

Computer Hand Written Notes

①

Computer

दिनांक.....

4/11/18

Topic:—

- ① Internal Process of Computer.
- ② Computer and Computer System.
- ③ History & development.
- ④ Memory.
- ⑤ Internet.
- ⑥ Networking.
- ⑦ Input & Output device.
- ⑧ Ms. office.
- ⑨ Type of Computer / O.S / Software.
- ⑩ file Extension.

दिनांक.....

②

Data Base
Logic gate / Design tool
No. System and Conversion.
Computer Code.

Input → Mouse, keyboard, joystick,
LPS Camera, Scanner

Out :- Speaker, printer, monitor,

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दिनांक.....

Internal Process of Computer.

IT.

→ IT stands for :- Information Technology

→ History :- ~~IT~~ IT word first time comes
1958 → Harvard business

Review.

→ Uses :- IT use for entire industry.

→ Alternative name of IT :- ① MIS
② IS.

* MIS :- Management Information
System

or

Management Information
Services

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दिनांक.....

* IS :- Information System
or
Information Services.

2) IT is use of Computer and
Combination of hardware & Software.

Hardware
(H/W)

Software
(S/W).

→ The Physical Component of a Comp. is Hardware. → A set of Program.
→ A set of Instruction.

1. All tangible device is Hardware. → All Intangible Application is called Software.

→ First Software Code generate by ① Alan Turing [father of Modern digital Comp.].

② John von Neuman (Provide the Storage of Architecture in EDSAC Computer)

EDSAC :- Electronic delay storage Automatic Calculator.

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दिनांक.....

⇒ 1st program written in Analytical Engine.

* Analytical Engine :- It is developed by Charles Babbage's (father of comp) in 1842-1844.

Analytic Engine में Adaking / Ada Byron / Lady Augusta / Lady Lovelace.
इस Lady ने मिशन का प्रयास किया।
She is called (first comp. programmer)
Also called (Mother of comp).

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दिनांक.....

Internal Process of Computer.

- ➔ Booting :- Booting is a process in which we start the comp. [starting process].
- * In Booting we copy the operating system from secondary memory (Hard disk) to primary memory (RAM).
- * Booting is also called Boot strap program / Boot strap loader.

Two type of Booting

- ① Cold Booting
[Power off position]
बंद अवस्था से
Comp को start करना।
- ② Hot Booting or Warm Booting
[when we re-start the comp.]
Restart :- Is also called Reboot.
[Alt+F4]

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दिनांक.....

~~Q~~ How we restart the comp in Hang position.

Ans CAD [Ctrl + Alt + DEL].

↓
Task manager.

↓
End task.

↓
Log^{out} of

↓
Shut down Restart

Bootable disk :- window सिग्न के लिए Use This word

↳ A Bootable disk is also called.

Bootable Disk.

- System-disk. (✓)
- Boot-CD.
- Main Disk. (Also called Hard disk)
- Hard Disk

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दिनांक.....

→ A Bootable disk is a disk which contain all the system file of Dos.

* Dos :- Disk operating system
[It is a operating system]

* System file :- [.com, .ini, .dll, .exe, .bat, .sys, .bin]

BOOTING SEQUENCE

After Cold Booting



① POST :- Power on self test.

Check power supply

→ first programm which run in computer.

→ It check the power supply or connectivity of component.

→ A Beep sound start means 'OK' Now go for another option.

Code (built).

दिनांक.....

② BIOS Startup Programm:-

↳ Basic Input Output System.

↳ It is developed in 1975 by Gary Kildall.

↳ BIOS is an internal program which contain the code required for keyboard, Mouse, Monitor, etc.

↳ BIOS is ^{also} called I/O Sys, & ROM BIOS.

↓
[BIOS placed in ROM]

↳ BIOS in 2011 also ^{give} another name - EFI [Extensible Firmware interface]

↓
Combination of H.W & Software

↓
* Bootable disks

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दिनांक.....

