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Course - Computer Organization And Assembly Language.
Code - CSE - 233.

Answere to the Question No - 1

@ Define Computer: Computer is an Electronic device that is designed to work with Information. The term Computer is drived from the latin term 'Computer' this means this means to calculate or programmable machine. Computer can not do Anything Without a program. It represents the decimal Number through a String of Binary digits. The word 'Computer' usually refers to the Center processor Unit. plus Internal Memory.

Charles Babbage is called the "Ground father" Of the Computer. The first Mechanical Computer designed by Charles Babbage was called Analytical Engine. It uses read - Only Memory in the form Of punch Card.

This Computer is an Electronic device that take input from the User And process these data Under the Control of a Set of Instruction (call program) and give the Result (Output) And save future use.

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Computer Organization Diagram :-

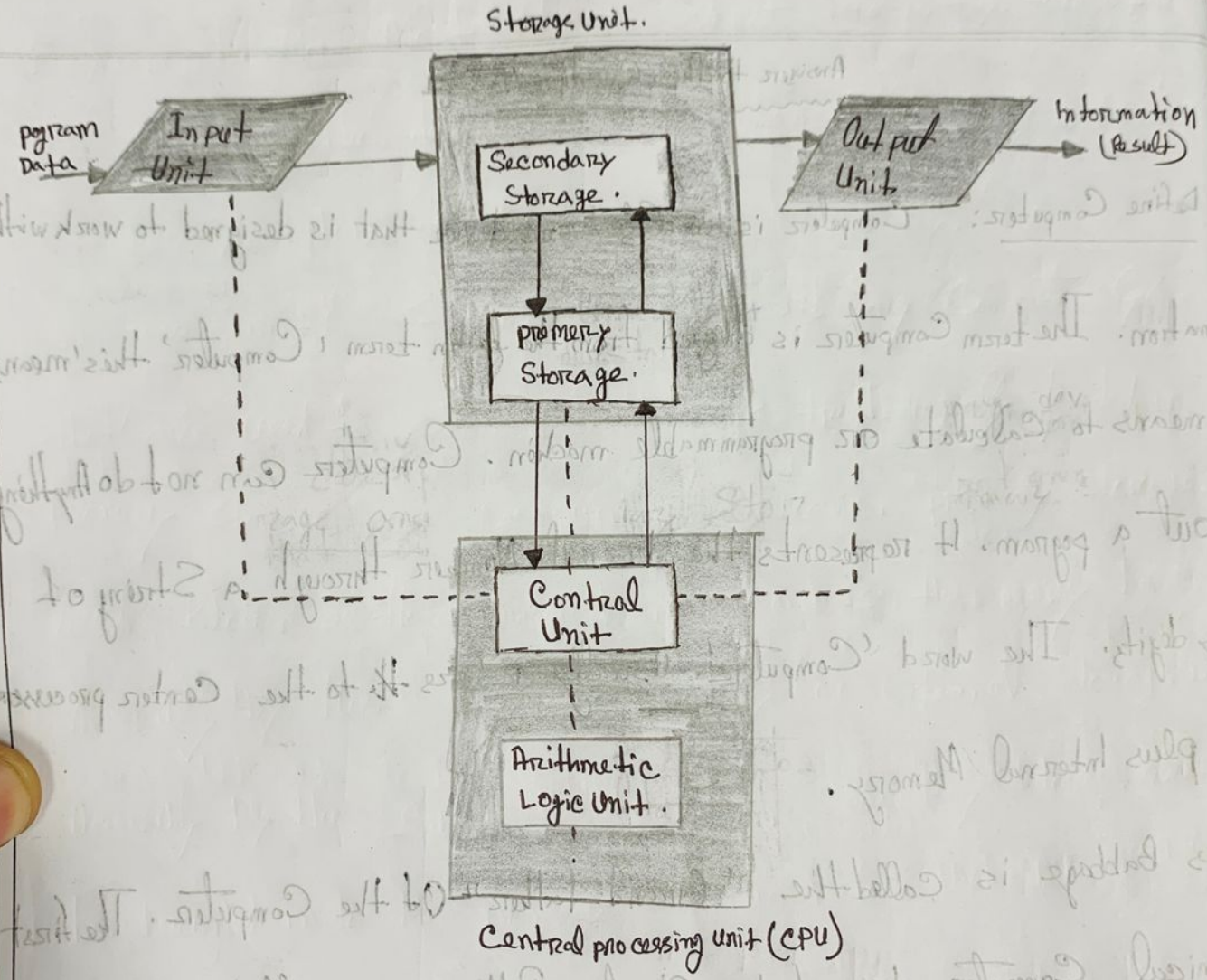
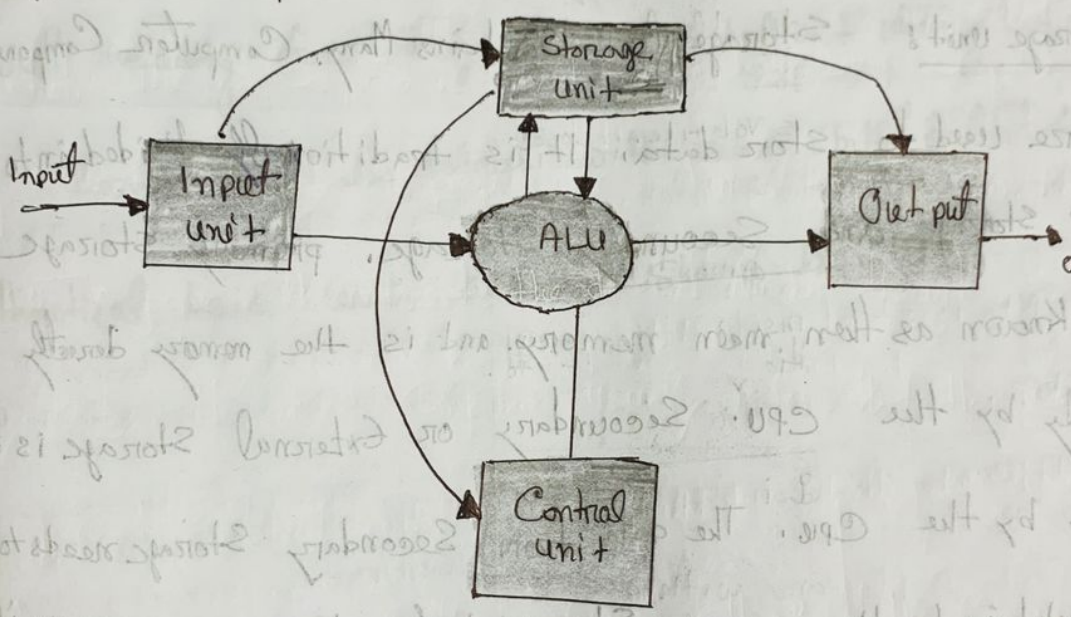


