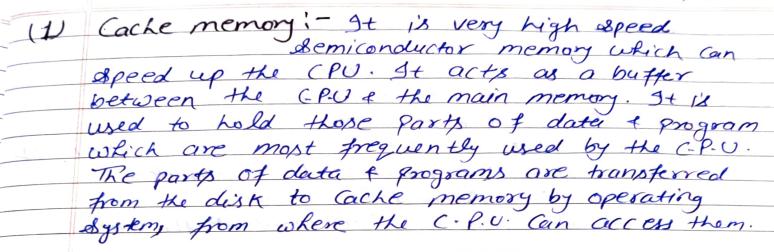
Memory: - A memory is just like a human brain It is used to store data & instructions. Computer memory is the Storage space in the computer, where data is to be processed & instructions required for processing are stored. The memory is divided into large number of small parts Called Cells. Each cell/Location has a Unique address, which varies from Leno to m/r size minus One Memory is Categorised in 3 following Typesi-(1) Cache memory (8) Primary memory/main memory (3) secondary memory 



Advantages: - (1) faster then main memory
(2) It consumes less access time as compared to
main memory.

(3) It stores the program that can be executed with in a short period of time.

(4). It stores data for temporary use.

Disadvantage :- (1) It has limited capacity

(2) Primary memory: - primary memory holds only
those data & instructions on
which the computer is currently working. It has a
limited Capacity & data is lost when power is
switched of f. It is generally made up of
semiconductor device. These memories are not
fest as registers. The data & instruction required
to be processed resides in the main memory.
It is devided in to two Category:

O RAM 2 ROM

## Character strips of main memory; -

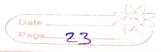
- 1. These are Demi Conductor memories.
- 2. It is known as the main m/s.
- 3. usually voletile memory.
- 4. Data is lost in case of power is switched off.
- 5. It is the working memory of the computer.
- 6. Faster then secondary memory.
- 7. A computer can not run without the grimary my.
- 3. Secondary memory:— It is also known as

  external memory or non-volutile.

  It is sslower than the main memory. These are
  used for storing douta permanently. CPU directly
  does not access these memory, instead they are
  excessed via input autput routines. The contents
  of secondary memories are first transferred
  to the main memory, & then the CPU. Can access it.
  eg:- HDD, DVD etc.

## Characteristics of secondary memory

- 1. These are magnetic & optical memories
- 2. also known as backup memory.
- 3. non-valatile memory.
- 4. Data is permanently stored even if power is off.
- 5. wed to store data in Computer.
- 6. computer may run without secondary memory. 7. slower then primary memories.



RANDOM ACCESS MEMORY [RAM] :-

RAM is the internal memory of the C.P.U. for storing data, program & program result. It is a read/write memory which stores data until the machine is working. As doon as the machine is switched off; dota is exased RAM is small, both in terms of its Physical size & in the amount of data it can hold.

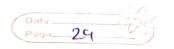
RAM is of two types: - (1) Static RAM [SRAM]
(2) Dynamic RAM [DRAM]

(1.) Static RAMI- The word static indicates that the memory retains its contents as long as power is being supplied sham chips use a matrix of 6-transistors of no capacitors. Transistors do not require power to prevent leakages So SRAM need not be refreshed on regular basis. SRAM is thus used as cache memory & has very fast access.

Character Stics i- (1) Long life (2) No Need to refresh (3) faster Dwed as Cache memory (5) Large Size @ Expensive

(7) High Powe Consumption

2) Dynamic RAM; - Unlike SRAM, AND DRAM must be Continuously refreshed in order to maintain the data. This is done by placing the memory on a refresh circuit that rewrites the data several hundred times per second.



DRAM is used for most system memory as it is Cheap & Small. All DRAMs are made up of memory cells, which are composed of one capacitor & one transistor.

Characterstics of DRAMi-

(1) Short data lifetime.

(2) refreshed Continuously

(3) Slower than SRAM

(4) Smaller in size

(5) Less expensive.

(6) Less power consumption

Read only Memory [ROM]:-

from which we can only read but cannot write on it. This type of memory is nonvolatile. The information is stored permanently in Such memories during manufacture. A ROM stores such instructions that are required to start a computer. This operation is refferred to as bootstrap.

Types of ROMsi-

(1) MROM [MASKED ROM] i- The very first

ROM's were hard-wired

devices that Contained a preprogramed set

of data or instructions. These kinds of

ROMs are known as MROM, which are

in expensive. It is programmed by TC manufacture.