→ When BIOS Copied ROM to RAM this process is called - Shadowing

(3) MBR :- Master Boot Record.

→ It generate & check the Boot sector.

(4) BOOT SECTOR :- It is a part of Hard disk such as A, B, C, D, E

Acc. to winxp :- A :- A is a sector Alloted for floppy disk. [Primary]

B :- B boot sector Alloted for security purpose. [floppy disk]. (Secondary)

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दिनांक.....

C :- C boot sector Alloted for hard disk in manufacturing time.

D&E :- Blank for Partiyision / security purpose. (H.D).

F :- F boot sector alloted for C.D drive.

Acc. to windows 7, 8; 8.1, 10

⇒ सारे drive change करे जा सके है Except C (Can't rename). But ab change है रे है Can rename.

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दिनांक.....

CMOS

→ CMOS :- Complimentary Metal oxide semi Conductor

↳ Developed in 1967 by Frank Wanlass.

↳ It is chip.

↳ located on Motherboard.

↳ It work as a Room-Clock.
[rechargeable.]

Booting

↳ Cold Booting

① POST [system bus and]

② BIOS [window password]

↳ Hard Disk

3) MBR

4) Boot Sector.

How does your P.C. Remember all settings. → Ans CMOS.

→ It contain The boot order, Date & Time, Calender, CMA & VGA etc.

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दिनांक.....

✓ CGA :- Color graphics adaptor

✓ VGA :- Video graphics array

DOS →

✓ Disk operating System.

↳ Dos is a operating system

↳ Dos is a system software.

↳ Dos is a master control
programm. which help
to run the comp. & hardware.

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दिनांक.....

History of DOS

- DOS developed in 1981 by Microsoft with the version of DOS 1.0.
- Most Popular version of DOS → DOS 7.0
- First Operating System of Microsoft [latest DOS 8.0].
- DOS is a non-graphical & Command line operating system.

Non-graphical :- No graphics only Black & white.

Command line :- Linux, Unix & DOS is a Command line operating system.

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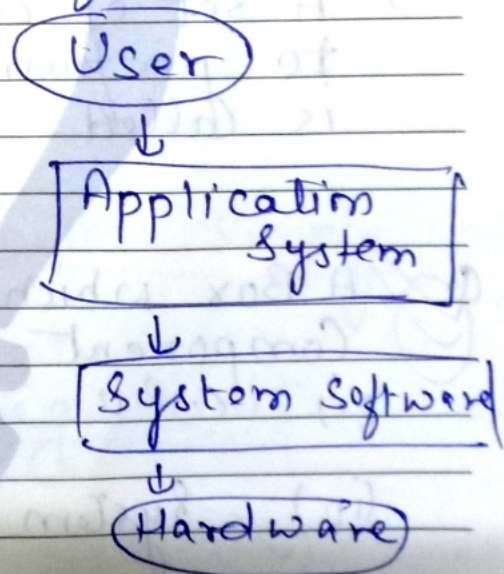
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दिनांक.....

Function of DOS :-

- ① checking the peripheral devices
- ② Controlling the Input & Output.
- ③ Controlling the storage.
- ④ It provide the interaction/ interface. b/w user & hardware

