

Definition of Cache Memory:

A cache memory is a physical memory like RAM. It is smaller in capacity but faster in operation than RAM. It is positioned in between Processor and RAM. There are two types of Cache memory.

1. L1 type Cache memory: The cache memory which is built built-in within the Processor.

2. L2 type Cache memory: The type of cache memory which is built built-in outside the processor but inside the mother board.

Importance of Cache memory:

There is an unbelievable speed mismatch in between the operation of RAM and Processor.

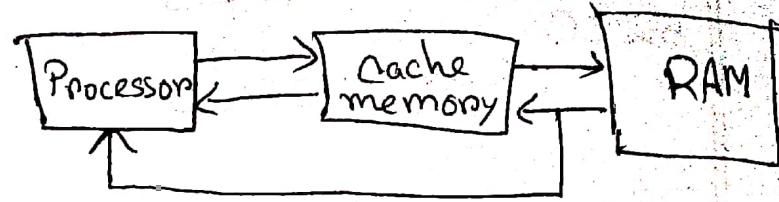
The Processor is the fastest unit in Computer system, but the RAM is not as fast as processor. As a result there is always a

Grading - 160 credits.

1 credit = 25 mark.

4 years - 4000 mark.

1 year = 40 credits.



speed mismatch problem in between them when they work together. To overcome this speed mismatch problem, a faster memory is used in between processor & RAM. This faster memory is called cachememory.

Function of Cache Memory.

When processor need any data/instruction, at first it goes to search that in cachememory. If it is available in cache memory the processor take that data from cache. Otherwise it goes to RAM to bring that required data/instruction. Processor brings that required data/instruction from RAM and a block of the data/instruction is stored in cache memory from RAM for future use.

Question Pattern:-

Sec A : 26.25

52.50

Sec B : 26.25.

Theory - 52.5.

$$22.5 = \text{Q.T} \rightarrow 15 + \text{Attendance} \rightarrow 7.5.$$

4 or 5 C.T. # best - 2 counters

Computer Basics: Introduction to studying Computer.

The electronic device which performs any arithmetical or logical operation via computer program.

Computer characteristics:-

- multifunctional
- speed & accuracy, storage capability, versatility, ~~diligence, relevance~~
- ↓
Perfect data.
- long life

Q1.

Assignment: computer meaning & its character

Structural Programming Language

Theory - 3 1121

75 marks → Semester final Q(52.5)
 C.T (15)
 Att (7.5).

Lab-2 1122

25marks → Practical (15)
 Q, C.T (7.5)
 Att (2.5)

~~Computer~~

- * Programming lang.
- * Machine language
- * Algorithm: Steps of instruction of program] PL.
- * Flowchart

~~The decision maker which used~~ B
 Computer is a electronic device which can perform any logical or arithmetic function through its program.

1st step of programming is Algorithm.

↓
 Program language.

Classification of Computer

*** must come
in exam

Criteria-I: - According to purpose:

- 1) Special purpose Computer. [For doing any special specific work.]
- 2) General " "
 expt: barometer, speedo
 -meter
 ↳ do all required → exple: ~~our~~ personal computer.

Criteria-II: - According to signal processing:

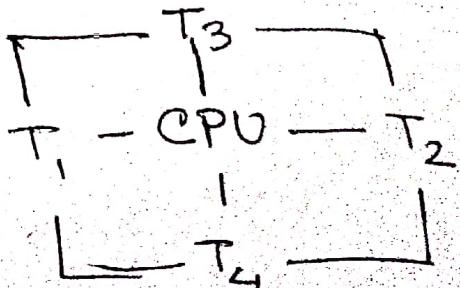
- 1) Analog Computer. ↳ pressure, temperature
- 2) Digital " discrete signal ↳ barometer, thermometer, speedometer
- 3) Hybrid " both ① & ② together. e.g. Atomic bomb making, weather forecast, nuclear weapon, research lab., weapon testing.

Criteria-III: According to Size & Speed:

- 1) Micro Computer: SP, PC, LP, TB. : e. daily use.
- 2) Mini " : are bigger size & speed than micro: used in industry.
- 3) Mainframe " much more bigger & powerful. It has small scale industry.
- 4) Super " : many terminals.

↳ many live i/o at same time.
e.g. bigger scale company etc. car companies.

↳ Strongest. 1 million i/o per second.
e.g. weather, Govt., NASA.



Subject

Date

Q1 Write down the computer classification of Computer.

Q: Comparison of different computer

C.W.

CSE1111.

03.02.19

Sunday

Computer Fundamentals.

Computer Hardware: The physical object component or the rigid object of computer.

Computer system:- can be compressed of 3 hardware units

Computer system :-

i) I/O unit/
Peripheral -
Keyboard, mouse

ii) Memory unit

Primary " u
Secondary u
Pending, u

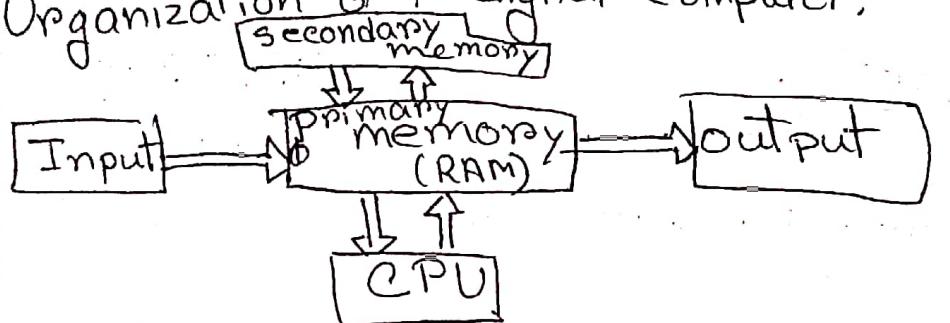
hand disk, (D)

made of
microprocessor

Up to this note

System: The process in which all ~~div~~ device & manner components are arranged in orderly ~~x~~ system.

