#### SUBJECT: MICROPROCESSOR ARCHITECTURE AND PROGRAMMING TOPIC : MEMORY CLASSIFICATION OF 8085 NAME OF TEACHER: SIMNA V J ACADEMIC YEAR: 2020-2021

### TOPIC : MEMORY CLASSIFICATION IN 8085

### Memory classification



#### RAM(random access memory)

- It is a volatile memory data loses when the power is turned off.
- Os and application programs are stored here
- Allow reading and writing

#### SRAM(static RAM)

- Memories that consists of circuits capable of retaining their state as long as power is applied are known as static RAM memories.
- It is consists of a number of flip flops. each flip flop stores one bit

It consists of less memory cells per unit area

#### Advantages of SRAM

Fast memory (less access time)

Refreshing circuit is not required.

Disadvantages of SRAM

Low package densityCostly

#### DRAM(dynamic RAM)

 Dynamic RAM stores the data as a charge on the capacitor and they refreshing of charge on the capacitor after every few milliseconds to hold the data even if power is ON.

# PROM(Programmable Read Only Memory)

- This memory has nichrome or polysilicon wires arranged in a matrix these wires can be functionally viewed as diode or fuses.
- This memory can be programmed by user with a special PROM programmer that selectively burns the fuses according to the bit pattern to be stored the process is known as burning the PROM.

#### Advantages of DRAM

- High package density
- Low cost

#### Disadvantages of SRAM

Required refreshing circuit

#### ROM(read only memory)

It perform reading

- It is non volatile memory.ie data not lost when power is off
- It contain booting program

#### Masked ROM

- The program or data are permanently installed at the time of manufacturing as per requirement.
- The data cannot be altered.

# EPROM(Erasable programmable read only memory)

- The memory stores a bit by charging the floating gate of an FET.
- Information stored can be erased using ultraviolet light and can be reprogrammed

#### Disadvantages of EPROM

It must be taken out of the circuit to erase

The entire chip must be erased

## EEPROM(Electrically Erasable programmable read only memory)

 This memory is functionally simillar to EPROM except than that information can be altered by using electrical signals at the register level rather than erasing all the information.