University of Mosul
Lecture No.: 1
College of Veterinary Medicine
Date: 2024-2025
Unit of Scientific Affairs
Website: https://uomosul.edu.iq/veterinarymedicine/

Lecture title: Introduction to Digital Computer World

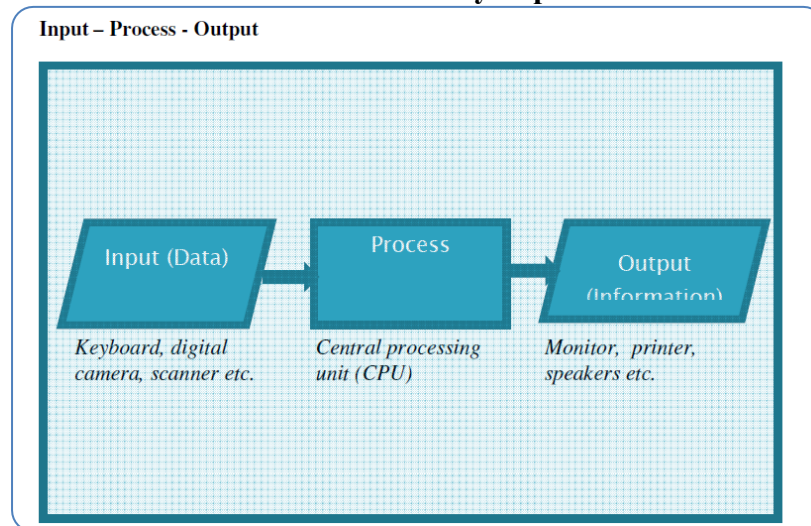**Lecturer Affiliation:** *Iman Thannoon Sedeeq,* BSc, MSc, PhD

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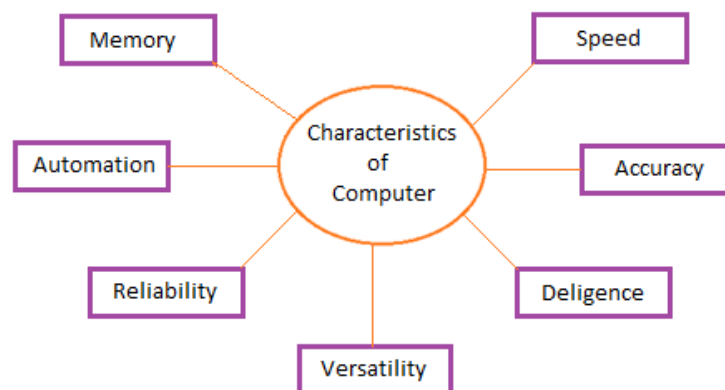
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Summary:

A computer is an electronic device that receives data as an input and processes it under some set of instructions in its memory to produce information as an output.

Characteristics of Computers

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Speed: The computer helps in saving time. We measure the speed of computers in terms of GigaHertz (Ghz) and MegaHertz (MHz).

Accuracy: Works done by a computer have better accuracy than the work done by a human being. The errors occur in a computer by entering wrong data by a human being.

Diligence: A computer can perform millions of tasks or calculations with the same consistency and accuracy. It doesn't feel any fatigue or lack of concentration.

Versatility: Computers are capable of performing more than one task at a time.

Reliability: A computer is reliable as it gives consistent result for similar set of data.

Automation : This feature of the computer replaces thousands of workers by performing tasks automatically.

Memory: A computer can store billions of data and these records are easily accessible with high accuracy. We measure computer storage in terms of Bytes, like KiloBytes (KB), Megabytes (MB), Gigabytes (GB).

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Advantages of computers

Multitasking: The computer can perform millions or trillions of work in one second.

Speed

Cost-Effective Storage: This also goes along with decreased requirements for physical storage configurations.

Accuracy

Data Security: do not allow malicious programs and other similar threats to access the materials.

Increased Productivity: The fast execution of tasks a computer avails helps a user increase the throughput.

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Disadvantages of computers

Virus and Hacking Attacks: A virus may be a worm and hacking is just unauthorized access over a computer for a few illicit purposes. **Viruses** can go to another system from email attachments, viewing an infected website advertisement, through removable devices like USBs, etc.

Online Cyber Crimes: Online cyber-crime means computers and networks may have been utilized in order to commit a crime.

Reduction in Employed Opportunity

High Cost: Computers are expensive.

Distractions/Disruptions: Because of their high entertainment value.

Health Problems: use of computers can lead to various health Hazards. Too much sitting near the screen results in eye strain and drying up of the eyes. Also, sitting leads to neck and back problems.

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Computer Components

Hardware vs Software

HARDWARE	VS	SOFTWARE
Devices that are required to store and execute (or run) the software.	DEFINITION	Collection of instructions that enables a user to interact with the computer to perform task(s).
Input, storage, processing, control, and output devices.	TYPES	System software, Programming software, and Application software.
CD-ROM, monitor, printer, video card, scanners, label makers, routers, and modems.	EXAMPLES	Quickbooks, Adobe Acrobat, Winoms-Cs, Internet Explorer, Microsoft Word, Microsoft Excel.
Hardware failure is random. Hardware does have increasing failure at the last stage.	ISSUES	Software failure is systematic. Software does not have an increasing failure rate.
Hardware wears out over time.	DURABILITY	Software does not wear out over time, however, bugs/issues are discovered in software over time.