Organization of A digital Computer,

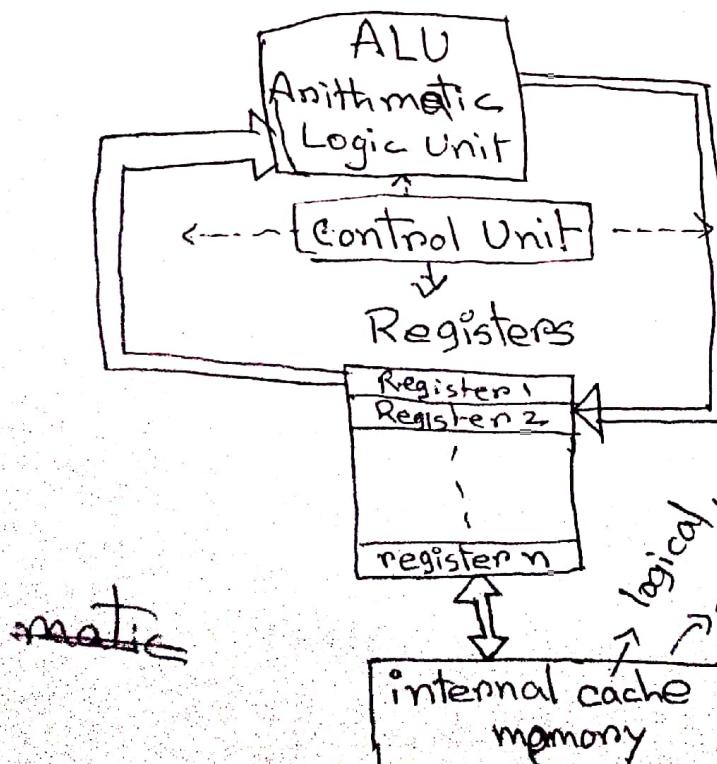


We give input by i/o devices.

Primary memory is a volatile memory where all inputs are stored first.

VLSI

CPU what is CPU ? Internal block diagram of CPU,
Microprocessor.



ALU : logical work.

CU is stores memory,
i/o device
Registers connected
↓
very small space of data.

small amount & fastest memory
which ~~secondary~~ stores most frequent & default file

Fig(1): CPU

Subject

Date

Registers



Internal cache



Cache (level-1)



u u (2)



Primary memory.



Secondary m

05.04.19

CPU important buttons are jumper connection.

↳ i) Power " "

2) Reset " "

logical memory.

Cache memory lies in microprocessor ~~uses~~

Microprocessor uses some space ~~of the ram~~ for cache memory.

graphics | adapter

IC

Slot :- 2, graphics, network card

VGA

1. What is Computer memory? Write down the classification of Computer memory.

Memory:- The power of computer that can store data/instruction/information and also retrieve any of them if necessary.

Classification of computer memory:-

Classification 1:- According to distance from CPU.

- 1) Internal memory (RAM).
- 2) External " (HDD, ROM)

Classification 2:- According to importance.

- i) Primary ^{main | volatile} memory (RAM) (ROM)
- ii) Secondary " ^{non-volatile} (HDD, FD; CD, DVD, Pendrive)

Q: Why RAM is called main

At first all program data are processed in the RAM and executed from RAM for this it is called main memory, After executing the final data is stored in secondary memory.

Subject

Date

S-RAM, D-RAM.

D RAM

- 1) ~~SRAM~~ Static RAM
- 2) Faster.
- 3) Flip flop
- 4) Data density low
- 5) No refreshing required
- 6) Expensive

- 1) Dynamic RAM
- 2) Slower.
- 3) Capacitors
- 4) High.
- 5) Refreshing required.
- 6) Less expensive.

RAM : Random Access Memory, SRAM, DRAM, .

RDRAM - Rambus Dynamic -

SDRAM - Sequential -

ROM - Read only memory.

MROM = Masked - -

PROM = Programmable - - -

EPROM - Erasable Programmable - - -

EEPROM - Electrically erasable programmable - -

BIOS Battery → kind of ROM

Subject

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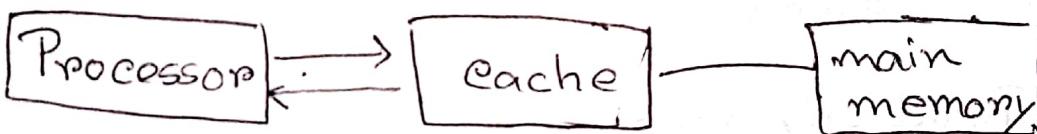
Q: Why RAM is called volatile memory?

Ans: ~~All the data~~ Although all the data are executed from RAM when we the power of computer gets switch off all the data from RAM goes away.

C.W. - 11.02.19.

Q1- What is cache memory? Why it is important in computer system?

The lies bet^w Processor & main memory.
It is fast & small in size.



Cache memory - 2 types .

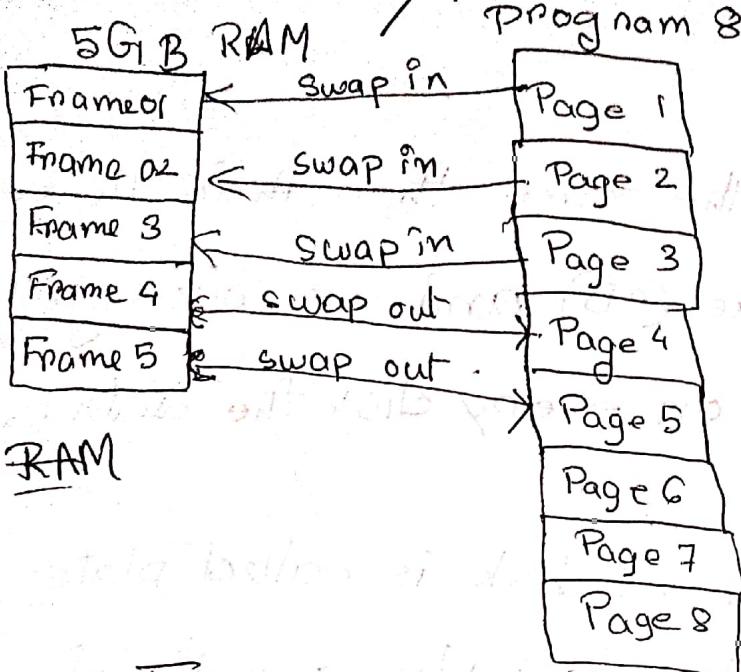
1. Level-one → built-in inside processor.

