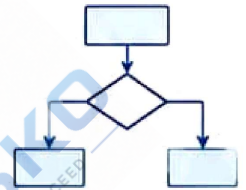
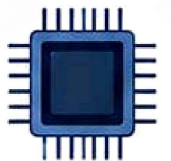
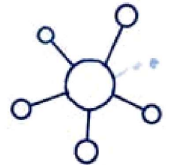


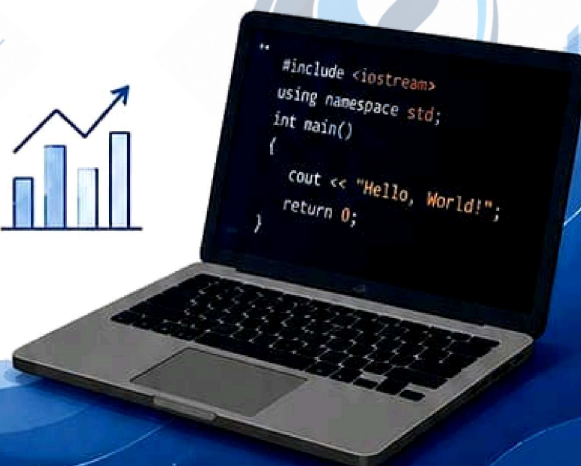
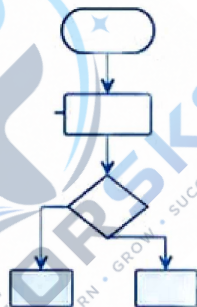
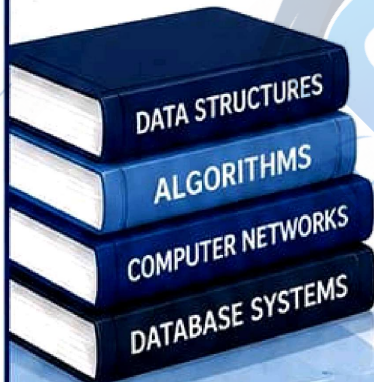
1010101010
0101010101
1010101010
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10110
01001
10101



Unit - II



Computer Memories.

A) Fill in the blanks.

1. Binary digit is the basic unit of memory.
bit
2. A collection of 8 bit forms a byte
3. RAM stands for Random Access Memory
4. Capacity is the amount of information (in bits) that a memory can store.
5. Full form of ROM is Read Only Memory
6. Access time is the time interval between the read/write request and the availability of data.
7. The External memory is called is Secondary memory.
8. Registers are very high-speed storage area located inside
9. The information is present in the cache it is called as cache hit.
10. Full form of PROM is Programmable Read Only Memory.

Unit - II

Memories

B)

Short Type.

1.

Ans:-

What is full form of RAM?

The full form of RAM is "Random Access Memory."

2.

Ans:-

What is non-volatile memory?

The non-volatile memory is the type of memory that stored data permanently and does not lost when the device is shut down or restarted.

3.

Ans:-

What is the full form of SSD?

The full form of SSD is "Solid State Drive".

4.

Ans:-

What is memory?

The computer memory stores data instructions, required during the processing of data and output result.

5.

Ans:-

What is Primary Memory?

The primary memory is the main memory of computer. It is a chip mounted on the motherboard of computer.

6.

Ans:-

What is volatile Memory?

The volatile memory is a type of memory that store data temporarily and lost it when the device is shut down or restarted.

7.

Ans:-

What is the full form of ROM?
The full form of ROM is "Read Only Memory".

8.

Ans:-

Which is the smallest entity of memory?
The smallest entity of memory is "bit".

9.

Ans:-

What is EPROM?
~~Eras~~ Erasable Programmable Read Only Memory is a special type of memory that serves as a PROM, but the content can be erased using ultraviolet rays.

10.

Ans:-

What is EEPROM?
Electrically Erasable Programmable Read Only Memory is a special type of PROM that can be erased by exposing it to an electrical charge.

c) Long Answer Type .

~~1.1~~

Ans:-

What is Memory? Explain types of memory of computer.
The Memory stores the data, programs, instructions required during the processing of data and output results.

Types of Computer Memories:

There are two main types of memory.

1. Primary Memory:-

It is the main memory of computer. It is a chip mounted on the motherboard. Primary memory is categorized into two main types. Random Access Memory (RAM) and Read Only Memory (ROM).
RAM is used to store temporary input data, Output data and results.
ROM is used to store the data that does not required a change. It stores data permanently.

The primary memory classified into two types

- i. Random Access Memory (RAM).
- ii. Read Only Memory (ROM)

i. RAM (Random Access Memory).

RAM is short-term memory. It stores data temporarily. It's called "random" because you can read and store data randomly. RAM is volatile that retains data as long as the computer power supply is on.

RAM is categorised in two ^{sub} types.

a) Static RAM (SRAM):-

Static RAM is the form of RAM and made with flip-flops and used for primary storage. It is volatile. It retains the data in latch as long as the computer is powered.

b) Dynamic RAM (DRAM):-

It is another form of RAM used as Main Memory, it retains information in capacitors for a short term period (a few milliseconds) even though the computer is powered.

2. ROM (Read Only Memory):

ROM is long-term internal memory. ROM is "Non-volatile Memory" that retains data without the flow of electricity. ROM is essential chip with permanently written data or programs.