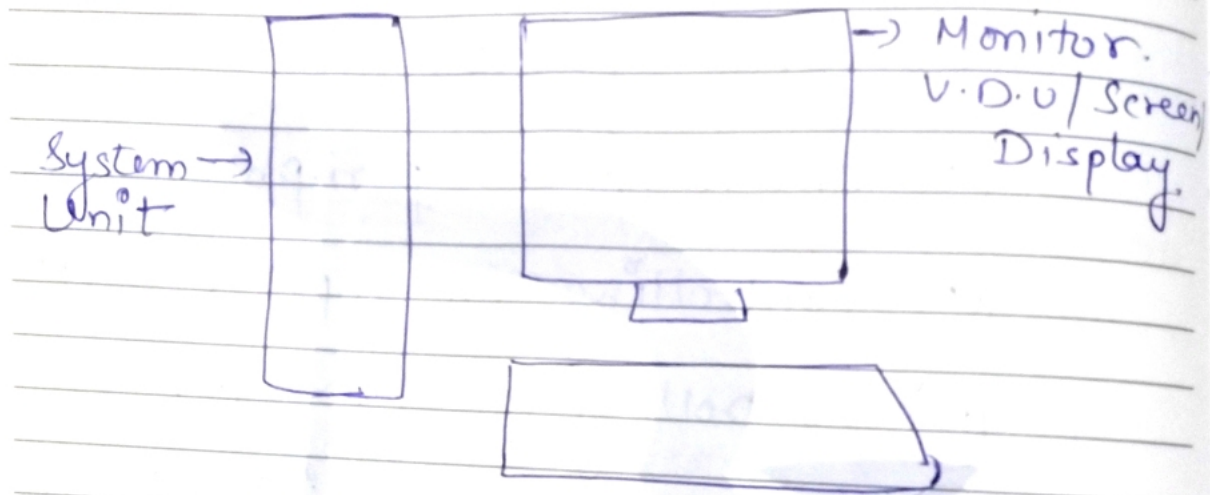
* Interaction & Interface.



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दिनांक.....



Computer System.

→ A set of devices put together to perform specific function is called computer system.

- A Box which contain all the electronic component of comp. [In technical language]
- (i) C.P.U.
 - (ii) Box
 - (iii) Cabinet
 - (iv) System Unit
 - (v) All of the above.

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दिनांक.....

Q System unit is also called..?

A (a) Computer Tower / Computer chassis
(b) / Computer case.

⇒ System Unit > Computer T. / Comp. chassis /
Comp. case > CPU > Cabinet.

Q A set of devices such as mother board / RAM / ROM / CMOS / SMPS / C.P.U etc?

A

Q SMPS stands for?
Switched mode power supply.

Q C.P.U stands for?
Central processing unit

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(B)

→ Heart of Comp.

दिनांक.....

⇒ CPU consist of ALU + CU +
Memory. It is a Brain of Comp.

⇒ ALU → Arithmetic Logic Unit.

↳ It perform Arithmetic & logical function.

⇒ CU ⇒ Control Unit.

Ques → It coordinate all of the component of comp. So it is called, Controlling part of a comp.
A C.U.

Ques Function of C.U.

Ans (i) Fetch the instruction.

(ii) De-code the instruction.

(iii) Execute the instruction.

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Eye of Comp → web Cam.

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दिनांक.....

Mother Board,

1) Head of a Computer.

2) Mother board is a system board / Main board / Planer board / Printed Circuit Board (PCB).

3) In The Language of Operating System P.C.B (Process Control Block).

4) Mother board is a place where all electronic device mounted.

Peripheral

1) All external device which are connected to system unit is called peripheral.

2) Peripheral devices which are connected to system & unit is port.

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पहल P.S. 2 Use हानि था Now

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दिनांक.....
USB

* Port → A port transfer the data in computer inside & outside.

Widely used port is -
USB.

P.S. 2 → Personal System.

* USB → Universal Serial Bus/System Bus.

BUS :- Bus is a digital circuit line, which transfer the data in comp.

Bus is a printed Circuit Board (PCB). located on Mother.

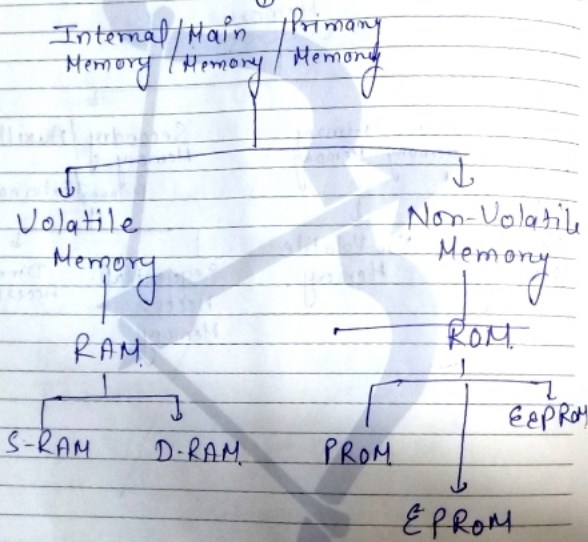
* BUS :- Three type

- ① Address Bus.
- ② Data Bus.
- ③ Control Bus.