2. L-2 → outside the processor inside motherboard.
main point of using our cache memory.

There is a big miss-match bet^w speed of processor & main memory.

RAM and Hard Disk are ~~not~~ VM.

Virtual memory :-



VM :- It is a Technique adopted by OS ^{operating system} when the size of a program is larger than size of ~~RAM~~ RAM. This technique take place in between RAM and Hard disk.

Figure: Virtual memory technique.

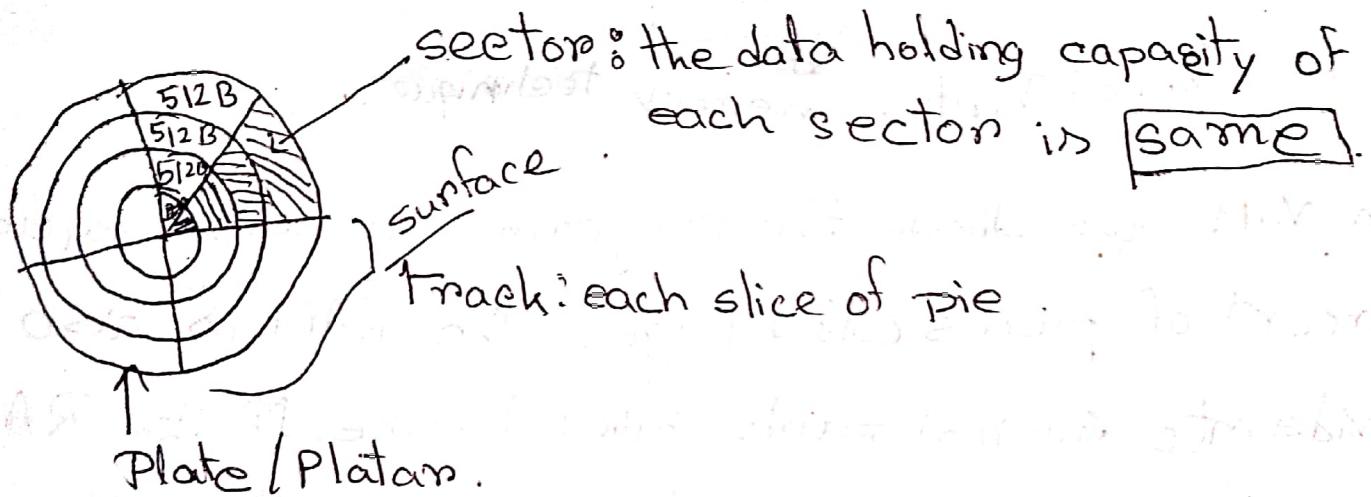
In V.M. we divide the program into some equal amount of pieces called page. The RAM is also divided into unequal parts called frame. If the RAM size is small in size than the program then swap in and swap out occurs. Some pages are sent to the frame and those are processed in that frame. After the data being processed RAM sends that back to the page. The remaining pages are send to the vacant frame to be processed. After fully processing all the pages of the program it is opened.

C.T - Tomorrow - on sheet.

Magnetic disk.

Hard disk: if we open the cover then ~~there~~ there are multiple disks like (CD) and are arranged one on another. And on every disk the data is stored.

The \Rightarrow Each disk of hard disk is called plate.



sector: the data holding capacity of each sector is same.

Track: each slice of pie.

Q: Plate \rightarrow Calculate the capacity of HDD with

Track - 20

Sector - 512 B.

$$\text{Total Capacity} = 10 \times 20 \times 5 \times 512 \text{ Byte} \times 2$$

$$= 512,000 \text{ Byte} \times 2$$

$$= 512 \text{ KB} \times 2$$

Subject

\$512

Date

(H)

1024 Bytes = 1 kB

1024 kB = 1 MB

1024 MB = 1 GB

1024 GB = 1 TB

Every Sunday

Saturday Class - 601

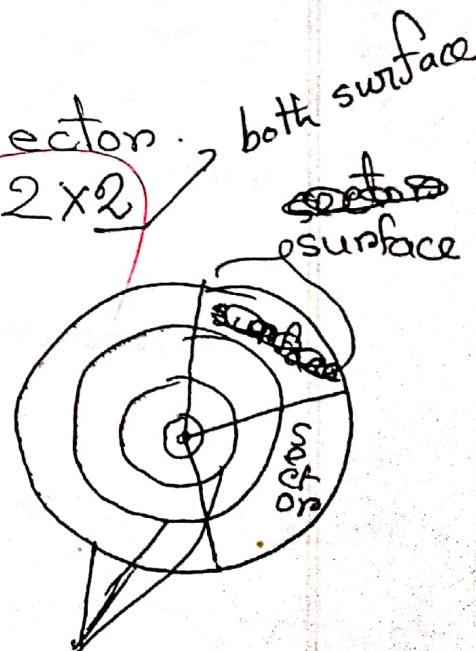
CSE 1111

24.02.19

Sunday.

C.W

Prob: Calculate the hardware capacity of hard disk with 5 plates, 10 Track/surface, 12 sectors/tracks and 512 Bytes/sector.

$$\begin{aligned} \text{Total capacity} &= 5 \times 512 \times 10 \times 12 \times 2 \\ &= \cancel{307200} \text{ Bytes} \times 2 \\ &= 307200 \text{ kB} \end{aligned}$$


It seems many of the sectors are close to the center staff the the but the capacity of holding the data are the same.

The data density in the inner sectors is highest and data density in the outer sectors is lowest.

