mp architecture prog & application of 8085

↳ Rajesh Mondal

Chap-1

23th Nov

- Bit
  - ↳ binary digit
  - ↳ 0 & 1

8 bit = 1 byte
9 bit = 1 nibble

1024 byte = 1 KB
1024 KB = 1 MB
1024 MB = 1 GB
1024 GB = 1 TB
1024 TB = 1 PB

system BUS (group of lines that transfers data from source to destination)	8085	8086
- Address BUS	16 bit	20 bit
- Data BUS	8 bit	16 bit
- control BUS		

memory capacity

↳ $2^{\text{add lines}}$ bytes

8085
2^{16} bytes
= 64 KB

8086 (more efficient)
2^{20} bytes
= 1 MB

denotes Hexadecimal no.

16 bit

2050 (H)

Microprocessor

- multipurpose
- programmable
- clock driven
- register based electronic device that

full sentence!!

Exam ma fun sentence lekhnu!!

- reads binary data from memory
- accepts binary data as i/p.
- & process data acc. to instructions
- & provides results as o/p.

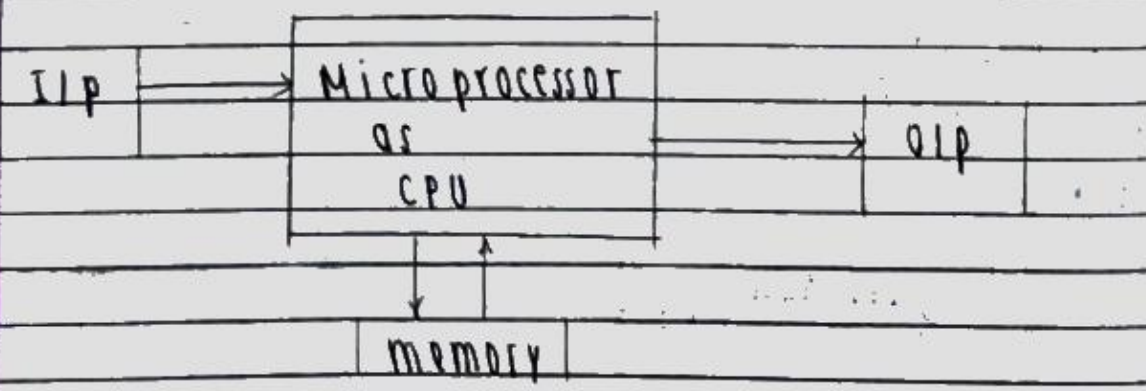


Fig: General Block Diagram of computer

Note: M.P. ko afnai internal memory hudaina.
↓
only register
for temporary storage

↳ io, memory ko interfacing garna parxa

micro controller

↳ For a specific purpose.

MPU	
memory	I/O
Peripheral devices • A/D converter • Timer • Serial I/O	

6 marks ko question

micro processor	micro controller
(i) For general purpose	(i) specific purpose ↓ Eg: washing machine, traffick light.
(ii) more expensive	(ii) less expensive.
(iii) more versatile.	(iii) less versatile.

organization of microprocessor (Mp) based system

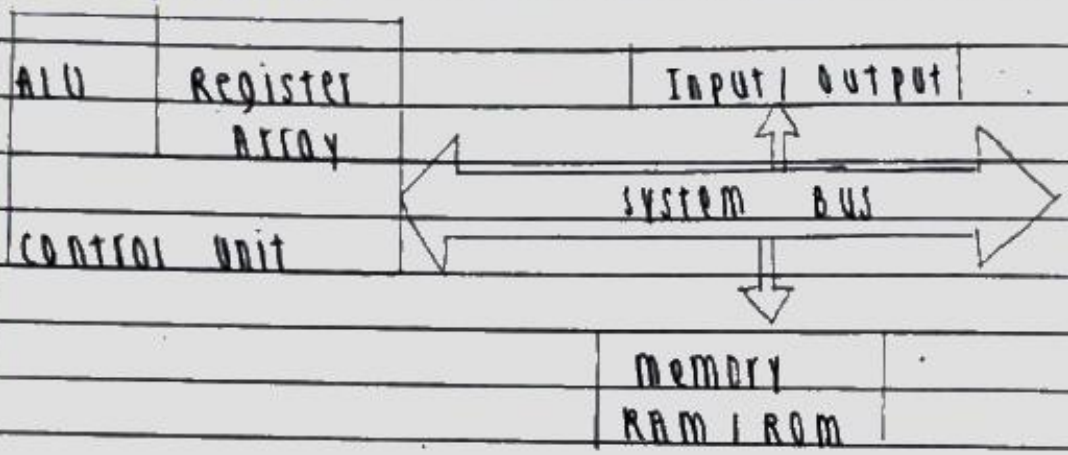


Fig: microprocessor based system in bus architecture

- Arithmetic logic unit
  - performs arithmetic & logical calculations
    - (+, -, *, /)
    - (AND, OR ...)

- Register Array
  - Temporary storage during execution of program.
  - accessible to user

inbuilt variables

+ A → accumulator

- B, C, D, E, H, L in 8085

- control unit
  - provides necessary timing & control signals to all operators
  - controls data flow betn µp, memory & peripherals

- Input / output devices
  - also called peripheral devices

- memory
  - stores data & instructions

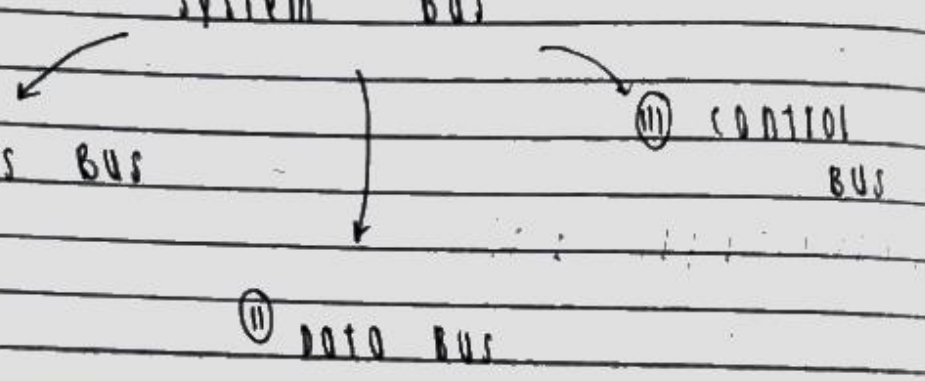
memory

RAM
- Random Access Memory
  - Read & write both

Rom
- Read only memory
  - only read

System Bus

- communication channel bet^n µp & peripherals
- group of wires to carry bits.



(i) Address Bus

- used to designate source & destination of data on data bus.
- determines memory capacity of processor

$$M.C. = 2^n$$

n = no. of address lines

(ii) Data Bus

- provides path for moving data bet^n system modules.

Date ______
Page ______

ⓒ Control Bus / Lines (mostly)

↳ used to control access & the use of data & address lines.

↳ I/P / O/P, Read/write, memory read/write, Interrupt request, Interrupt acknowledge

↓

Signals hotu

Automated Calculator

↳ ekchoti back ma (9 marks)