Name Kashif Ahmed

Id 14225

Subject Computer Application to Business

Midterm (summers)

Submitted to: <u>Sir Zakir Rahim</u>

Q1. (a) In your opinion what are the 3 most important characteristics of computers, Explain each characteristic?

ANS) In my opinion the 3 most important characteristics of computer are given below:

- **Speed**
- **Accuracy**
- **Reliability**

1. Speed:
Computers are much faster at doing mathematical calculations than humans. Your computer can perform millions of tasks per second.
It takes an hour or a day for a person to do a mathematical calculation or any task, do the same calculation, or work on a computer doing microseconds or nanosecond.
2 GHz to 4 GHz is the speed range of computer device.

2. Accuracy
The accuracy of a computer is consistent. The computer gives us accurate results or calculations.
The error occurs as a result of any calculation on a computer only because of an error or instruction program, an error in input, etc.
You can tell directly that errors on computers can only occur because of people. Otherwise, the accuracy of a computer device is continuously high.

3. Reliability
Reliability is a very large computer feature. Today, almost all major industries or large e-commerce companies like Amazon and Flip kart, and large search engine companies like Google and Bing, all of these companies rely on computers.

Today, all the major industries and companies in the world have complete confidence in their computers, and their entire business goes from computers.

Today, the work of all companies is done through computers. These companies store all your data on your computer, the data of these companies are many types of data, such as the amount payable, payment dates and many other types of data, which will be used in the future when it is time to use the data.

(b) Write key characteristics of fourth generation of computers?

ANS) <u>Key characteristic of fourth generation:</u>

The fourth generation period was from 1971 to 1980. Fourth-generation computers used large-scale integrated circuits (VLSI). VLSI circuits with about 5000 transistors and other circuit fundamentals with their comparative circuits in a single chip are permissible to have fourth generation micros.

Fourth-generation computers have become more powerful, compact, reliable and affordable. As a result, it led to personal pc revolution (PC). This generation used time shares, real-time networks, distributed operating systems. All high-level languages, such as C, C++, DBASE, etc.

The main features of fourth generation are:

- VLSI technology used
- Very cheap
- Portable and consistent
- Use of PCs
- Very minor size
- Pipeline processing
- No AC needed
- Concept of internet was introduced
- Great progresses in the fields of networks
- Computers became easily available
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Some computers of this generation were:

- DEC 10
- STAR 1000
- PDP 11

- CRAY-1(Super Computer)
- CRAY-X-MP(Super Computer)

Q2. (a) Discuss the importance of Arithmetic logic unit and Control unit of a computer system?

ANS) Importance Of Arithmetic Logic Unit And Control Unit Of A Computer System:

Arithmetic logic unit:

Arithmetic Logic Unit (ALU) is a digital circuit used to perform digital and logical functions. It represents the basic block of a computer processing unit. Modern processors contain very powerful and complex devices. ALU allows computers to perform mathematical operations on binary numbers. They are located in the heart of each digital computer and are one of the most important parts of a processor (Central Processing Unit).

ALU is responsible for performing all logical and numerical operations.

Some of the architectural operations are: addition, subtraction, multiplication, and division.

Some of the logical functions are: comparison between numbers, letters, or special characters.

ALU is also responsible for the following conditions: Equal to conditions, less than conditions and superior to the situation.

Control unit of a computer system:

A control unit (CU) (or controller, the same thing) is a hardware that handles peripheral activities (separate devices connected to your computer, such as monitors, hard disks, printers, etc.). Controllers on personal computers are usually located in a single circuit board. The feature acts as an intermediate item that transfers information between computer memory and the region. Although the CPU on the computer provides

instructions to the controller, the controller itself performs the actual physical data transfer.

Control transfers of information between memory and I/O.

Raises and decodes instructions from micro programs.

Accountable for correct instruction implementation between a processor's many sub-units.

Control unit converts received information into order of control signals, and transfer to computer processor.

It controls files flow inside the computer processor.

(b)Write a detailed note on importance of RAM (Random Access Memory?

ANS) Importance of RAM (random access memory):

Computer Random Access Memory (RAM) is one of the most important elements in determining system performance. RAM gives apps a place to store and access short-term data. Save the information your computer is actively using so you can access it quickly. The more programs your system runs, the more you'll need.

System speed and performance is directly related to the amount of RAM you have installed. If the system has too little RAM, it can be slow. Memory is almost always actively used by your computer. If your system is slow or unresponsive, you may need a memory update. If you think you might need more memory, it's easy to update your PC or laptop.

