

Programme: B.A

Subject : Computer Science

Semester : III

Course Code: CSG 107

Course Title : Computer System–Desktop Publishing.

Unit III : Graphics: Hardware

Module Name: Storage Devices: Blu ray, DVD and Flash drives, Printers: Inkjet and Laser

Outlines:

Storage Devices: Blu ray, DVD and Flash drives, Printers: Inkjet and Laser

- ✓ **Introduction to Storage Devices**
- ✓ **Storage Devices: Blu ray, DVD and Flash drives**
- ✓ **Introduction to Printers**
- ✓ **Working of : Ink jet and Laser printers**

Introduction to Storage Devices

- **Definition: Storage device is a computer hardware component that helps to store, porting or retrieving data files and objects.**
- **Examples:**
- **External HDDs and SSDs.**
- **Flash memory devices.**
- **Blu ray disc.**
- **DVD.**

- **Features of storage devices:**
- **Storage devices are capable to store information temporarily and permanently.**

- Storage devices can be internal or external to computer systems, servers or computing devices
- Data is stored in the digital form i.e. binary numbers 0 and 1.
- Users of computer system can access the data whenever needed.

- **Blu ray disk:** it is an optical storage device. Thus all read and write activities are performed by light. It uses a blue-violet laser beam for read and write operations.
- Features of Blu ray disk
 - Blu-ray is commonly used to store high definition films (HD).
 - A single layer Blu-ray can store 25Gb of data.
 - They are available as hybrid Blu ray / DVD disks that can be read in both a Blu-ray and DVD player.
 - They are less expensive devices, light weight, and easy to transport because it is removable device.

- DVD: DVD stands for Digital Versatile Disc. It is an optical storage device.

Features:

1. It is a digital optical disc storage format used to store high capacity data like high quality videos and movies.
2. DVDs provide higher storage capacity than CDs(compact disc) and can be played in multiple types of players like DVD players.
3. Excellent sound and picture quality, thus is an good option to store videos and audios.
4. Information can be stored on both sides of DVD unlike CD.
5. Relatively cheap.

- **Flash Drives:** A flash drive is a small and portable storage device that connects to computers and other devices using a USB (Universal Serial Bus).

Features:

1. Flash memory is used for easy and fast information storage in computers, digital cameras and home video game consoles.
2. Flash memory has the potential to clear and rewrite data.
3. It's non-volatile meaning it can hold data even without the presence of power
4. Flash Drives are speedy, durable, reliable and Efficient

Introduction to Printers

- **Printer:** A printer is a device that accepts text and graphic from a computer and transfers the information on to a paper.
- In Desktop Publishing printers are used for proofing.
- **Types of Printers:**
 - Inkjet
 - Laser
- **Printers: Ink jet and Laser**
- **Ink Jet Printers:**
 - They are used for low cost print outs.
 - It prints slowly and range of colours is limited.
 - printers are reasonably fast and easy to use
 - These printers do not take warm up time.
- **Working of Ink jet Printers:**
- It contains a paper feed assembly, ink cartridge, print head, stabilizer bar, and belt.

- It stores the ink in cartridges; these ink colors are a combination of cyan, magenta, yellow, and black color.
- The assembly passes from side to side across the paper. Tractor device feeds the paper into the printer in small jumps.
- The print-head contains a heating element, It heats the liquid ink to boiling point.
- When ink boils the pressure increases and ink is pushed through the nozzle into the print-head and onto the paper.

- **Laser printers**

- They print highest quality graphics and text printouts.
- They are faster and can print around 100 pages per minute.
- It is a backbone of Desktop Publishing as it is a reliable proofing device for black and white or single color jobs.

- **Working of Laser printers**

- It uses the laser or non-impact photocopier technology to print the text and images on the paper.
- As it gets input to print any document, a laser beam draws the document on the selenium-coated drum with the help of electric charges.
- When the drum is charged, it is rolled in toner (dry ink powder) and the ink follows the image, which has charged on the drum.
- The ink is combined with the paper, including heat and pressure, then transferred on a chunk (piece) of paper.