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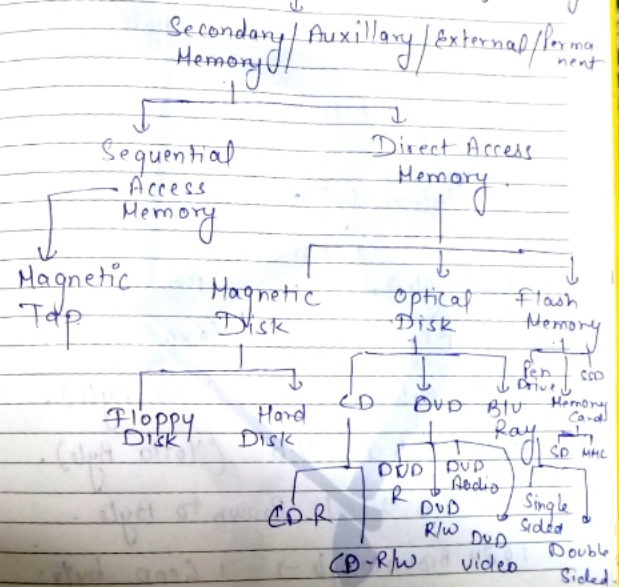
दिनांक.....Memo



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- Cache Memory
- Virtual Memory
- Unit of Memory



which language Comp Understands
Machine Lang

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Object / Machine / Binary / Bit
Code / Code / digit / Bit
दिनांक.....

Unit of Memory

1024 → 1 K.B (Kilo byte).
K. Byte

1024 → 1 M.B (Mega Byte).
K. Byte

1024^M Byte → 1 G.B (Giga Byte).

1024^G Byte → 1 T.B (Tera Byte)

1024^T Byte → 1 P.B (Peta Byte).

1024 P. Byte → 1 E.B (Exa Byte).

1024 E. Byte → 1 Z.B (Zeta Byte).

1024 Z. Byte → 1 Y.B (Yotta Byte).

1024 Y.B → 1 Brown to Byte.

1024 Brown to Byte → 1 Geop byte.

4 Bites \rightarrow 1 Nibble,

8 Bites \rightarrow 1 Byte / 2 Nibble / 1 Octet

1 Character

\downarrow
256 Values

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दिनांक.....

Approx Value:-

10^3 Byte $\approx 2^{10}$ Byte.

10^6 Byte $\approx 2^{20}$ Byte

10^9 Byte $\approx 2^{30}$ Byte

10^{12} Byte $\approx 2^{40}$ Byte

10^{15} Byte $\approx 2^{50}$ Byte.

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दिनांक.....

Unit of Memory

⇒ Memory is also called storage medium and data storage location.

Primary Memory

Volatile Memory :- In which data Erase in shut down, Restart and power failure position.
Ex RAM.

(a) RAM :- Random Access Memory
- RAM is a Temporary Memory.

→ RAM located on Mother Board in DIMM & SIMM slot. and processed data in 3 cycle [latest 100 cycle].

We use \rightarrow Micro Comp.


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दिनांक.....

DIMM :- Dual in line Memory Module.

SIMM :- Single in line Memory Module.

3 Cycle :- 
Now 100,

★ We major the speed of RAM in Mili Second, Microsecond, Nano Second [latest Hertz GHz].

Mili Second :- 10^{-3} / 1000.
A Thousand of a second.