## 2. PROM [ Programmable Read only Memory]:-

It is a computer memory Chip that Can be programmed once after it is created. One the PROM is programmed, the information written is permanent & Can not be exased or deleted- PROM was first developed by wen Tring Chow in 1956. Programmed by wer.

1205 in early obystems.

Todays, PROM in Computers has be Replaced by EEPROM.

3. EPROM [Erasable Programmable Read only Memory]:-

It is a memory this that does not lose data even when the power is switched off. This is a non-volatile memory. Each EPROM is individually programmed by an electronic device. After that the data can be exased by exposing the process EPROM to strong ultravoidate light.

Advantage - (x) Hon volatile
(x) quite effective

@ 9+ 1/2 reprogrammable.

Disadvantage in Transistors used in EPROM have

@ Noods U.V. light to exase the data.

not possible to exase a perticular by of data in EPROM.

Whale data is deleted.

@ It take some time to exase the date in EPROM.

Belondary Otorage Devices: - If we need to Store large amount of data permanently, we need a Cheaper of permanent memory. Such memory Called Secondary memory.

Types of secondary storage devices;

1- Floppy Disk [F.D.] i- It is a type of storage media that reads data storage.

B also known as a floppy diskette, floppy,

Or floppy disk that is used to store data.

It was extremely expensive as it was one of first types of hardware storage created in 1967 by IBM.

It Contained four basic Components; -Magnetic read/write heads.

helps to open a close the device.

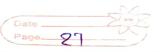
(\*)

Containing all of the electronics, it includes a circuit board.

It is placed through a spindle clamping device because it is spinning 300 to 360 rotations every minute.

Types of floppy DISK: - There are three type-

(1) 8-Inch Drive: In the early 1970's, 8-inch was the first floppy design that was used as read only formate then become able for both read & write. Storage 80 Kb.



2. 5 inch Drive it during 1980s, a 5 inch
floppy disk drive was produced
that was widely in use on PC. In 1990s,
5 inch floppy were also included on
Computers that Could have the ability to
Between 360 Kb 4 1-2 MB.

3. 3 Tuch Drive: - This drive is Encased in plastic, which can hold 1.44 mb on high-density disk + 730 kb on a double density disk.

Advantages: - (I) Portability @ compatibility

Disadvantages: - (1) Speed (2) Storage (3) File correct
(4) lack of Reliability (3) Physical Damages.

2. C.D. [Compact Disc] i- A circular disk introduced by James Russell- It is 4-75 in diameter, which is a flat, round, fortable storage medium used to record, store & playback audio, video & other data. On 17-Aug-1962, in Germany, the first CD was created at a philips factory. It can obtere date up to 700 mb. It of stores data as small notches & read with the help of leaser from an optical drive & notches are converted in to wable data by drives.

different types of C.D. :-(1) CD-ROM: It allows the computer to read data, which is already Stored in CD, It can not be deleted or Recordable (D((D-R) :- Also Known as eD-WORM ( Pwrite once Sony & Philips Jointly developed it. CD. + R: - A group of companies developed the + R format - It was developed 3. to increase the amount of storage wailable on a Compact disc. ( D. 48 has twike Storage & then CD-R. Rewritable CD (C.D-RW) = 9+ Can be used to write data a number of times, excised & reused, and also used as video CD (VCD): - 9+ was a CD. including 5. had a Capacity of 650 mb/700 mb. mini-(Di-9t is wide around zinches & Can Store 210 mb data.

3. Hard Disk: — Also known as magnetic disc

that stores data. It is located in

a drive unit. It is non-volatile storage device

that Contains platters & magnetic disks rotating

at high speed.

Stis designed to store data permanently in

including large storage capacity Compared to

primary memory.

H.D. was introduced in the year 1956 by IBM.

The first &C. Contains a hard drive of less

then I mb. while modern &C. Containing a

H.D. of 178.

Advantagesi- (\*) Low (ost & faster then optical drive (\*) large storage.

Disadvantages: (x) Slower than RAM.

(x) HDD is noisy. (x) Consume more process

Pen Drive; - At i's a small removable storage device - At i's a fortable storage device that you can use anywhere & connect to any Computer. Also known as USB flash drive. USB Pen drive Can be of three type namely USB 1.0, 2.0, 3.0

1) updating motherboard firmware @ Booting 0/5 Store digital data.

Disadvantage: Onot Capable to Store, large date.

De data may corrupt due to virus.