Question Paper Code : 6491

B.C.A. (Semester-IV) Examination, 2018

(New Syllabus)

COMPUTER GRAPHICS & MULTIMEDIA APPLICATION

[BCA-S-206-T]

Time : Three Hours] [Maximum Marks : 100

Note : Answer **five** questions in all. Question **no. 1** is **compulsory**. Besides this, attempt **one** question from each unit.

1. Answer the following : [4x10=40]

   (a) What is Computer Graphics ? Also explain its types.

   (b) Differentiate Emissive Display devices with non-emissive display devices.

   (c) Explain concept of CRT.

   (d) What is the difference between Raster-scan display processor and Random-scan display processor ?

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7. (a) Explain Rotation and Reflection transformation with suitable example. [10]

   (b) Translate a square WXYZ with co-ordinates W(5, 5), X(10, 5), Y(10, 10) and Z (5, 10) by 3 units in x-direction and 4 units in y-direction. [5]

UNIT-IV

8. (a) Define the Animation with its different types. Also mention different animation techniques, define any two with appropriate diagram. [10]

   (b) Scale the polygon with co-ordinates A(2, 5), B(7, 10) and C(10, 2) by two units in x-direction and two units in y-direction. [5]

9. (a) Discuss the stages of making multimedia project and also discuss the different types of software required for implementing a multimedian production. [10]

   (b) Different issues & challenges in multimedia project. [5]

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(e) What do you mean by solid modeling ? Also explain its types.

(f) Describe the symmetrical way of representation of a circle with a suitable diagram.

(g) Differentiate between 2D and 3D transformation.

(h) Discuss the use of light pen and printer.

(i) Define multimedia with examples.

(j) Describe morphing and animation.

UNIT-I

2. (a) What do you mean by interactive graphics ? explain the framework for interactive graphics. [7]

(b) Write the steps of DDA line algorithms ? What is difference between DDA and Bresenham's Line drawing algorithm ? [8]

3. (a) Draw a line segment from end points (5, 5) to (13, 9) using Bresenham's algo of line drawing. [8]

(b) What do you mean by Circle drawing ? Explain Mid-point circle drawing algorithm with example. [7]

UNIT-II

4. (a) What do you mean by clipping ? Also explain its type. [8]

(b) Explain Cohen-Sutherland line clipping algorithm by giving suitable example. [7]

5. (a) What is Dream Weaver ? What are the features provided by dream weaver. Also explain the working exposure of Dream Weaver. [8]

(b) Explain the mid-point sub-division algorithm of line clipping using suitable example. [7]

UNIT-III

6. (a) How is multimedia used in business ? What are the different multimedia training opportunities ? [7]

(b) Apply the Shearing transformation to square with A(0, 0), B(1, 0), C(1, 1) and D(0, 1) as given below: [8]

(i) Shear parameter value of 0.5 relative to the line $Y_{ref} = -1$

(ii) Shear parameter value of 0.5 relative to the line $X_{ref} = -1$.