SHREE H. N. SHUKLA GROUP OF COLLEGES

(Affiliated to Saurashtra University & Gujarat Technological University)

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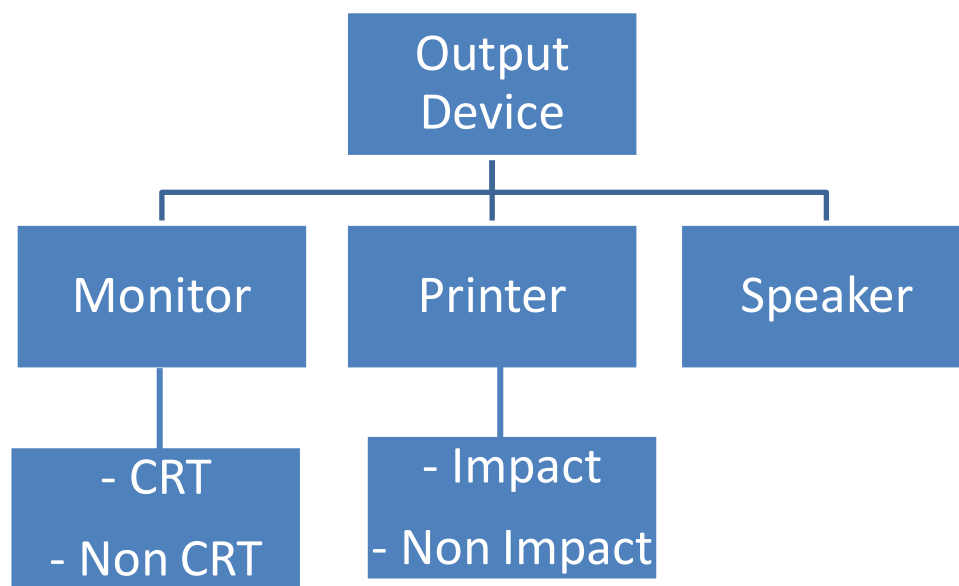COMPUTER FUNDAMENTAL
BCA & BSC IT SEM 1

Ch – 3   Output Devices

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                    ┌──────────────┐
                    │   Output     │
                    │   Device     │
                    └──────────────┘
          ┌────────────────┼────────────────┐
   ┌────────────┐   ┌────────────┐   ┌────────────┐
   │  Monitor   │   │  Printer   │   │  Speaker   │
   └────────────┘   └────────────┘   └────────────┘
          │                │
   ┌────────────┐   ┌────────────┐
   │  - CRT     │   │  - Impact  │
   │  - Non CRT │   │  - Non Impact│
   └────────────┘   └────────────┘
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Definition:

- Output device is electronic device that receive data from the computer and translate data from the computer and translate then human language.
- There are many types of output device available today like monitor, printer and speaker.

1) Monitor

- A monitor is an electronic output device that is also known as a **video display terminal** (VDT) or a **video display unit** (VDU).
- It is most popular output device.
- It produce soft copy output.
- It was found in 1862.

- It is used to display images, text, video, and graphics information generated by a connected computer via a computer's video card.
- It is a window that generate output of all the process of computer.
- There are two types of monitor like CRT and Non CRT.

1. CRT:

- CRT means Cathode Ray Tube.
- It is Non Portable Monitor.
- This Monitor is look like TV.
- It is most common and popular output device.
- It is used Cathode Ray Tube.
- This monitor available in many size like 15,17,21 and 24 each.
- The electron beams repeatedly hit the surface of the screen. These guns are responsible for generating RGB (Red, Green, Blue) colors, and more other colors can be generated with the help of combining these three colors.
- CRT Monitor also available in black & white color.
- It is old technology not use today.

2. Non CRT:

- Non CRT include LCD,LED,PDP.
- It is use micro processer chip.
- It is light in weight.
- It is use less power.
- It is a portable.
- It is advance technology use every ware today.

❖ Types of NON-CRT Monitors.

- ▪ There are three types of monitor like LCD, LED and PDP.

i) LCD

- ▪ Liquid Crystal Display.
- ▪ After CRT, LCD monitor is used.
- ▪ It is small in size and light in weight.
- ▪ It is used microchip for processer.
- ▪ It provide high resolution.

