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CAHM. Notes

Question 1 Difference between RAM & ROM

	RAM	ROM
1	It is a Temporary storage	It is a permanent Storage
2	Store data in MBs	It stores in GiB
3	Its Volatile	It's a Non Volatile
4	used in normal operation	used for startup process of Comput
5	Writting data is fast	Writting data is slow

Question 2 Find 2's Complement of (101011)?

$$\begin{array}{r} 101011 \\ \hline 1 \end{array}$$ — for 2's Complement

1's Complement

First, invert digits

$$101011 \longrightarrow 010100$$

2's Complement [by adding 1]

$$\begin{array}{r} 010100 \\ +1 \\ \hline 010101 \end{array}$$

Answer — 010101 are the 2's Complement of 101011

Question 3 Define MMU

The Run time Mapping between virtual address and Physical address is done by hardware device known as MMU

Question 4 what is Multiprocessor

Multiprocessor is a Computer System with two or more Central Processing Unit (CPU) shares full access to a Common RAM the main objective of using a multiprocessor is to boost the System's executing Speed.

Question 5 Define disk access Time & Average Disk Access Time?

Disk Access Time & Average Calculated As:

Disk Access Time = Seek time + Rotational delay + transfer tim
+ Controller Overhead + queing delay

Average Disk Access Time:

Average disk Access time = Average Seek time + Average Rotational delay + transfer time + Controller Overhead + queing delay

Question 6 Represent (-23) Decimal number as a 6 bit Signed Binary Number

[-23]

-23 in 6 bit:

1	1	0	1	1	1

add 1 to show Negetive

2	23
2	11 → 1
2	5 → 1
2	2 → 1
	1 → 0

= 10111

Question 7 Explain Auxilary Memory & Virtual Memory

Auxilary Memory: Auxilary Memory Unit are among Computer Peripheral equipments Auxilary memory holds Programs and data for future use

Virtual Memory: Virtual memory is a memory management technology & technique that Provide an Idealized organised abstraction of the storage that are actually availble on a given machine

Question 8 What is BIOS? Define its function

It is the build in core processor Software Responsible for booting up your System. Embedded into your Computer as a motherboard chip

Question 9 Explain flynn classification

There are 4 type of classification

1. Single Instruction Stream, Single data Stream (SISD)
2. Single Instruction Stream, Multidata Stream (SIMD)
3. Multiple Instruction Stream, Single data Stream (MISD)
4. Multiple Instruction, Multiple data Stream (MIMD)

1 SISD:

It represent the organization of a Single Computer Containing a ~~Sequentially~~ Control Unit, a processor Unit, and a memory unit. Instruction are Executed Sequentially and the System may or may not have internal Parallel Processing Capabilities

2 SIMD

It Represent an organizations that include many processing unit under the Supervision of a Common Control Unit. All operate on different item of data

3 MISD

MISD structure is only of theortical interest since no Practical System has been Constructed using this organisation

4 MIMD

All processor in a parallel Computer can Execute different instruction and operate on various data at the Same time

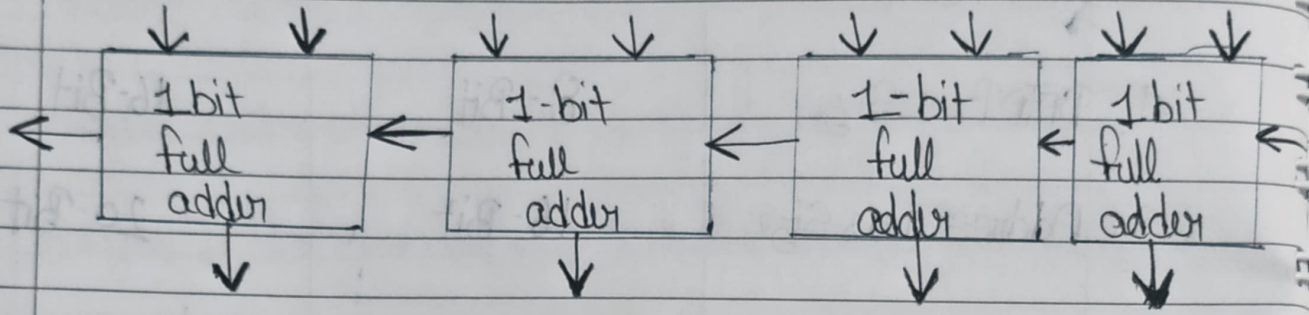
Question 10 Compare 8085 Microprocessor & 8086 Microprocessor

	PROPERTY	8085	8086
1	DATA Bus Size	8-Bit	16-Bit
2	Address bus Size	16-Bit	20-Bit
3	clock speed	3MHz	Varies in range 5.8-10 MHz
4	duty Cycle for clock	50%	33%
5	Flage	It has 5 flags	It has 9 flags
6	Pipeline Support	Does not support	Support

Question 11 Difference between Magnetic TAP & MAGNETIC Disk

	MAGNETIC TAPES	MAGNETIC Disk
1	Consist of a strip of Plastic	Consist of Round Pattern made of Plastic or metal
2	Only one side of the tapes is Called with magnetic meterial for Record data	Both Side of the Pattern Can be Coated with a magnetic meterial for Record data
3	Required tape drives to write information to & read data from the Tape	Required disk driver to read or write data in the disk
4	Data is store in a tape in zoom of record that are organised	Data is Stored in disks in files, folder or directories

Question? Explain and draw 4 bit Ripple Carry adder?