There are three sub types of ROM.

a) PROM (Programmable Read Only Memory)

PROM stands for programmable ROM.

It can be ~~performed~~ programmed only be done once and read many. PROM retain data without flow of electricity.

b) EPROM (Electrically Erasable Programmable Read Only Memory).

EPROM is special type of memory that serves as a PROM, but the contain can be erased using ultra violet rays.

c) EEPROM (Electrically Erasable Programmable Read Only Memory).

EEPROM is special type of memory that serves as PROM, but the contain can be erase using electric charge.

2. Secondary Memory

This type of memory is also known as external memory or non-volatile. It is slower than main memory. It stores the data for long-term.

eg:- Hard disk, CD-ROM, DVD etc.

3. What is primary Memory? What are its types?

Ans:- Primary memory is the main memory of computer. It is a chip mounted on the motherboard of computer. Primary Memory is categorized into two main types:-

1. (RAM) Random Access Memory:-

It is short term memory. Its called random because you can read and store data randomly at any time or any where. RAM is volatile that retain all the data as long as the computer ~~se~~ power supply on. It is the fastest type of memory.

There are two sub-type of RAM.

1. Static RAM:

Static RAM is a form of RAM and made with flip-flops and used for primary storage. It is volatile. It retain data in latch as long as the computer powered. SRAM is more expensive and consume more power than DRAM. It used as Cache memory in computer system.

2. Dynamic RAM (DRAM):

It is another form of RAM used as Main memory. It retains information in capacitors for a short period even though the computer is powered. The data is refreshed periodically to maintain it. DRAM is cheaper, but it can store much more information. It is slower and consumes less power than SRAM.

1. ROM (Read-Only Memory):

ROM is long-term memory. It is Non-volatile memory that retains the data without flow of electricity. ROM comes with pre-written by the computer manufacturer to hold the instruction for booting process.

There are 3 sub types of ROM.

1. PROM (Programmable Read-Only Memory).

PROM stands for programmable ROM.

It can be programmed only once and read many times.

PROM is also non-volatile memory.

The difference between a ROM and a PROM is that a ROM comes with pre-written by the computer manufacturer whereas PROM manufacturer provides it as blank memory.

ii. EPROM (Erasable Programmable Read - Only Memory).

This memory is a special type of memory that serves as PROM, but the content can be erased using ultraviolet rays.

An EPROM differs from a PROM. PROM can be written only once and cannot be erased.

iii. EEPROM or E2PROM (Electrically Erasable Programmable Read Only Memory.)

1. It is a special type of PROM that can be erased by exposing it to the electrical charge.

2. Like other type of PROM, EEPROM retains data even when the power is turned off.

3. It is slower than other types of PROM.

✓✓

Explain different secondary storage devices?

Ans:

A secondary storage devices are non-volatile memory devices which stores data permanently for long term uses.

There are several types of secondary storage devices:-

1. Hard Disk Drive (HDD).

- i. The hard disk drive (HDD) is non-volatile computer storage device containing magnetic disks rotating at high speeds.
- ii. HDD has a high capacity it range from hundreds of GB to several TB. It is used for bulk storage.
- iii. HDD has low cost per GB compared to SSDs.

2. Solid State Drive (SSD).

- i. A solid-state drive (SSD) is a solid-state storage device.
- ii. It provides persistent data storage using no moving parts.
- iii. An SSD is often used as secondary storage device to provide relatively fast, persistent, direct-attached storage in a computer.
- iv) SSD are typically silent, resistant to physical shock and have higher input output rates.

3. Pen Drive-

- i) A pen drive also known as a USB Flash drive, is a compact, portable and plug-and-play storage device used for data storage, transfer and backup.
- ii) It connects to devices via a USB (Universal Serial Bus) interface.
- iii) It is available in sizes ranging from 2GB to 2TB or more.
- iv) It is resistant to physical shocks and impacts.
- v) It can store various types of files, including documents, media, and applications.

6. Explain the difference between primary and secondary memory with example.

Ans:

5. What is secondary storage? Explain Hard disk in details.

Ans:

Secondary storage is a type of non-volatile computer storage that stores long-term data even when the power is turned off. It is slower than primary storage.

A hard disk consists of one or more platters divided into concentric tracks and sectors. It is mounted on a central spindle, like a stack. It can be read/write head that pivots across the rotating disks. The data stored on the platters covered with magnetic coating. Hard disk is a fixed disk. The disk is not removable from the drive.

1. The hard disk is and Hard Disk Drive is a single unit.
2. Hard disk can store huge amount of data.

✓ Q.

Explain the difference between primary and secondary memory with example.

Ans:-

Primary Memory

Secondary memory.

1. Primary memory is the main memory.

1. Secondary memory is the external memory.

2. It is volatile that stores data temporary except ROM.

2. It is non-volatile that stores data permanent permanently.

3. It directly communicate to CPU

3. It is not directly communicate to CPU. Its required primary memory for its operations.

4. It is expensive than secondary memory

4. It is cheaper than primary memory.

5. It has fast access time

5. It has slow access time.

6. It is smallest in size.

6. It is biggest in size.

Examples:-

RAM, ROM.

Examples:-

HDD, FDD,
DVD, Pendrive etc.