- LCD was found in 1968.
- LCD monitor is available only in color.
- There are various size of LCD monitor 17,19,21,24,29.

Ii) LED

- Light Emitting Diodes.
- It was found in 1977.
- After LCD,LED technology are used.
- It use less power compare to LCD.
- It is a portable
- It provide high resolution color.
- It is advance technology.

Iii) PDP

- Plasma Display Penal.
- It was found in 1981.
- The size of PDP is very big.
- It provide better resolution and high color combination and better picture quality.
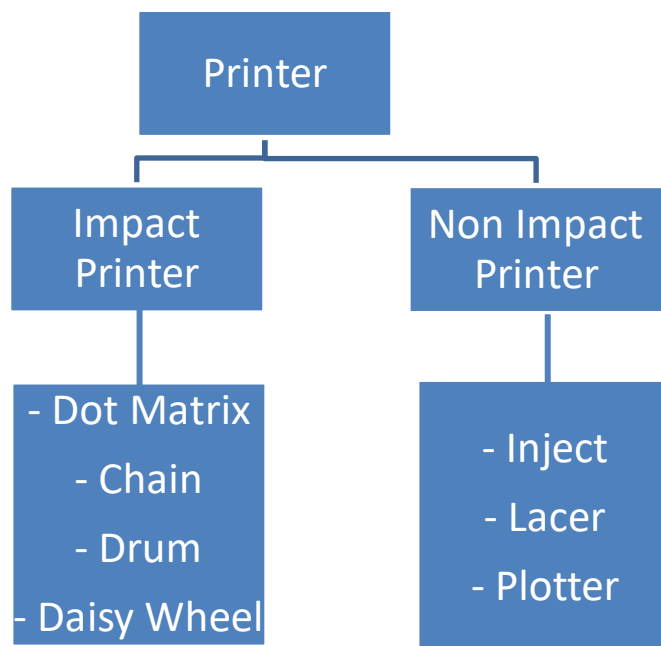- It is very expensive.

1 word Question Answer

Sr No.	Question	Answer
1.	monitor, printer and speaker is output device?	Yes
2.	VDT Stands for?	video display terminal
3.	VDU stands for?	video display unit
4.	CRT stands for?	Cathode Ray Tube.
5.	LCD Stands for?	Liquid Crystal Display
6.	LED Stands for?	Light Emitting Diodes
7.	PDP Stands for?	Plasma Display Penal

Q- Explain plasma Technology.

- A plasma display is a computer video display in which each pixel on the screen is light up by a tiny bit of plasma or charged gas, somewhat like a tiny neon light.
- In addition to the advantage of slimness, a plasma display is flat rather than slightly curved as a CRT display.
- Plasma displays come in conventional PC displays sizes and also in sizes up to 60 inches for home theater and high definition television.
- Plasma displays are thinner than cathode ray tube (CRT) displays and brighter than liquid crystal displays (LCD).
- Plasma displays are sometimes marketed as "thin-panel" displays and can be used to display either analog video signals or display modes digital computer input.

Q – Explain Printer in details.

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                    Printer
                       |
        +--------------+--------------+
        |                             |
  Impact                        Non Impact
  Printer                        Printer
        |                             |
  - Dot Matrix                    - Inject
    - Chain                       - Lacer
    - Drum                        - Plotter
  - Daisy Wheel
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- Printer are most popular output device.
- It is responsible to generate output in hard copy format.
- Printer are connect into parallel port and usb port.

- To operate printer it require driver and software.
- There are two types of printer like impact printer and non impact printer.
- Printer are classified as character printer, line printer and page printer.
- Character printer print one character at a time.
- Line printer print one line at a time.
- Page printer print one page at a time.
- Printer are available in color and black & white.
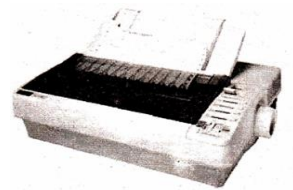- Printer was found in 1938.