→ Ripple Carry adder work in a different stage

→ Each fcell adder takes the Carry in as input and ~~Severs as Carry in for its adjact most Significant full adder~~ Produces Carry out and Sum bit as output

→

→ the Carryout Produced by a full adder Serves as Carry in for the adjacent most Significant full adder

→ when Carry in become available to the full adder its activate the full adder

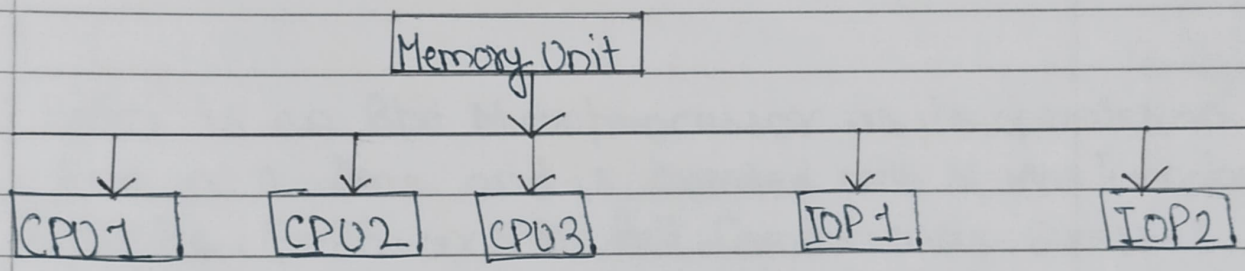
→ After full adder become activated its Comes into operation

Question 13 Explain all the interConnection network

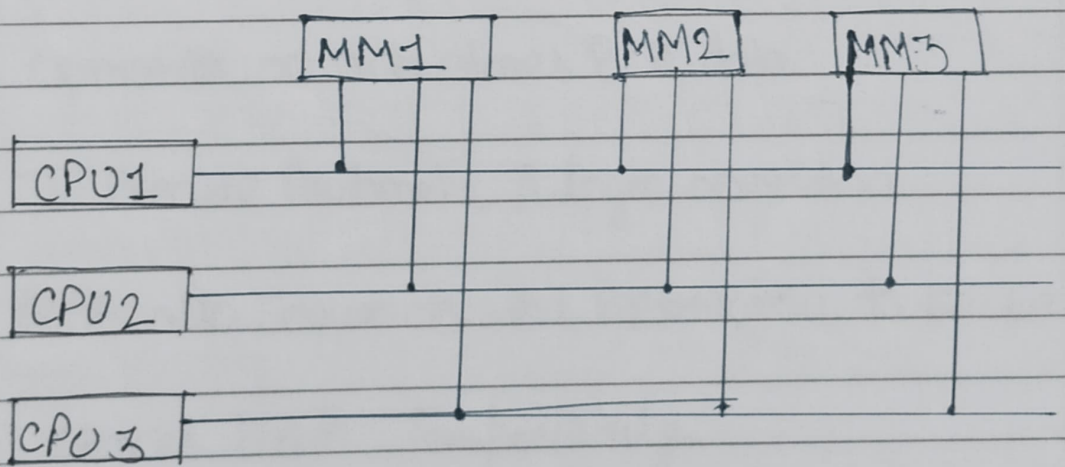
There are 5 type of interConnection network

1) Time-shared Common bus
2) Multiport Memory
3) Crossbar Switch
4) Multistage Switching network
5) Hyperclub System

TIME-shared Common bus: In this Multiprocessor System Consist of number of Processors Connected through a Common Path to a memory Unit. A time shared Connection Common bus for five Processor in shown



Multiport ~~Memory~~ Memory: A multiport Memory System employs Saprate shown in fig



CROSSbar Switch :- the Crossbar Switch organization Consist of a nember of Cross Point that are placed at intersection between Processor buses and memory Module Paths

Multistage Switching Network :- the basic component of a multistage ~~Processor~~ Network is a two Input, two-output interchange Switch

HyperCube InterConnection : the hypercube or binary n-cube multiprocessor structure is a loosely Coupled System Composed of $N = 2^n$ processor interConnect-ed in an n-dimentional binary Cube

Question 14 Draw & Explain 8085 Microprocessor Architecture

8085 is an 8bit Microprocessor as its operates on 8bit at a time and is created with N-MOS Technology Basically, 8085 was the first Commercially Sucessful microprocessor by Intel As an Architechture drawback associated with 8080 was also Estimated by 8085

Operation Performed :-

1 Operates on and stores 8bit data

2 It Execute Arithmetic & logic operation

3 8085 also Sequence the instruction to be Execute

4 Stores DATA Temporarily