Micro Second :- 10^{-6}

Nano Second :- 10^{-9}

(Speed Measurement)	
BIPS \rightarrow Billion. Instructions per second	Extreme
FLOPS \rightarrow Floating Point operation per second.	Super Comp.
DDR \rightarrow Double data Rate	
HERTZ \rightarrow CPU	
	KIPS \rightarrow Kilo instruction per second. [Mini Comp.]
	MIPS \rightarrow Million Instruction per second. [Main frame]

॥ पश्चिम विहार रामलीला कमेटी ॥

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दिनांक.....

Memory :- 32 MB → 64 MB → 128 → 256 →

512 → 1 GB -- upto 16 GB.

Now 32 GB.

→ DRD-RAM → RAM BUS Dynamic Random Access Memory

NV-RAM → Non-Volatile RAM.

↳ When we re-start the comp. then post true value in NV-RAM. So system start quickly.

Type of RAM

S-RAM

D-RAM

① Static-RAM.

① Dynamic-RAM.

② High-Power Consume

② Low-Power Consume

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Before

Very slow
Process

(CPU)

(BUFFER)

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After Refresh

CPU → HD की
Msg भेजेगा RAM के पास

(HDD)

(Cache)

Booting
(OS)

(RAM)

2.) More Expensive/ Fast in speed.	3.) Less Expensive/ Slow / widely used.
4.) Used in Super Computer / Mainframe.	4.) Used in Home Comp.
5.) It retain The page / data.	5.) It refresh the page / data.
6.) Data Store in flip flop	6.) Data Stored in Capacitor. And Capacitor can be discharge or charge.
∴ Flip Flop :- It is a single bit data storage circuit	

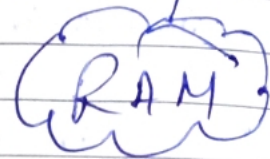
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दिनांक.....

Q. Why we Refreshing The Comp.

→ Diagram Piche :-



Fastest Memory in Comp :- Cache.

- ↓
- ① Buffer/ Register
 - ② Cache
 - ③ RAM
 - ④ Hard disk
 - ⑤ Floppy Disk
(Slowest Memory)

Buffer/ Register :- Register is a smallest temporary storage area in computer system. Such as MAR, MBR, IR, I/O etc.

★ MAR :- Memory Address Register.

★ MBR :- Memory Buffer Register

★ IR → Instruction Register

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दिनांक.....

Cache Memory :- Fastest Memory.

- Very fast Execution speed.
- It is a Buffer storage Memory.
- It work b/w the CPU & RAM.

Virtual Memory :- Artificial Memory

It is memory on H.D That the CPU uses as a extended memory (RAM).

Virtual Memory = Extended RAM.

⇒ Minimum space required for Virtual :-
→ 4 G.B.

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दिनांक.....

Non-Volatile Memory

→ It permanently store the data.
Eg:- ROM.

* ROM → Read only Memory
→ ROM is a chip, located on Motherboard.

→ ROM is a such type of Memory in which data Upload Manufacturing type.

⊙ Without This type System Cannot start/BOOT.

→ RAM
ROM (✓)
OS
- Hard Disk.

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दिनांक.....

Q Without this system Cannot BOOT

RAM

ROM

OS (✓)

H.D

ROM :- ROM is mainly starting & shut down the comp.

↳ Three Type:

① PROM :- Programmable Read only memory

② EPROM :- Erasable Read only memory.

→ It can erase by Ultraviolet light.

③ E-E PROM :- Electrically Erasable R.O.M.

→ It can erase by Electrical signal.

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दिनांक.....

Secondary Memory

→ Also called Auxillary / Permanent & External.

→ Secondary → Non-Volatile Memory.

Secondary →

Sequential
Access Memory

Direct-
Access Memory

→ Sequential → Data Sequence in Same Access Memory. Eg Magnetic Tape.

* Magnetic Tape :- Made of Magnetic Oxide.