❖ Types of Printer

1. Impact Printer:

- ▪ Impact printer use ribbon technology.
- ▪ It is old technology printer.
- ▪ There are four types of impact printer like DOT Matrix, Chain, Drum & Daisy Wheel Printer.
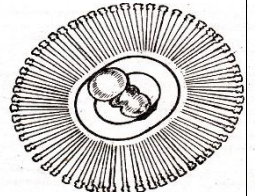
i) DOT Matrix

- Dot – Matrix printer is a one type of impact printer because they print by hammering the pins on the inked ribbon to leave ink impressions on the paper.
- They are character printers that from characters and all kinds of images as a pattern of dots.
- A dot – matrix printer has a print head that can move horizontally across the paper.
- The print head contains an array of pins, which can be activated independent of each other to extend and strike against an inked ribbon to form a pattern of dots on the paper.
- For faster printing, many dot matrix printers are designed to print both while the print head moves from left to right and while it moves from right to left an return.
- It having a printing speed is between 30 to 600 characters per second.
- The quality of the printed output is directly proportional to density of the dots on the matrix.
- This type of printers are very cheaper then other printers.
  - Dot – matrix printers are noisy as compared to non-impact printers.
  - It is old technology.

- It print multiple copy at a time by using carbon paper.

ii) Daisy Wheel Printer:

- It is impact printer because it use ribbon technology.
- When the desired character moves to the correct position, a print hammer strikes to produce the output.
- This type of printer's print quality is good.
- It is old technology.
- In this printer wheel are use.
- It is a character printer.
- The speed of this printer are 10 to 50 character per second (CPS).

iii) Chain printer:

- It is an Impact Printer and they use a rapidly moving chain called a print chain.
- Each link of the chain is a character font. There is a print hammer located behind the paper.
- It is a character printer.
- The speed of this printer are 40 to 100 character per second.
- It is old technology not use today.

iv) Drum Printer :

- It is consists of a solid, cylindrical drum that has raise characters in band on its surface.
- It is use line printer.
- The speed of this printer are 300 to 2000 line per minute (LPM).
- It is old technology not use today.

2. Non - Impact Printer:

- There are two types of non- impact like impact like inject and laser printer.
- This printer is use spray with laser technology.
- It is very advance technology.
- This type of printer use every ware today.

i) Inkjet Printer:

- It is non-impact printer because at use spray technology.

- It is produce a high quality output than dot-matrix printer because they from characters by very tiny ink dots.
- A high- resolution inject printer has 64 nozzles within height of 7mm providing print resolution of around 360 dots per inch.
- Inkjet printers produce printed output as patterns of tiny dots, they can print any shape of character that a programmer can describe.
- It is character printer.
- Inkjet printer produces high quality output.
- It is quiet in operation.
- Inkjet printer is color and black and white.
- The speed of this printer are 40 to 300 CPS.
- It is advance technology.
- It is expensive.

ii) Laser Printer:

- It is non –impact printer because it use spray technology.
- It is most popular in advance printer.
- Laser printers are page printers that print one page at a time.
- Low speed laser printer print 4 to 12 page per minute (PPM).
- High speed laser printer print 500 to 1000 page per minute (PPM).
- It is a very expensive.
- It can not generate multiple print at a time.

iii) Plotter:

- Plotter is use to print diagram, banner, large image and graphics image.
- Plotter are very slow and they are very large.
- It is expensive.
- It is non – portable.
- In plotter special types of paper or clothes are required.
- Plotters are ideal output device for architects, engineers, city planners, and others who need to routinely generate high-precision, hard – copy, graphic output of widely varying sizes.
- Mainly plotters are two types::
  1) Drum Plotter
  2) Flatbed Plotter

1) Drum Plotter
  - In a drum plotter the paper, on which the design has to be made is placed over a. drum, which can rotate in both clockwise and anti-clockwise directions to produce vertical motion.

- The mechanism also consists of one or more penholders mounted perpendicular to the drum's surface.
- The pen (s) clamped in the holder (s) can move left to right or right to left to produce horizontal motion.
- That is, under computer control, the drum and the pen (s) move simultaneously to draw the designs and graphs on the sheet placed on the drum.
- The plotter can-also annotate the designs and graphs so drawn by using the pen to draw characters of various sizes.

