Long Questions

3.1 Input devices

Q.1 Define input devices. also write note on following input devices.

a. Mouse b. Joystick c. Light pen d. Trackball

Input devices:

The devices which are used to enter data and instructions into the computer are called input devices.

a Mouse

A mouse is an input device that rolls around on a flat surface and controls the pointer on a display screen. A typical mouse has two events left and right

Types of mouse events

A typical mouse can perform the following events.

- Left click
- Right click
- Drag

Events of mouse

Mouse event refers to the activity that can be performed by using the mouse.

Left click

Left click is used to select a graphical object such as file icon and a peace of text in a document etc.

Right click

Right click is used to view the properties of an object such a file, folder, desktop etc.

Drag event

This event is used to select more than one items at a time, or to drop an object into another application.

b Joystick

Joystick is an input device used for games, computer aided designs or simulations. With a joystick, the pointer continues moving in the direction the joystick is pointing. Most joysticks include two buttons called triggers.

c Light pen

Light pen is a light sensitive input device shaped like a pen. It used to draw on the computer screen or to make menu selection. The light pen makes contact with the screen, it sends a signals back to the computer containing the x,y coordinates of the point light pens can be sued on any size screen.

d Trackball

Trackball contains exposed on its surface. To move the pointer on the screen, you roll the ball with your thumbs fingers, or the pal of your band. The advantage of trackballs over mouse is that the trackball is stationary so it does not require much space for use.

3.2 Output devices

Q.2 Define output devices. Also describe different types of monitors.

Ans: Output devices

The devices which are used to receive data and information from the computer are called output devices.

Name of common of output devices

The most commonly used output devices are

- Monitor
- Printer
- Speaker etc.

Soft copy

An electronic version of documents stored normally as a file on a storage device is called soft copy.

Monitor resolution

The resolution of a monitor refers to the number of pixels on the screen, expressed as a matrix.

Categories of monitors

There are two major types of monitors.

- Monochromes monitors
- Color monitors

Monochrome monitors

Monochrome monitors can display only one color such as green amber or white. Against a contrasting background. Which is usually black.

Color monitors

Color monitors display combinations of red, green and blue colors. These are the basic colors and their combination can display a full range of colors.

Types of computer monitors

There are two basic types of monitors

- CRT cathode rays tube monitors
- Flat panel monitors.

CRT monitors

A CRT monitor consists of a phosphorus coated screen. The smallest number of phosphor dots that the gun can focus on is called a pixel or picture elements.

Flat panel monitors

Flat panel monitors are usually used in portable computer and laptops because of their small size. LCD monitors create image with a special kind of liquid crystal that is normally transparent but becomes opaque when charged with electricity.

Video controllers

The quality of the images that a monitor can display is defined as much by the video controller. The resolution of the monitor is actually determined by the video controller. e.g. video graphic array (VGA) has resolution 640× 480 pixels, super video converter (SVGA) has resolution 1024× 768 etc.

3.3 Printers

Q.3 Define printers. Also describe impact printers and its types.

Ans: A printer is a device that produces hardcopy on the paper. Printers are commonly used in business to get the documents printed on paper.

Categories of printers

There are two main categories

- Impact printers
- Non impact printers

Impact printers

An impact printer produces images by striking an inked ribbon with a hammer or a set of pins, pressing ink from the ribbon on to a piece of paper.

Types of impact printers

The three most common forms of impact printers are

- Dot matrix printer
- Daisy wheel printer
- Line printer

Working of dot matrix printer

Dot matrix printer produces characters by striking pins against an ink ribbon to print closely spaced dots in the appropriate shape. The shape forms a number, alphabet or other special characters. They can print multiple copies of a page at a time.

Daisy wheel printers

Daisy wheel printer has characters etched at the outer edge of a pedaled wheel hence the name display wheel which forms characters in the same way as a typewrite. Daisy wheel printers are loud and slow.

Working of line printer

Line printer is some what printer to the daisy wheel is the line printer. Line printers have a mechanism that allows multiple characters to be simultaneously printed on the same line. Line printer has speeds ranging from 300 LPM (line per minute) to 2400 LPM.

Q.4 Define non impact printer. Also write a detail note on types of non impact printers.

Ans: A non impact printer produces images on paper without striking the page.

Types of non impact printers

There are four types of non impact printer listed below.

- Laser printer
- Electro thermal printer
- Electrostatic printer
- Color printer

Working of laser printers

Laser stands for light amplification by stimulated education emission of radiations. They are laser beams to burn special ink called toner. They create high quality output at a relatively speed. Laser printers have speeds of 4, 8, 12, or more pages per minute.

Mechanism of laser printing

Laser printing mechanism listed below

- Laser printers apply an electrostatic charge to a drum inside the printer cartridge.

- A laser or a light emitting diode then discharges portions of the drum to form the characters or graphics.
- Charged toner attaches itself to these discharged sections.
- A charged piece of paper is passed over the drum, transferring the toner.

Electronic thermal printer

An electro thermal printer is a type of printer that uses heated pins to burn image onto heat sensitive paper. These types of printers are commonly used in calculators and fax machines.

Working of electrostatics printers

Electro static printers use a special photographic paper that allows characters to be etched on to the paper using a stylus. The stylus is made up of tiny wires and forms characters by placing an electrostatic charged image on the paper. It can print more than 5000 lines per minute.

Inkjet/color printers

Inkjet printer is a type of printer that works by spraying ink on a sheet of paper. Magnetized plates in the path direct the ink onto the paper n the desired shapes, inkjet printer are capable of producing high quality print that are produced by laser printers. A typical inkjet printer provides a resolution of 300 dots per inch.

Q.5 Define plotters and also describe different types of plotters.

Ans: A plotters is a large scale printer that receives commands from a computer to make drawings on the paper with one or more automatic pens.

Types of plotters

There are three basic types of plotters

- Drum plotters
- Flatbed plotters
- Electrostatic plotters

Drum plotters

The printing mechanism of the drum plotter involves a pen and a drum. The paper is wrapped onto the drum that rotates back and forth. To produce an image onto the paper, the pen mounted on a cartridge moves horizontally while the rotation of drum causes the paper to move vertically.

Flat bed plotters

The printing mechanism of flatbed plotters consists of two arms and a rectangular flatbed. Flatbed plotters use two arms, each of which holds a set of colored ink pens. The two arms operate at right angle as they draw on a stationary piece of paper.

Electrostatic plotters

Electrostatic plotter draws on negatively charged paper with positively charged toner. They are most frequently used for CAE (computer aided engineering applications) such as CAD (computer aided design) and CAM (computer aided manufacturing).