:- Have Sequential Access.

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दिनांक.....

→ 1928 in Germany by
Fritz Zuse.

→ First time used in 1951
in UNIVAC Computer (first
gen.)

★ UNIVAC:— Universal Automatic
Computer.

★ first Commercial Computer.

② Magnetic tap. Based on
Magnetic ribbon.

— $\frac{1}{2}$ or $\frac{1}{4}$ inch-wide.

→ 50 to 2400 feet long
(Min.)

→ 3600 feet long
(highest).

Direct Access Memory

→ Randomly choose a piece of information.

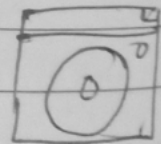
Magnetic Disk

- L. ① Floppy disk
- L. ② Hard disk

Floppy disk

- Floppy disk / Floppy disk drives / Diskette.

→ Floppy disk have Minimum data storage in storage medium.



→ Very cheap & slow in speed.

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दिनांक.....

→ Data stored in floppy disk
in the form of Track
& Sector.

→ Floppy disk developed in
1971 by Alan Shugart (IBM)
Launch by Sony (third gen.).

Floppy

Size.	8 inch.	5 $\frac{1}{4}$ inch	3 $\frac{1}{2}$ inch.
Storage.	360 KB to 720 MB	360 KB to 1.2 MB	1.44 MB to 2.88 MB

↓
widely
Used!

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दिनांक.....

Hard disk

↳ Or - Hard disk drive / Hard drive / Fixed Disk.

↳ Main data storage disk [Main disk]

↳ More Expensive.

↳ HDD is called Storage Medium and Memory Bank of a Comp.

↳ 24 Dec 1954 IBM

[International Business Machine]

But in 1956 Launch by Ray Johnson

↳ Seagate :- शतसु स्यात् Hard disk.
अनन वाना कम्पनी।

Types of Disk

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दिनांक.....

(i) Zip disk :-

Minimum data storage
in HDD.

(ii) Storage - Min to Max.
5 M.B. to 500 M.B.

(ii) Disk Pack.

