Date 02/31/2023 Wednesday

(eigth class)

MEMORY

→ MEMORY STRUCTURE

It is a crucial in digital designed:

→ EPROM, PROM, ROM, RAM, SRAM, (S) DRAM, RDRAM

→ MEMORY STRUCTURE

There are two categories of memory structure

→ Adress Bus.

→ Data Bus.

) There are two types of memory used in digital system.

) RAM (RANDOM ACCESS MEMORY) :

It can perform write & read operations.

) ROM (READ ONLY MEMORY):

It can only performed read operation.

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*) ROM is programmable logic device having three ways

(1) PLA
(2) PAL
(3) FPGA.

RAM:-

A memory unit stores binary information in groups of bits (a called "word").

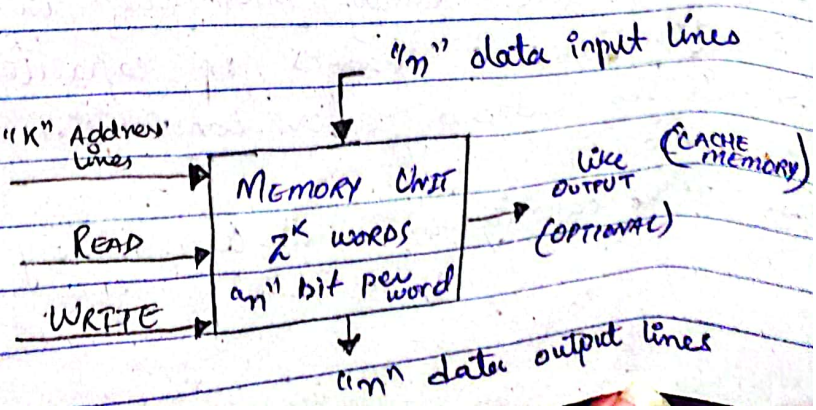
IN MATHEMATICALLY

=> 1 byte = 8 bits ; => Word = 2 bytes.

=> Word = 2 bytes = 16 bits

→) The communication between a memory and its environment is achieved through data input & o/p lines, address selection lines, and control lines that specify the direction of transfer.

BLOCK DIAGRAM OF A MEMORY UNIT:



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TYPES OF RAM:-

It has two types :-

(1) Static RAM.
(2) Dynamic RAM.

(1) STATIC RAM "SRAM":-

It is used for shorter cycles. It can also uses as internal useable bring information.

(2) DYNAMIC RAM "DRAM":-

It is MOS transistor

1) STATIC RAM:-

→ It is stored information remains valid as long as power is applied to unit.
→ Easy to use & has shorter read & write cycles.
→ Low density, low capacity, high cost, high speed, and high power consumption.

2) DYNAMIC RAM:-

→ It is stores binary information in the form electric charges on capacitors.
→ It has reduced power consumption & larger storage.
→ It's capacity in a single memory chip.