Subject

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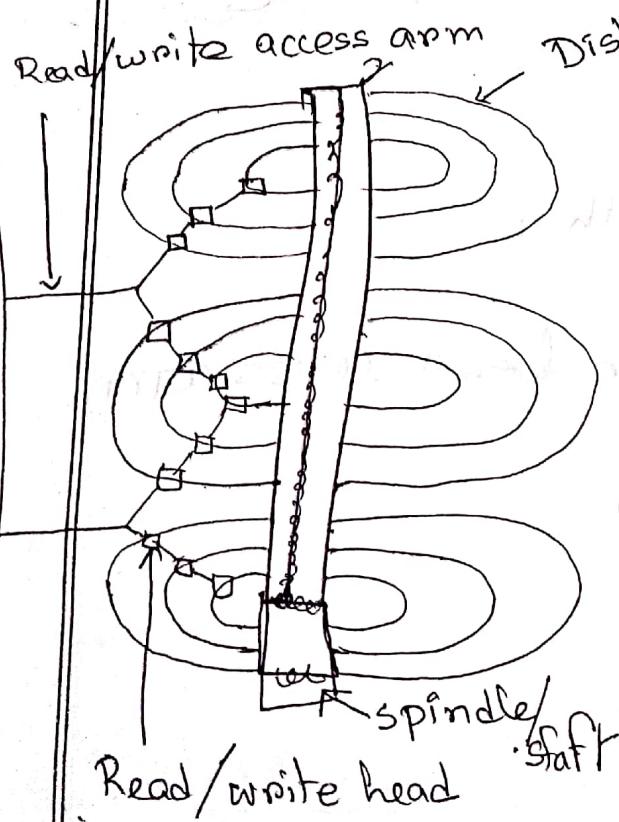
Classification of computer.

Components identification, power point connection
jumper connection-

28.02.19

Internal organization

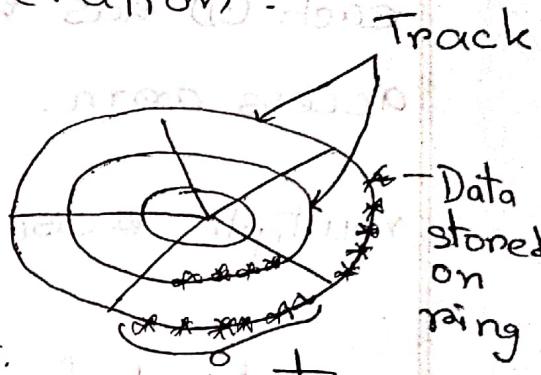
of HDD and read/write operation



- * Al, Ti very light & hardest melting point.
& very light & expensive.

- * Al used in computer, can extract high temp.

- * around Al metal sheets of round shape, millions of Fe tiny particles are.



8/10 plates together form platter

as small motor is joined with the shaft.

On

To create address - ~~FAT~~ → file allocation table.

1) Plate no.

2) Track no. ~~4200 rpm~~

3) Sector no.

EL 80.88

Hard disk ~~has~~

each CD has ~~upper & lower~~ read/write access arm.

multiple disc . joint with

each track has a read write head access arm.

Q: Describe hard disk func.

~~#include~~ int a=3432;

#define MAX 10

#define PI 3.1416

t ~ = s'

Subject

Date

switch(x)

Deep fake video

{

case a:

$x = 1;$

$y = 2;$

Case b:

$x = 0;$

$z = 2;$

Case c:

$x = 1;$

$y = 1;$

$z = 3;$

break; we - out of switch

}

$x = ? 1$

$y = ? 1$

$z = ? 3$

March-10th Registration.

Q. 4 : What is hardware? & what are the basic units of hardware.

The physical components or

I/O, Memory, Processing -

What is keyboard.? : Primary input device,

5 steps of 100 keys 5 major section
processing.

1) Alpha numeric

2) Modifier

3) Numeric

4) Func

5) Cursor movement

3. Keyboard Controller request [System software]
every
Open OS to process in CPU.

4. OS responds to send the value

B. The CPU gets the value finally &
~~control~~ sends to microprocessor & display

Subject

Date

On 10/03/19 - E.T-02

Q (1 to 5)

4000/- Tk RG 5-10th March 2019

Fun. of fun^c keys.

F1 → Open help center of current opened software or browser.

F2 - Rename any folder by selecting it & pressing F2 key.

F3 - Find button.

F4 - Close current window (Alt + F4). On home screen press to get shut down, restart etc. options.

F5 - Refresh.

F6 - Jump to URL of browser. And in Laptop decrease sound.

F7 - In MS office readability and all (grammar and statistics)

F8 - Safe mode of computer, ms word auto selects all data in MS word

F9 - Updates fields (MS office)

F10 - Short cut menu.

F11 - Full screen

F12 - Opens "Save as" dialog (MS office).

Subject

Date

Types of monitor

Cache memory.

Exam - 10/03/19

↳ (1-5)

Explain how data is stored in magnetic disk

Must

exam

Q: Read write mechanism of h.D.

CSE IIst

10.03.19

Sunday.

* Monitor.

Set-B

Q. Classification of software.

Software: A set of instruction or command that

are used to work a machine is software,

without installing system s/w no work can be done

1) System s/w: It control & manage all hardware component & all application s/w. OS, Linux, Windows

2) Application s/w: Except System s/w whatever software are present are Application s/w. Gaming, photo

→ If we develop a software that has a specific task to do called Application software

Subject

application

Date

3) Utility Software: The software which helps system software to work smoothly / ^{to enhance capabilities} also called utility software, eg. Antivirus, graphics card installation, sound card installation, Improve computer functionality.

Utility

- * Age of methodology - Application
- * Norton - Utility
- * McAfee - Application Utility - antivirus
- * Linus - System
- * Vista - System
- * Adobe Photoshop - Application
- * Windows 98 - System
- Backup Utility
- Antivirus
- Firewall
- Intrusion Detection
- Screen Saver

H.W.

→ Classification of software.

Macintosh

Q-6 to 9 -> 18/03/19. Monday - C.T.

OS and its importance.

OS - operating system.

* Manage { & the H/W devices and all

* Control } applications s/w.

➢ Most secured, Server management,

OS: Windows, Linux, vista. remote access.

Disk Operating System.

GUI - Graphics User interface.

* Without OS you cannot run computer even if you have all the computer.

* OS has all ports and protocols to be connected with hardware.

* Computer Virus.

⇒ Strong prog & instructions intentionally built to user destroy user's file or replicate & hack.

