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BCACAC 260

**Credit Based Fourth Semester B.C.A. Degree Examination,
November/December 2015
(New Syllabus) (2013-14 Batch Onwards)
COMPUTER GRAPHICS AND MULTIMEDIA**

Time : 3 Hours

Max. Marks : 80

Note : Answer any ten questions from Part A and any one full question from each Unit in Part B.

PART – A

(10×2=20)

1. a) What are horizontal and vertical retrace ?
- b) Write two drawbacks of DVST.
- c) Write 8-way symmetry of a circle.
- d) List the possible selections for Line Type attribute of a straight line.
- e) Write the equations for translation of a point at (x, y) to (x', y') position. Also write the column vectors.
- f) Differentiate uniform scaling and differential scaling.
- g) Write matrices to represent rotation and scaling in homogeneous coordinate system.
- h) What is point clipping ? Write the inequalities to be satisfied for saving a point for the purpose of display.
- i) Define multimedia.
- j) Expand IGS and TIFF.
- k) What is kinematics ?
- l) What is overscan and underscan ?

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PART – B

UNIT – 1

2. a) Write a note on image scanners.
b) Write DDA line drawing algorithm.
c) Derive Mid-point algorithm to draw a circle. (4+4+7)
3. a) Explain the architecture of Raster display system with neat diagram.
b) Write Bresenham's line drawing algorithm.
c) Write a note on boundary fill algorithm and flood fill algorithm. (5+5+5)

UNIT – 2

4. a) Prove that successive scalings are multiplicative. Also explain general fixed point scaling with a suitable diagram.
b) Write an explanatory note on homogeneous coordinate system.
c) Explain curve attributes in detail. (6+4+5)
5. a) Explain general pivot-point rotation with a suitable diagram.
b) Explain the procedure of Sutherland-Hodgeman polygon clipping along with suitable diagrams.
c) Explain window to viewport transformation with a suitable diagram. (5+5+5)

UNIT – 3

6. a) Explain the application of multimedia in various fields.
b) List the capabilities and limitations of bitmap.
c) Write any 5 editing digital recordings. (5+5+5)



7. a) Give the advantages of Digital audio. What circumstances we can use it ?
b) Explain five types of searches in Web.
c) Write a note on additive and subtractive colors. (5+5+5)

UNIT - 4

8. a) Explain the logical steps of animation techniques.
b) Explain how Digital Video is recorded.
c) List and explain different types of authoring tools for multimedia. (5+5+5)
9. a) What are analog videos ? How is it recorded ?
b) List and explain different stages of a multimedia project.
c) Write a note on MPEG. (5+5+5)

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