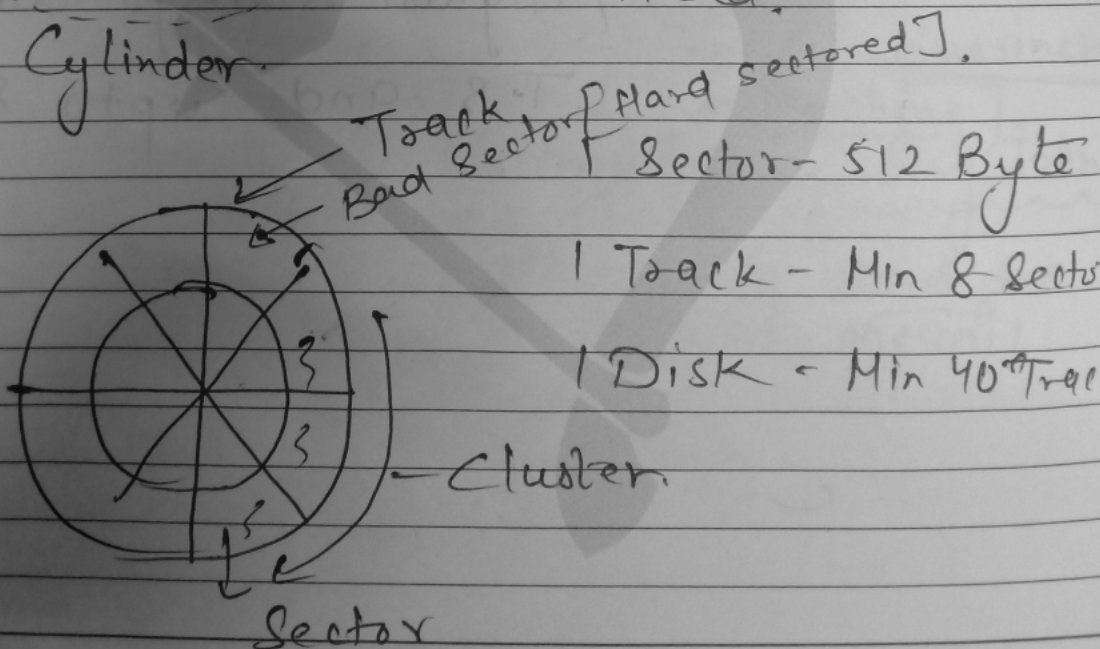
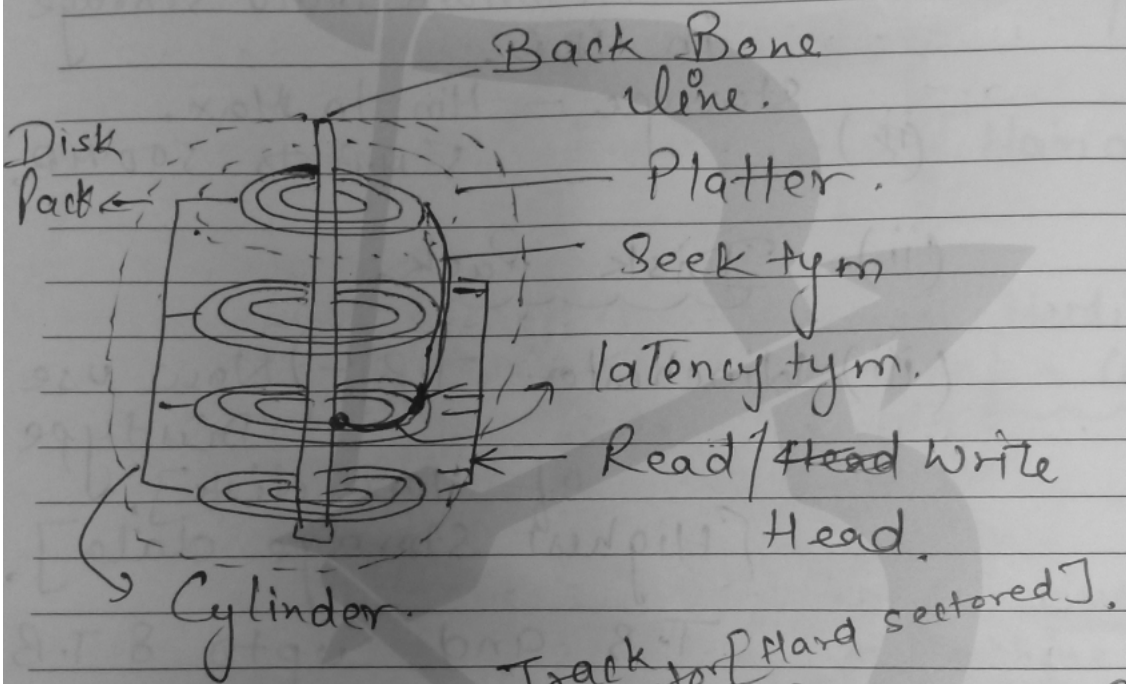
(iii) Winchester T.B. :- [Now use
this type
of Hard disk].
[Highest storage data].

T.B and upto 8 T.B.

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दिनांक.....

Structure of hard disk.



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दिनांक.....

Q) Data store in Hard disk in the form of track & sector;

1) dividing the disk into sectors & track is called formatting.

2) Bad sector or damage part of disk is called hard sectored ^{data storage}.

2) A smallest area in Hard disk is called sector.

2) Collection of sector \rightarrow Cluster.

2) A Ring shaped location is called track.

2) Collection of track \rightarrow Platter.

2) Collection of Platter \rightarrow Cylinder.

2) Speed of Read/Write/Head \rightarrow

4200 to 10,000 RPM
latter 15000 RPM

RPM :- Revolution Per Minute.

2) Disk Access time :- Disk Access time is the combination of seek time + Latency time.

