination. (No material is required)

PART - A

(Answer should be given up to **25** words only)

All questions are **compulsory** **(10×2=20)**

1. What is Pixel made of?
2. What is Scan Conversion?
3. Differentiate Plasma panel display and thin film Electroluminous Display.
4. Define Random Scan/Raster Scan display?
5. List out the merit and demerit of punctration technique.
6. Distinguish between convex and concave palygons.
7. What is translations.
8. Distinguish between uniform scaling and differential scaling.
9. List out the various text clipping.
10. Write all steps involved in 3-D Transformations.

PART - B

(5×8=40)

Attempt any **five** questions

1. Explain scan conversion, write Bresenham's algorithm of line m >1.

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2. Use Cohen sutherland line clipping algorithms to find the visible partion of the line P (40,80) Q(120,30) inside the window. The window is defined as ABCD : A(20,20), B(60,20), C(60,40) and D(20,40).

3. Explain in brief RGB, CMY and HSV colour models.

4. What is the use of compression technique in computer graphics? Explain JPEG.

5. Show Rotation of a 2D - Box represented by (5,5) to (10,15) with respect to (5,5) by 90° in anti clockwise direction.

6. Explain the document architecture and formating of files or documents in the multimedia systems.

7. Produce a sequence of transformation of refer on image in the line y = mx+c.

PART - C

Attempt any **Four** questions **(4×15=60)**

1. Explain the function of display processor in Raster scan display compare the merit and demerit of raster and vector devices.

2. Explain Beizer curve and Determine eleven points on a Beizer curve with equidistant parametric value having central points

$(x_0, y_0) = (50,180), (x_1, y_1) = (250,100), (x_2, y_2) = (600,300), (x_3, y_3) = (500,50)$.

3. Describe different types of Parallel projection used in computer graphics.

4. Describe Z buffer algorithms for visible surface detection. Also explain backface detection method.

5. What is Animation? What are the challenges faced in its implementation? Write the steps in generation of animation.