Subject

Date

act all data to & send to other, *A Ethical hel.*

Sync flood

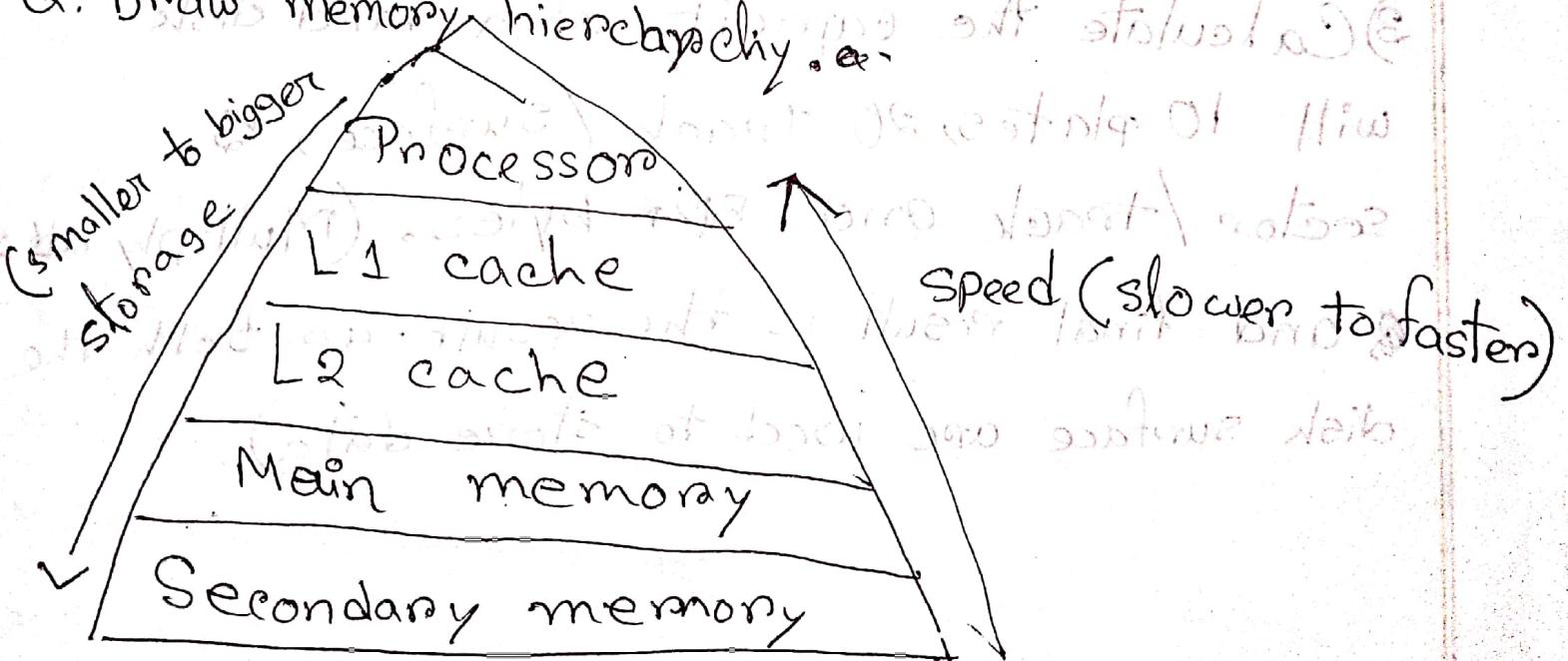
~~#~~ Malware

cookies

MAR 2 MAR 2 West smooth HIG (C)

For disk byte storing capacity there must multiply 2 as there are two sides of disk.

Q: Draw memory hierarchy of a system.



- A.
- 1) What is Cache memory? Write down function of cache memory.
 - 2) Draw memory hierarchy
 - 3) Difference betw SRAM & DRAM
- B.
- 1) Explain how data is stored on the surface of disk.
 - 2) What is virtual memory?
 - 3) Calculate the capacity of a hard disk will 10 plates, 20 track /surface, 5 sector /track and 512 bytes. (Multiply $\times 2$ and final result is the result as both the disk surface are used to store data).

Subject

Date

Experiment 1: Components of Computer

Q: Around Motherboard

A: 1. CPU

Experiment 2: Installation and Cabling of Computers

S: CPU

Experiment 3: Organization of Keyboard

100 keys

* Alphanumeric QWERTY

* Modifiers * Alt, Ctrl, Shift (compound)

* Func.

* Cursor movement key

* Special keys (calculator)

Q: What is the difference betw Tab & space

E menu, Home - go to bt of line.
end - u end

Networking Basics

The technology which connects hardware & software.

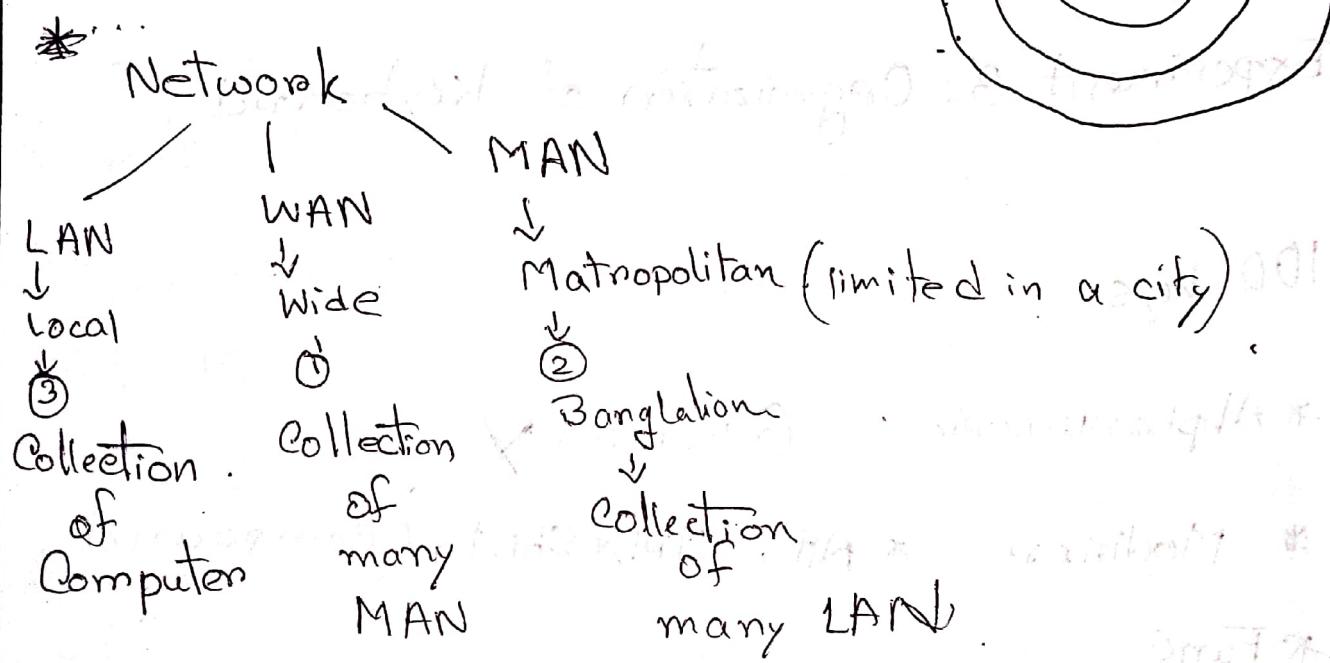
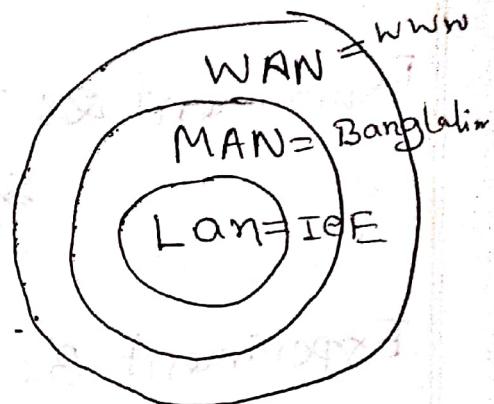
other