Seek time :- Time to position the read, write head only in specific track.

Latency time :- The time required by a sector to reach below the read, write head.

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दिनांक.....

Optical Disk

2) Optical disk is the most popular data storage disc.

(i) CD :- Compact disc



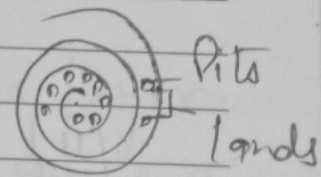
1976 - By Sony [James R. Russel]

↳ Read by CD-ROM.

3) Data entering process in CD is called Burning process.

2) Data storage in CD in the form of pits. The

space between two pits is called lands.



① Diameter of CD → 5.25 inch.
Now → 4.7 inch.

Thickness → 0.1047 inch.

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दिनांक.....

Height :- 15 to 20g.
working duration of CD \rightarrow 80m.

Storage - 650 and 700 MB.

widely
used.

latest - 800 M.B, 900 M.B.

(a) Types of C-D [Compact disc]

(i) CD-R \rightarrow Compact disc - Recordable
 \rightarrow Also called WORM.

[write once read many].

(ii) CD-R/W \rightarrow Compact disc - Ref
writable.

R/w → Read/Write

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दिनांक.....

(b) DVD : ② Digital Video Disc.
or
① Digital Versatile disc
1995 By Philips.

Storage of DVD.

(i) Single sided single layer.
↳ 4.7 G.B
[widely used].

(ii) Single sided double layer.
↳ 8.5 G.B.

(iii) Double sided single layer.
↳ 9.4 G.B.

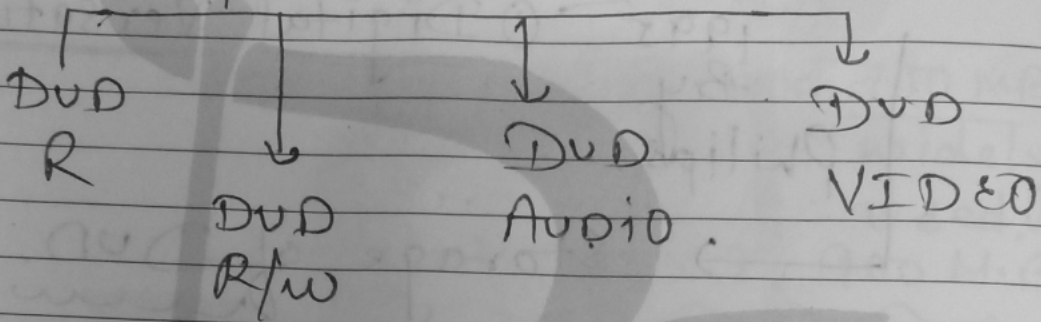
(iv) Double sided double layer.
↳ 17.05 G.B.

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दिनांक.....

Type of DVD.



(c) Blu Ray :- Blu Ray is the latest optical disc at present which developed in April 2003 in Japan by IBM, with the help of Fujitsu.

Type of Blue Ray

(i) Single sided \rightarrow 25 G.B.

(ii) Double sided \rightarrow 50 G.B.

(iii) latest 120 G.B / 128 G.B.

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दिनांक.....

Flash Memory

→ Flash Memory is a such a type of Memory in which data erased in single click. And also called Jump memory.

1 (i) Pen Drive :- In 2000 By IBM.

↳ Storage :- Min to Max
8 M.B to 1 T.B

~~(ii) S.D Card~~

2 (ii) Memory Card :-

(a) SD :- Secure data / digital
= Card - 1997 Sandisk

Storage :- 8 M.B - 256 G.B.

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दिनांक.....

(b) MMC :- Multimedia Card.
1999. Toshiba.

Storage :- 8 M.B - 512 M.B.

3 (iii) SSD = Solid state drive
[External Harddisk]

4 (iv) - NV-RAM.

5 (v) - EE-PRAM.