BCA–17

Interactive Computer Graphics

Bachelor of Computer Application
(BCA–11/16/17)

Fifth Semester, Examination, 2017

Time : 3 Hours   **Max. Marks : 80**

Note : This paper is of **eighty (80)** marks containing **three (03)** Sections A, B and C. Learners are required to attempt the questions contained in these Sections according to the detailed instructions given therein.

Section–A

(Long Answer Type Questions)

Note : Section 'A' contains four (04) long answer type questions of nineteen (19) marks each. Learners are required to answer *two* (02) questions only.

1. What do you mean by display devices ? How many types of display devices are there ? Discuss in detail.

2. What do you mean by an animation ? What are the uses of animation ? Explain all its types in detail.

3. What do you mean by transformation ? What are the uses of transformation ? Explain all its types with their derivations.

4. What do you mean by clipping ? How many types of clipping are there ? Derivate Cohen-Sutherland line clipping algorithm.

Section–B

(Short Answer Type Questions)

Note : Section 'B' contains eight (08) short answer type questions of eight (08) marks each. Learners are required to answer *four* (04) questions only.

1. Derivate DDA Algorithm.

2. Explain the following terms :

    (i)   Aspect ratio

    (ii) Persistence

    (iii) Antiaiasing

    (iv) Shadow-masking

3. Write short notes on the following :

    (i) DVST

    (ii) Pointing and Positioning

4. What do you mean by perspective projection ? Explain one-point and two-point perspective projection.

5. Write down the transformation matrix for rotation by $\pi / 2$ counter clockwise about a point P (1, 1).

6. What are the major application areas of computer graphics ?

7. What is the need of lookup table ? Give the organization of a color lookup table providing 12 bits per entry, per color for pixel position and with 8 bits per pixel in the frame buffer.

8. What do you mean by Graphic Software ? Write the name of any *two* graphic softwares and explain their features.

Section–C

(Objective Type Questions)

Note : Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this Section are compulsory.

1. .... is a technique in which man and machine are balanced with problem solving team, intimately coupling the best characteristics of each.

    (a) CAM

    (b) CAD

    (c) CRT

    (d) All of these

2. Delta-Delta shadow masking method, commonly used in :

    (a) Raster Technology

    (b) Random Scan System

    (c) Color CRT System

    (d) DVST

3. Which of the following is base on random technology ?

    (a) Computer system

    (b) TV

    (c) Calculator

    (d) Plotter

4. The most primitive display unit in graphics is :

    (a) Dot   (b) Pixel

    (c) Character   (d) None of these

5. One of the following terms is not associated with graphics :

   (a) Icon   (b) Deadlock

   (c) Button   (d) Fonts

6. Which of the following are transformations ?

   (a) Rotation   (b) Shearing

   (c) Reflection   (d) All of these

7. Data glove is an output device.

   (a) True   (b) False

8. Plasma Panels are also called :

   (a) Liquid crystal display

   (b) Non-emissive display

   (c) Gas discharge display

   (d) None of them

9. In Bresenham's algorithm error term is initialized to :

   (a) 0

   (b) 1

   (c) $-1/2$

   (d) None of these

10. G2F stands for :

   (a) Global Image Format

   (b) Graphics Interchange Format

   (c) Graphics Image Format

   (d) None of these

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