Fig: Computer Organization Diagram.

Answer to the Question No - 2

(a) Ans: A Computer system is basically a machine that Simplifies Complicated taks. It should Maximize performance and reduce cost as well as power Consumption. The different Components in the Computer System Architecture Are Input Unit Output unit, Storage Unit, Arithmatic Logic Unit, Control unit etc



Input unit : The Input unit provides data to the Computer system from the Out side. So basically it Links the External Environment with the Computer. It takes data from the Input device, Converts it into machine language and then loads it into the Computer System. Keyboard, Mous, printers, e.t.c, are the Most Commonly used Input Device.

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Out put unit: The out put unit provites the Result of Computer process to the User i,e it Links the Computer with the External Environment. Most of the Out put data is the form of Audio Or video. The different Out put Device are Monitors, printer Speakers, Headphones .e.t.c.

Storage unit: Storage Unit Contains Many Computer Components that are used to stor data. It is traditionally divided into Primery Storage and Secoundary Storage. primary storage Also Known as then main memory. and is the memory directly Accessibly by the CPU. Secoundary or External Storage is not Accessibly by the Cpu. The data from Secondary Storage needs to be brought in to the primery Storage befor the cpu can use it

Arithmetic logic Unit: All the Calculation related to the Computer system are performed by the arithmetic logic unit it can perform operation like Addition, subtraction Multiplaction, divisition e.t.c. The Control unit transfer data from Storage unit to Arithmetic unit when calculation need to be perform.

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The Arithmatic logic Unit And the Control Unit together form the Central processing Unit.

Control Unit (CPU): This Unit Controls all the Others Units Of the Computer System And so is known as the Central nervous System. It transfers data throughout the Computer System as are Required Including from Storage Unit to Central ~~Unit~~ processing Unit and vice versa.

The Control Unit also dictates how the Memory, Input output device, Arithmetic Logic Unit e.t.c, should be have.

(b) Ans: Difference Between primary Memory And Secondary Memory

Comparison parameters	primary Memory	Secondary Memory.
Storage Validity	→ primary Memory is the main memory And stores data temporarily.	→ Secondary memory is the External Memory And stores data permanently.
Access	→ The CPU can directly Access data.	→ The Cpu Can not directly Access data.
volatility	→ primary Memory is volatile. It loses data in case a power Outage.	→ Secondary memory is Non-volatile data is stored even during a power failure.
Storage	→ Data is Stored inside Costly Semiconductor Chip.	→ Data is stored on External Hard ware Device, (Hard Drive, Disk)
Division	→ It can be divided into RAM and ROM	→ The does not have such a classification, Secondary memories are permanent storage device like CDs, DVDs, Etc
Speed	faster	→ Slower
Stored data	→ It Saves the data that the Computer is Currently using.	→ It can save various types of data in various formats and huge size.

Answer to the Question No- 3

Answer: **Translator:** A translator is a programming language processor that Modifies a Computer program from one language to Another. It takes a program written in the source program And modifies it into a Machine program. It can find and detect the Error during translation.

Different Types of translators:

(i) Compiler.
(ii) Interpreter.
(iii) Assembler.

⇒ Examples of translators:

⇒ Compiler translator → Example
Microsoft visual studio,
GNU Compiler collection.
Common business Oriented Language.

⇒ Interpreter → Ocaml, List processing (LISP), Python.

⇒ Assembler → Fortran Assembly program (FAP)
Macro Assembly program (MAP)
Symbolic Optimal Assembly program (SOAP).

High Level language convert to Machine Code:

A High Level language to Machine Code can be done by Interpreter coding. A translator, in Software programming terms is a generic terms that could refer to a Compiler, assembler, higher or interpreter, Any thing that Convert higher level ~~in to~~ Code in to Another high ~~low~~ level code (e.g., Basic, C++, Fortran, Java) or lower-level (i.e. a language that the processor can understand), such as assembly language.

Interpreter: An interpreter translates code like a Compiler but reads that Code and immediately ~~exec~~ Executes on that code And there for is initially faster then a Compiler.

Compiler:

A Compiler is a Computer program that translates a program with in a high-level language to machanicle language of Computer. The compiler is used to translate Source code into machine code or Compiled code.