Uses:

- * To communicate (instantly)

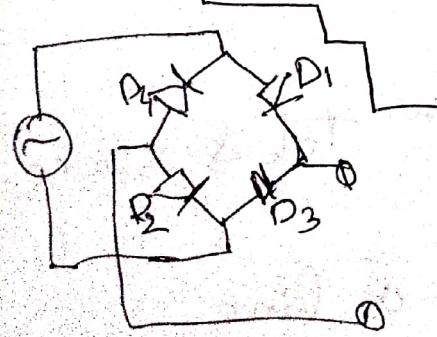
- * Expensive Resource sharing.

TomCat



Internet - Communication media.

Intranet (authorized users only)
kind of private network
e.g. bank. using internet



Extranet (kind of lies in Internet
users needs username & password & used by all person. All are private network allowed.
but it can be used by public)

Q: What is Internet? Intranet & Extranet meaning.

24.03.19.

Networking Basic

1. what is networking? Purpose of Networking
2. Category of Networking

Protocol: Is some rules & regulation by which one computer can communicate with another computer, over the network.

TCP → Transmission Control protocol
IP → Internet Protocol

Protocol Suite: When ~~two~~ more than one protocol used together is protocol suite.

The device we use to access internet is then the device must have a identification unique identity and if that side is called IP.

IPV4 \rightarrow 32 $4 \times 8 = 32$
 \downarrow 4 segments.

IPV6 \rightarrow 128 $8 \times 16 = 128$
 \downarrow segment \downarrow bit

~~H.W~~: Protocol & its necessity.

A
Describe different types of protocols.

Q/A

1. What is network?

Ans: A network is a set of technologies - including hardware, software and media - that can be used to connect computers together, enabling them to communicate, exchange information and share resources in real time.

2. What are the purpose of networking?

Ans: To transfer data & information from one device to other device is the purpose of networking. The 2 key purposes are:

1) To communicate (instantly)

2) To do real time data transmission & sharing of resources.

2. What are the categories of networking?

Ans: Networking is mainly of 3 categories -

1. LAN : Local area network : The transmission of data among computers that are relatively near each other physically connect with cables or wireless media. More clearly any network existing within a single building is LAN. For example all the computers of the Imperial College laboratories are connected together.

2. MAN : Metropolitan Area Network : The when multiple number of LAN are connect with each other it's known as MAN. Example: Connection of Bangladesh

3. WAN : When many MAN connects together then it's collectively called WAN

Q. What is Protocol?

~~Ans. The rules and regulation that are followed by computers to communicate with other computers is protocol.~~

Protocol is the rules and regulation depending on which the process of data transfer takes place. Example:

FTP → File transfer Protocol.

VoIP → Voice over internet Protocol.

SMTP → Simple Mail transfer Protocol

POP → Post office protocol

IP → Internet Protocol.

TCP → Transmission Control protocol.

Q1 Why Protocol is necessary?

Ans1 In order to transfer data each device must be connected & there must be a way or portal through which the data is transferred, there must ~~be~~ be some rules in order to send data or else there would much

Subject

Date

complexity in transmission. So, the followed rules by the devices is known as protocol.

What is IP?

A particular type of unique number used to identify the location of internet or network based computer or any other ICT device. Then that particular number is called IP Address. It will never be duplicate. A certain IP address can only be used in for a single device never for more than one.

What is Protocol Suite?

When multiple protocols are used to transfer data then it's called Protocol Suite.

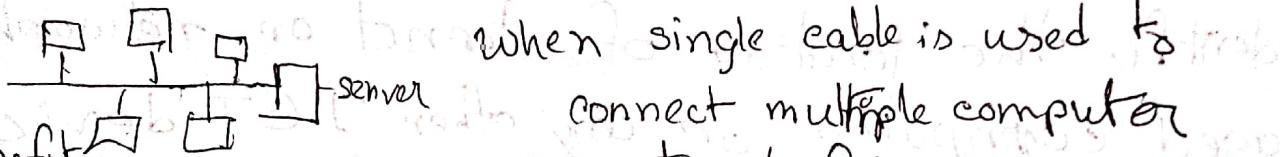
TCP/IP → Two protocol together

Topology: Logical design / of arrangement of devices

Set up of devices.

- D Bus, (i) Star (ii) Ring (iv) Mesh v) hybrid.

v) Tree: maximum requires to kept minimum for



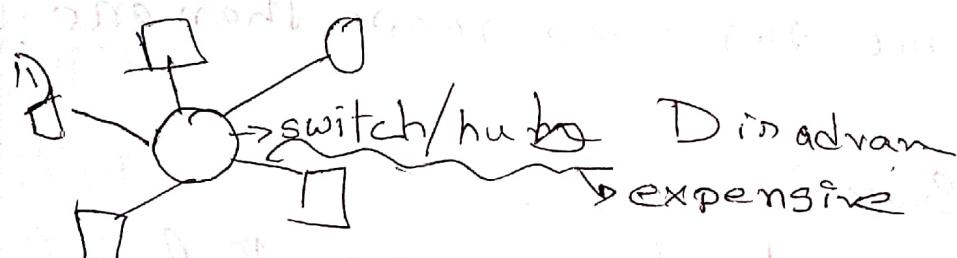
Benefit

D Easy troubleshooting

2) Installation expense low.

