

# BASIC COMPUTERS

## Course Title: Introduction to Computers

### Module 1: Introduction

- Overview of the course
- Importance of understanding computers
- Basic terminology: Hardware, Software, Input, Output, Processing
- Evolution of computing devices

### Module 2: Brief History

- Early computing devices: Abacus, Pascal's Calculator, Babbage's Analytical Engine
- Development of modern computers: ENIAC, UNIVAC, IBM PC, Personal Computers, Laptops, Tablets, Smartphones
- Milestones in computer history

### Module 3: Characteristics of Computers

- Speed
- Accuracy
- Versatility
- Automation
- Storage and Retrieval
- Diligence

### Module 4: Input-Process-Output Model

- Explanation of the Input-Process-Output model
- Examples of Input devices (keyboard, mouse, touchscreen, etc.)
- Processing units (CPU, GPU)
- Output devices (monitor, printer, speakers)

### Module 5: Block Diagram of a Computer

- Overview of the major components: CPU, Memory, Input/Output Devices, Storage Devices
- Data flow within a computer system
- Role of buses in data transfer

### Module 6: Input Devices

- Overview of various input devices

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- Detailed explanation of each device:
- Keyboard
- Mouse
- Touchpad
- Touchscreen
- Scanner
- Microphone
- Webcam
- Joystick
- Graphics Tablet

## Module 7: Output Devices

- Overview of various output devices
- Detailed explanation of each device:
- Monitor (LCD, LED, OLED)
- Printer (Inkjet, Laser, Dot Matrix)
- Speakers
- Headphones
- Projector
- Plotter

## Module 8: Memory & Storage Devices

- Difference between memory and storage
- Types of Memory: RAM, ROM, Cache memory
- Types of Storage Devices: Hard Disk Drive (HDD), Solid State Drive (SSD), USB Flash Drive, Memory Cards

## Module 9: Hardware

- Definition and examples of hardware
- Classification of hardware components:
- Central Processing Unit (CPU)
- Motherboard
- Graphics Processing Unit (GPU)
- Power Supply Unit (PSU)
- Cooling Systems (fans, heat sinks)
- Expansion Cards (graphics cards, network cards)

## Module 10: Software

- Definition and examples of software

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- Classification of software:
- System Software: Operating Systems (Windows, macOS, Linux), Device Drivers, Utility Software
- Application Software: Productivity Software (Word Processors, Spreadsheets, Presentation software), Graphics Design Software, Multimedia Software, Entertainment Software, Educational Software

## Module 10a: System Software

- Explanation of system software
- Types of operating systems: Windows, macOS, Linux
- Role of device drivers in system operation
- Utility software: Antivirus, Disk Cleanup, File Compression tools

## Module 10b: Application Software

- Explanation of application software
- Examples of application software:
- Word Processing software (Microsoft Word, Google Docs)
- Spreadsheet software (Microsoft Excel, Google Sheets)
- Presentation software (Microsoft PowerPoint, Google Slides)
- Graphics Design software (Adobe Photoshop, Illustrator)
- Multimedia software (Adobe Premiere, VLC Media Player)
- Entertainment software (Video games)
- Educational software (Learning Management Systems, Educational Games)