RAM allows your computer to perform many of your daily tasks, such as loading programs, browsing the Internet, editing a spreadsheet, or experienced the last game. You can also quickly change the memory between these tasks; remember where you are on a task when you go to another task.

In a way, memory is like your office. It allows you to work on a variety of projects, and the bigger your office is, the more documents, folders and tasks you can have at the same time. You can quickly and easily access information without going to an archive (your storage device). When you're done with a project or go to the day, you can place some or all of the projects in the file for storage. The storage disk (hard drive or fixed state drive) is the file cabinet that works with the desktop to track your projects.

Q3. Write a detailed note on Basic Organization of a computer System along with the functions of each part.

ANS) <u>Basic Computer System Organization:</u>

Any computer can perform the four basic input, edit, output, and storage (IPOS) functions. These operations constitute the IPOS cycle. The internal design or structure of a computer can vary from one system to another, even if the basic functions remain the same. It provides a diagram of the locking of a computer. The image shows all operating devices on a computer that performs the basic tasks of the computer. The lines in the image indicate the flow of instructions and data, while the controller and the numerical/logical device together direct the control flow to the CPU.
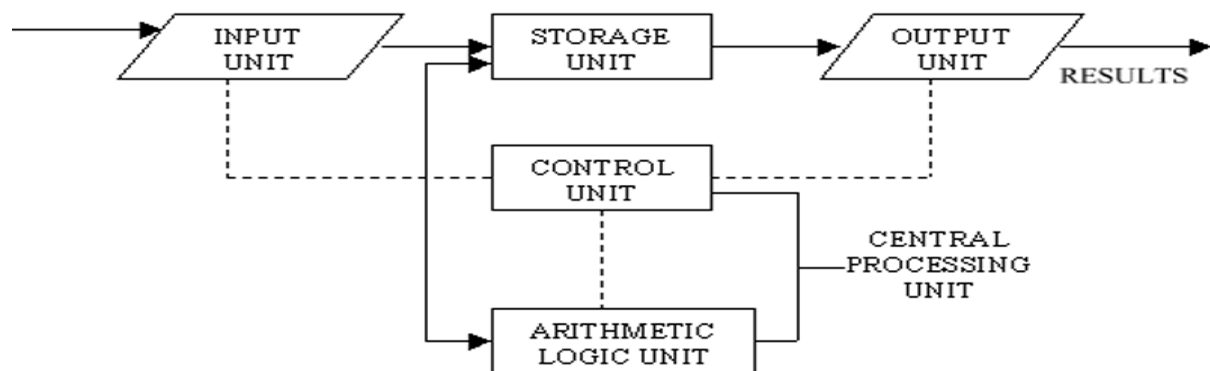
Input:

 1. It accepts (or reads) commands and documents from outside world

2. It converts these instructions and data in computer standard form

3. It supplies the converted instructions and data to the computer system for additional processing

Output Unit:

1. It accepts the outcomes formed by the computer, which are in coded custom and hence, cannot be easily understood by us

2. It converts these coded results to human suitable (readable) form

3. It supplies the converted outcomes to outside world

Storage Unit:

1. Data and commands required for processing (received from input devices)

2. In-between results of processing

3. Final results of processing, before they are out to an output device

There are two types of storage:

- **Primary storage**

- **Secondary storage**

Primary storage:

Used to hold running program directions

Used to hold data, in-between results, and results of continuing processing of job(s)

Fast in action

Small Capacity

Expensive

Volatile (loses data on power dissipation)

Secondary storage:

Used to hold kept program instructions

Used to hold statistics and information of stored jobs

Slower than primary storage

Large Capacity

Lot inexpensive that primary storage

Remembers data even without power

Arithmetic Logic Unit (ALU):

Arithmetic logic unit of a computer system is where actual instruction executions occur during processing.

Control Unit (CU):

A control unit on a computer system manages and coordinates the activities of all other components of the computer system.

Central Processing Unit (CPU):

It is the brain of a computer system.

It is accountable for controlling the actions of all other units of a computer system.

The System Concept:

There are three characteristics of system:

- ➢ **A system has more than one element.**
- ➢ **All elements of a system are logically connected**
- ➢ **All elements of a system are organized in a manner to achieve the system goal.**

A computer is a system because it consists of built-in components (input device, output device, storage unit, and CPU) that work together to perform the necessary steps in executing application.