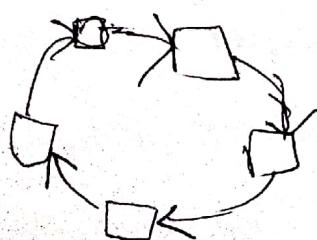
Disadvantage

D If main connection is off all connection lost



D A central device which we call switch/hub

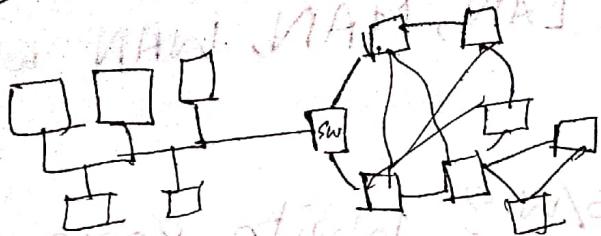
III)



iv) Mesh no true existence

Subject

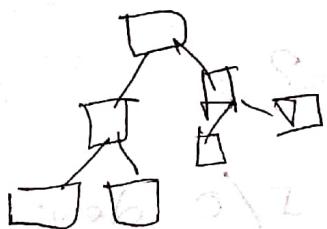
hybrid: more than one topology used. ~~After~~



Disadvantages:

2) Hard to troubleshoot

Tree:



28.03.19

Thursday

Q.:

1. Give some Examples of antivirus.
2. Full meaning of TCP/IP, www, HTML.
3. What is protocol?
4. What are disadvantages of star Topology?
5. What is Mesh Topology?
6. What do you mean by Topology?
7. What is the main characteristics of mainframe computer.
8. What are the modifier keys?
9. Magnetic disk tracks are divided into smaller parts called sectors.

10. FAT stands for what? 7/28 15
11. Full meaning of LAN, MAN, WAN with examples.
12. What is system s/w? write some examples
13. What is cache memory?
14. Give some examples of I/O devices.
15. What is intranet, Extranet?
12. The software which controls and connects all hardware & all application software is called system software. Cache memory is a
13. The physical memory like RAM. It is faster than RAM. It is used in between Processor & RAM to balance the speed mismatch & help to transfer data/instruction smoothly.

14. Input: Output:
- 1) Keyboard
 - 2) Mouse
 - 3) Microphone
- 1) Monitor
 - 2) Speaker
 - 3) Printer
15. Intranet: Private network used for big organization
- Extranet: Also Private network used by all with specific username & password.

4 benefits:

- 1) Resource sharing
- 2) Communication
- 3) Easier Data Backup.
- 4) Real Time data exchange

Infect & Spread:

- a) Through hardware devices:
- b) By using internet.

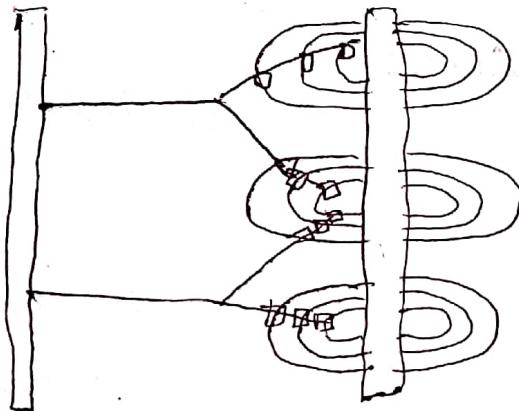
spam, malware, spyware
↓
mail application software.

To get rid of any kind of virus we install, ~~antiv~~ a type of utility software which secures our files and data from virus. ~~is then~~ this software is called anti-virus

D) Mid topics:

Pyramid of memory hierarchy.

* Explain how data is stored in magnetic disk.



```
int n=3;
```

```
for (i=1; i<=3; ++i)
```

```
    for (j=1; j<=3; ++j)
```

$$v[i-1][j-1] = (i/j) * (j/i);$$

```
for (i=1; i<=3; ++i)
```

```
{ for (j=1; j<=3; ++j)
```

```
{ printf("%d", v[i-1][j-1]);
```

```
}
```

```
printf("\n");
```

```
}
```

```
return 0;
```

```
}
```

 $i=1$

$$j=1 \quad v[0][0] = 0$$

$$j=2 \quad v[0][1] = \frac{1}{2} * 2 = 1$$

$$j=3 \quad v[0][2] = \frac{1}{3} * 3 = 1$$

 $i=2$

$$j=1 \quad v[1][0] = \frac{2}{1} * \frac{1}{2} = 1$$

$$j=2 \quad v[1][1] = \frac{2}{2} * \frac{2}{2} = 1$$

$$j=3 \quad v[1][2] = \frac{2}{3} * \frac{3}{2} = 1$$

 $j=3$

$$j=1 \quad v[2][0] = \frac{3}{1} * \frac{1}{3} = 1$$

$$j=2 \quad v[2][1] = \frac{3}{2} * \frac{2}{3} = 1$$

$$j=3 \quad v[2][2] = \frac{3}{3} * \frac{3}{3} = 1$$

| | 1 | 0 | 1 | 2 |
|---|---|---|---|---|
| 0 | 0 | 1 | 0 | 0 |
| 1 | 1 | 0 | 1 | 0 |
| 2 | 0 | 0 | 0 | 1 |

DOS

BIOS - basic input
↓ out system

Linux → GUI

ROM basic

OS Installing:

1) Alt + F4 → Restart.

1) Hold time & date

2) Press F10 ^{moment} the screen becomes2) Peripheral device
updates &
info,

black. (F10, F7, F12, F2, Del)

SATA(1-4)

esc fits back

means max

system info. 1 to 4 hard disk

possible.

