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***Paper. COMPUTER SKILL***

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* ***Exam. MID TERM***

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***بسم اللہ الرحمن الرحیم.***

***Q no1. B***

* ***ANSWER • Small, affordable reliable, and easy to use PCs***

***. More powerful and reliable mainframe system and super computers***

***. Totally general purpose machines Easier to produce commercially Easier to upgrade***

* ***Rapid software development possible***

**Q no 2 B.**

**ANSWER. [8/21, 11:26 AM] Faisal Inu: Random Access Memory. It is also called “direct access memory”. Random access means that each individual byte in entire memory can be access directly. RAM is used to store data and instructions temporarily. A program must be loaded into RAM before execution.**

**RAM is volatile memory. It means that its contents are lost when the power is turned off. RAM is read/write memory. CPU can read data from RAM and write data to RAM. It is used to store data and instruction while it is being executed. RAM is also called main memory or primary storage.**

**RAM plays very important role in the processing speed of a computer. A bigger RAM size provides larger amount of space for processing. So the processing speed is increased. The amount of data that can be stored in RAM is measured in bytes. Most desktop computers typically have 2 GB to 4 GM of RAM. It also allows the addition of more memory if needed.**

**[8/21, 11:27 AM] Faisal Inu: Types Of RAM**

**DRAM (Dynamic Random Access Memory)**

**DRAM stands for Dynamic Random Access Memory. It is used in most of the computers. It is the least expensive kind of RAM. It requires an electric current to maintain its electrical state. The electrical charge of DRAM decreases with time that may result in loss of DATA. DRAM is recharged or refreshed again and again to maintain its data. The processor cannot access the data of DRAM when it is being refreshed. That is why it is slow.**

**SRAM (Static Random Access Memory)**

**SRAM stands for Static Random Access Memory. It can store data without any need of frequent recharging. CPU does not need to wait to access data from SRAM during processing. That is why it is faster than DRAM. It utilizes less power than DRAM. SRAM is more expensive as compared to DRAM. It is normally used to build a very fast memory known as cache memory.**

***Q no 2***

***ANSWER. What Is an ALU?***

***An arithmetic logic unit (ALU) is a digital circuit used to perform arithmetic and logic operations. It represents the fundamental building block of the central processing unit (CPU) of a computer. Modern CPUs contain very powerful and complex ALUs. In addition to ALUs, modern CPUs contain a control unit (CU).***

***Most of the operations of a CPU are performed by one or more ALUs, which load data from input registers. A register is a small amount of storage available as part of a CPU. The control unit tells the ALU what operation to perform on that data, and the ALU stores the result in an output register. The control unit moves the data between these registers, the ALU, and memory.***

**Q no1 A.**

**ANSWER.**

**The characteristics of computers that have made them so powerful and universally useful are speed, accuracy, diligence, versatility and storage capacity. Let us discuss them briefly. Computers work at an incredible speed. A powerful computer is capable of performing about 3-4 million simple instructions per second.**

**Q no 3.**

**ANSWER.**

* + Arithmetic Logic Unit (ALU)
  + Control Unit (CU)
  + Central Processing Unit (CPU)
  + Computer as a system

Basic Operations

* **Inputting**. The process of entering data and instructions into the computer system
* **Storing**. Saving data and instructions to make them readily available for initial or additional processing whenever required
* **Processing**. Performing arithmetic operations (add, subtract, multiply, divide, etc.) or logical operations (comparisons like equal to, less than, greater than, etc.) on data to convert them into useful information

* **Outputting**. The process of producing useful information or results for the user such as a printed report or visual display
* **Controlling**. Directing the manner and sequence in which all of the above operations are performed

**Storage Unit**

**Program and Data**

**Input Unit**

**Output Unit**

**Information (Results)**

**Central Processing Unit (CPU)**

**Ind**

# An input unit of a computer system performs the following functions:

* 1. It accepts (or reads) instructions and data from outside world
  2. It converts these instructions and data in computer acceptable form
  3. It supplies the converted instructions and data to the computer system for further processing

An output unit of a computer system performs the following functions:

1. It accepts the results produced by the computer, which are in coded form and hence, cannot be easily understood by us
2. It converts these coded results to human acceptable (readable) form
3. It supplies the converted results to outside world

# The storage unit of a computer system holds (or stores) the following :

1. Data and instructions required for processing (received from input devices)
2. Intermediate results of processing
3. Final results of processing, before they are released to an output device

# Primary storage

* Used to hold running program instructions
* Used to hold data, intermediate results, and results of ongoing processing of job(s)
* Fast in operation
* Small Capacity
* Expensive
* Volatile (looses data on power dissipation)

# Secondary storage

* Used to hold stored program instructions
* Used to hold data and information of stored jobs
* Slower than primary storage
* Large Capacity
* Lot cheaper that primary storage
* Retains data even without power

Arithmetic Logic Unit of a computer system is the place where the actual executions of instructions takes place during processing operation

Control Unit of a computer system manages and coordinates the operations of all other components of the computer system

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* It is the brain of a computer system
* It is responsible for controlling the operations of all other units of a computer system

# A system has following three characteristics:

* 1. A system has more than one element
  2. All elements of a system are logically related
  3. All elements of a system are controlled in a manner to achieve the system goal

A computer is a system as it comprises of integrated components (input unit, output unit, storage unit, and CPU) that work together to perform the steps called for in the executing program