2) Flatbed Plotter
- A flatbed plotter plots a design or graph on a sheet of paper, which that is spread and fixed over a rectangular flatbed table.
- In this type of plotter, normally the paper does not move, and the pen holding mechanism is designed to provide all types of motions necessary todraw complex designs and graphs.
- That is, under computer control, the pen (s) move in the required manner to draw the designs and graphs on the sheet placed on the flatbed table.
- The plotter can also annotate the designs and graphs so drawn by using the pen to draw characters of various sizes.
- Each pen is program selectable, pen, having ink of different colors can be mounted in different holders to multi-colored designs.
- The plot size is restricted by the area of the bed. Some may be as small as 44 size (8"*11" page), while some very large beds used in tire design of cars, ships, aircrafts, buildings, highways, etc. can be up to 20 ft. by 50 ft.
- Some plotters are also designed to etch plastic or metal plates.

1 word Question Answer

Sr No.	Question	Answer
1.	Printer is used to generate output in?	Hard copy
2.	Character printer print _____	One character at a time
3.	Line printer print _____	one line at a time
4.	Page printer print_____	one page at a time

5.	Printer was found in _____	1938
6.	Impact printer use _____	ribbon technology

Q- Difference between Impact and Non- Impact Printer

Impact Printer	Non-Impact Printer
It is a noisy printer	It is a silent printer.
It prints a document by hammering on a paper.	It prints a document by spring on a paper.
This type of printers is very cheap.	The types of printers are very costly.
Dot-matrix, Drum, Chain, Daisy wheel printers are known as impact printers.	Inkjet and Laser printers are known as non – impact printers.
In this type of printers are used ink ribbons.	This type of printers are doesn't use any ribbon.

Q – Explain Speaker in detail.

- Speaker is output device.
- All the computer generate sound with the help of speaker.
- Speaker covered electronic single in to sound wave.
- There are two types of speaker like internal and external.

i) Internal Speaker :

- Internal speaker available with motherboard.

- It is only responsible to generate beep sound to alert the user.

ii) External Speaker:

- External speaker available with sound card as well as motherboard circuit.
- It required software or driver.
- Speaker support audio file, video file and sound file.

1 word Question Answer

Sr No.	Question	Answer
1.	Speaker is _____.	Output device
2.	Speaker covered electronic single in to _____.	sound wave
3.	Speaker support _____.	audio file, video file and sound file

Q – Explain Other Output Device:

1) LCD Projector:
- LCD Projector is type of Video Projector.
- It display video, image, file, on screen or other fade surface.
- It is modern projector.
- Easy to use any driver or software needed.
- It is portable and expensive.
- It is usefull in education department, private sector, government sector and many more places.

2) OHP Projector:

- OHP means Over Head Projector.
- It is use in education department.
- It display diagram, text or image on the screen.
- It is expensive.

- It is old technology not use today.

3) FAX :

- FAX means Facsimile.
- It is called telecopy or telefax.
- It transfer text and image.
- Telephone line is required to use of fax machine.

4) OLED Projector :

- OLED means Organic Light Emitting Diode.
- It is display high resolution video, image or graphics.
- It most found in 1987 by codek company.

5) Headphone :

- Headphone are small listening device.
- It is a convert electronic single into sound wave.
- Headphone are also known as earphone.

6) SGD:

- SGD means Speech Generating Device.
- It is also known as voice output communication on aids and voce.
- It is electronic device that allow user to select message to be spoken.
- This device are attach in to computer system.
- It is expensive and not widely use.

7) Google Glass :

- Google Glass is optical head display technology.
- It look like eye glass.
- It display information in eye glass.
- The first Google glass was found in 15th may 2014.
- The price of Google Glass is $1500.
- On January 2015, Google was announce that it would be stop production of Google glass for security.

8) COM(Computer Output Microfilm)

1 word Question Answer

Sr No.	Question	Answer
1.	LCD Projector is type of _____.	Video Projector
2.	OHP means _____.	Over Head Projector
3.	FAX means?	Facsimile
4.	OLED means ?	Organic Light Emitting Diode
5.	_____ are small listening device.	Headphone
6.	Headphone convert electronic single into _____.	sound wave
7.	SGD means _____.	Speech Generating Device
8.	Google Glass is optical head _____.	display technology
9.	Google Glass look like _____.	eye glass