

# **IMPORTANT QUESTIONS AND ANSWERS ON COMPUTER GRAPHICS**

## **Question 1. What is computer graphics?**

Answer- The term computer graphics includes almost everything on computer that is not text or sound. It is an art of drawing pictures, lines, charts, etc. using computers with the help of programming. Or we can say that graphics is the representation and manipulation of image data by computer with the help from specialized software and hardware. Graphic designing is done using the various available software for computers which can produce the 3D images in the required shape and dimension. Computer graphics help us in getting the real display experiences.

## **Question 2. Write the important applications of computer graphic?**

Answer- Following are the applications of computer graphic

1. Computer graphics is used in the field of computer aided design.
2. It is used to produce illustrations for reports or to generate slide for with projections.
3. Computer graphic methods are widely used in both fine art and commercial art applications.
4. The artist uses a combination of 3D modelling packages, texture mapping, drawing programs and CAD software.
5. In the field of entertainment CG methods are now commonly used in making motion pictures, music, videos and television shows.
6. Computer-generated models of physical, financial and economic systems are often used as educational aids.

## **Question-3 What are the raster and vector graphics?**

Answer- The Raster and Vector graphics can be explained as-

**RASTER-** In computer graphics image, or BITMAP, is a dot matrix data structure representing a generally rectangular grid of pixels or points of colour, viewable via a monitor, paper, or other display medium. Raster image are stored in image files with varying formats.

**VECTOR-** Vector graphics is the use of geometrical primitives such as points, lines, curves, and shapes or polygon, which are all based on mathematical expressions, to represent image in computer graphics. "Vector", in this context, implies more than a straight line.

## **Question-4 Write the difference between vector and raster graphics?**

Answer-Following are the differences between vector and raster graphics-

1. Raster or Bitmap images are resolution dependent because of this it's not possible to increase or decrease their size without sacrificing on image quality. While vector based image are not dependent on resolution. The size of vector image can be increased or decreased without affecting image quality.
2. Raster or bitmap images are always rectangular in shape, Vector image, however, can have any shape.
3. Unlike raster image, vector image can't be used for realistic images. This is because vector images are made up of solid colour areas and mathematical gradients, so they can't be used to show continuous tones of colours in a natural photograph.

**Question-5 What is scaling in computer graphics?**

Answer- In computer graphic, image scaling is the process of resizing a digital image. scaling is a non-trivial process that involves a trade-off between efficiency, smoothness and sharpness. With bitmap graphics, as the size of an image is reduced or enlarged, the pixels which comprise the image become increasingly visible, making the image appear "soft" if pixels are averaged, or jagged if not.

**Question-6 What are the hardware devices used for computer graphics?**

Answer- The hardware devices used for the computer graphics are-

**Input Devices**

Keyboard, Mouse, Data tablet, Scanner, Light pen, Touch screen, Joystick

**Output Devices**

Raster Devices- CRT, LCD, LED, Plasma screens, Printers

Vector Devices- Plotters, Oscilloscopes

**Question-7 What are the features of inkjet printers?**

Answer- Features of inkjet printers are-

1. They can print 2 to 4 pages per minute.
2. Resolution is about 360d.p.i. therefor better print quality is achieved.
3. The operating cost is very low. The only part that requires replacement is ink cartridge.
4. Four colours cyan, yellow, magenta, black are available.

**Question-8 What are the advantages of electrostatic plotters?**

Answer- Following are the advantages of electrostatic plotters-

1. They are faster than pen plotters and very high quality printers.
2. Recent electrostatic plotters include a scan conversion capability.
3. Colour electrostatic plotters are available. They make multiple passes over the paper to plot colour picture.

**Question-9 What is meant by scan code?**

Answer- When a key is pressed on the keyboard, the keyboard controller places a code carry to the key pressed in to the part of the memory called as the keyboard buffer. This code is called as scan code.

**Question-10 Define Random and Raster scan displays?**

Answer- Random scan is a method in which display is made by electronic beam, which is directed only to the points or parts of the screen where picture is to be drawn.

The Raster scan system is a scanning technique in which the electron sweep from top to bottom and from left to right. The intensity is turned on or off to light and unlighte the pixel.