5ᵗʰ Semester,

Examination-2013-14

MCA-11 (Master of Computer Applications)

MCA-20B (ELECTIVE)

Computer Graphics

Time : 3 Hours   **Maximum Marks :** 60

Note : The question paper is divided into three sections A, B and C. Give the answer according to the directions given in each section.

Section-A

(Long Answer Type Questions)

Note : Answer any two questions. Each question carries 15 Marks.

(2×15=30)

1. Explain two dimensional Translation and Scaling with an examole.

2. Explain the transformation between coordinted systems in detail.

3. Explain the concept of line and curve attributes.

4. Define the following with example :

I. 3-D rotation

II. Parallel projection

Section-B

(Short Answer Type Questions)

Note : Answer any four questions. Each question carries 5 Marks.

$(4 \times 5 = 20)$

1. What is a homogeneous co-ordinate system ?

2. Define aspect ratio.

3. Explain Raster Scan Display System.

4. Differentiate between Random Scan and Raster Scan displays.

5. What are the merits and demerits of plasma panel display?

6. Define key frame.

7. Explain the concept of Clipping line and Clipping polygon in two dimensional viewing.

8. Explain the following :

I. Line drawing algorithm

II. Line clipping algorithm

Section-C

Objective Type Questions (Compulsory)

Note : Answer all questions. Each question carries 1 Mark.

$$(10 \times 1 = 10)$$

1. The major components of CRT are......

    (A)   Electronic Gum

    (B)   Phosphorous coated screen

    (C)   Control electrodes

    (D)   All of the above

2. Pixel Stands for :

    (A)   Picture Element   (B)   File Format

    (C)   Sound   (D)   None of the above

3. Bitmap Image is also known as......

    (A)   Picture   (B)   Photo

    (C)   Raster Images   (D)   None of the above

4. A joystick is a :

    (A)   Graphics input device   (B)   Graphics output divice

    (C)   Both A & B   (D)   None of the above

5. Joystick is are often used to control :

    (A)   Typing   (B)   Video games

    (C)   Voice   (D)   None of the above

6. Raster images are also known as :

   (A) Bitmap images   (B) Vector art images

   (C) Clip art images   (D) None of the above

7. Images made up thousands of pixel are called :

   (A) Bitmap   (B) Vector

   (C) Story board   (D) Graphics

8. The electron gun generates an......

   (A) Electron beam   (B) Electricity beam

   (C) Both A & B   (D) None of the above

9. The first GUI was designed by Xerox Corporation's Palo Alto Research Center in the....

   (A) 1990s   (B) 1970s

   (C) 1980s   (D) None of the above

10. The maximum number of points that can be displayed on the screen without overlap on the CRT is called the.........

   (A) Resolution   (B) Pixel

   (C) Both A & B   (D) None of the above