(Boot Menu) in Advance menu

Boot of priority appears as hard disk

Priority entries do have priority

• first boot no power - 100%

Stand

Unallocated Space.

Bad Sector - good

MAA → good track count

Min 5GB

File format -
FAT32

BIOS

Boot device Priority → 1st priority

Start up boot

→ It is temporary
2 → non-volatile

BIOS: • BIOS stands for Basic Input / Output System.
• It is firmware that is built into the computer motherboard.

- Initializes the computer's hardware as the computer is being booted.
 - Then searches for a boot device (optical or storage drive) to boot software, such as operating system.
- POST - Power on Self test.

long
3x Beep - keyboard

Continuous short beep → RAM

Data tim
Boot syem

BIOS is a non-volatile firmware used to perform hardware initialization during the booting process, and to provide runtime services for operating system and programs. The BIOS firmware comes preinstalled on a personal computer's system board and it is the first software to run when powered on.

DOS

- 1) Single-User operating system
- 2) Text based commands
- 3) Uses command line interface
- 4) D.O.S. doesn't support networking
- 5) Not time sharing
- 5) Not user friendly.

Windows

- 1) Multi-user operating system
- 2) Commands given by clicking on icons
- 3) Uses graphical user interface
- 4) Windows support networking.
- 5) Time sharing.
- 5) User friendly.

- 1) help to grow business
- 2) cost effective resource sharing
- 3) Improving storage efficiency and volume
- 4) Access flexibility
- 5) Secure valuable information

Utility Software

Network Managers: Manage Engine Op Manager, Connectwise

- 1) Disk Cleaner,
- 2) File Manager
- 3) Antivirus software: Avast, Avira, Kaspersky, Norton, McAfee
- 4) Backup Software,

Virus: 1) File Infector, Macro Virus,

FAT Virus Jerusalem Cascade

Melissa

Worms: 1) Melissa (Microsoft Word)

Subject

Date

Mechanical
Era
1623-1900

Abacus, 3000 B.C.

Napier's bones,

Pascaline 17th
century.

1st generation

1937 - 1953

Electron microscope

Optical fiber,

microwave oven

1st general purpose
computer built
with vacuum tube
EDIAC, EDVAC

2nd generation

1954 - 1962

Microchips,
audio cassette
video disk

Transistor & diode
TRADIC, IBM 704

3rd generation

1963 - 1971

Calculator, computer
mouse, RAM,
floppy disk.

Mini Computer
with PDP-8.

4th generation

1972 - 1984

Ethernet, cellphone

MS-DOS

Intel 8008 →
microprocessor.

MSL, LSJ,
Graphical GUI,
Macintosh

APPLE II,

RISC → VLSI, VLSI

5th gen

1985 - 1990

CD-ROM, 3D video
game.

Platinum screen
iMac, Powerbook

6th

1990 - till day

HTML, JAVA,
HTTP, DVD.

Subject DBMS

Date 25 04 19

38, 39, 24, 06, 04, 18, 13, 07, 34, 27, 21, 35, 31,
17, 02, 05, 22, 11, 03, 01, 08, 12

Data Base Management System.

Field → Record → Table → Database

collection
of different
types of
field

Query - To find out something specific

Data, information

defi: DBMS, advantages of DBMS

Elements of DBMS

Primary, Secondary, Super key

Relation of DBMS

Internet: a interconnected network of LAN, MAN, WAN.

Intranet : Private network, not for everyone & require authentication. Banking software
Extranet : Publicly accessible and required

authentication Router

Function of modem in internet: MO DEM

To transform digital data to analog by demodulation.

Analog in $\xrightarrow{\text{demodulation}}$ digital

BCD

DOS → Disk operating System. Command
MS - DOS → Micro soft Disk Operating Prompt
System.

DOS are divided into 2 ways - ① DOS

② MS DOS

Limitation of DOS:

1. Support only one user and one program at a time.
2. Required drive & installation for any new hardware addition.
3. User has to memorize a lot of command.
can perform
4. DOS support only 16-bit program.

Advantages:

very small.

(512MB)

1. It requires ~~a little~~ memory size space
2. Simplicity

B.

Monitors

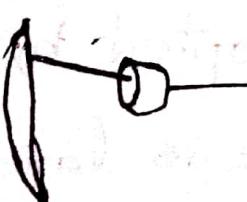
According to technology/generation

- 2 categories:
- 1) CRT Monitor (Cathod Ray tube)
 - 2) Flat panel display.
(LCD, LED)

Color display

- 3 types:
- i) Monochrome (black & white BW)
↳ only one type color displayed against one background (white)
 - ii) Gray scale: Very intensities of gray against a white or off white background
 - iii) Color monitor: be Displayed between 16 to 16 million colors

* How does CRT monitors works?



Left to right

1 micro second

Scan

| |
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Main Components of computer :-

1. Processor :- It's called the brain of computer. It takes all the work load.
2. Motherboard :- It's the mainboard of computer & many other components are embedded on it. These are main 4 components eg. IC (integrated circuit), slots (4), sockets and port.
3. Memory : There are two types of memory & they are-
 - i) Primary or volatile memory \rightarrow RAM
 - ii) Secondary memory \rightarrow H.DD.
non-volatile.
4. Casing : Processor, motherboard, hard disk, CD - ROM, Power supply box, cooling fan altogether with some other components are kept protected within a box & its called casing.
5. ROM : Read only memory eg \rightarrow CD / DVD : ROM
6. I/O or peripheral devices : Input/Output. To provide input (keyboard, mouse) & receive output (printer, monitor).
7. PSU : power supply unit; generally supplies power to computer.
8. Heat sink : it absorbs heat from processor.

Cylinder → set of track found underneath the header. i.e., no. of track is no. of cylinder.

May - 21 - (Eng, Math, Eng Phy)

Data: Raw object

Information: Gathering data & Processing it to get meaningful information result is called information.

Database: Relationship where similar or same type data are arranged.

↳ Main intention: The data are arranged in such a way they can be retrieved easily & quickly.

DBMS Software.

SQL, MySQL, ~~Java~~ PHP

Field → Table → Database

To find desired data we do Query

Relation:

| | | |
|-----|-----------|------------------------------------|
| key | Primary | → 1 entity / field |
| | Secondary | → May not be unique (a group data) |
| | Super | → Multiple field |