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C(4)	P(4)	A(2)	Total (10)	Sign.

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- It consist of instructions like register, instruction decoder, timing and control circuit.

- It controls entire operation of microprocessor and peripherals connected to it.

3] REGISTER ORGANIZATION :

- Registers are used by microprocessor for temporary storage of data and instructions. These registers are known as Internal Memory of microprocessor.

- The 8085 has following registers :

1) One 8-bit accumulator [Acc] [of Register A].

2) Six 8-bit general purpose registers, these are B, C, D, E, H, L

3) One 16-bit stack pointer [SP]

4) One 16-bit program counter [PC]

5) Instruction register.

6) Temporary register.

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- ## ONE 8-bit ACCUMULATOR Of REGISTER A :

1) Accumulator is 8-bit register.
2) It is also known as register A.
3) It is used to hold one of operand [data] of an arithmatic and logical operation.
4) It is used as I/P device for ALU.
5) Finally result is stored in accumulator.

- ## SIX 8-bit GENERAL PURPOSE REGISTER :

1) The 8085 has 6-general purpose register these are 8-bit register B, C, D, E, H, L.
2) These are available for user.
3) These are used to store 8-bit data.
4) The pair of two register can be used as 16-bit registers.
5) These pairs are BC, DE, HL.

- ## STACK POINTER [SP] :

1) It is a special purpose register.
2) It is used to access stack memory.
3) It is used to point two stack memory.
4) Some parts of RAM memory are used as stack.

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- **PROGRAM COUNTER [PC] :**

1) It is 16-bit special purpose register.
2) It is always used to hold address of program memory.
3) It gains track of memory address of instruction in program while they are been executed.
4) It never hold data or operand.
5) It is automatically incremented by control unit during instruction fetch operation.
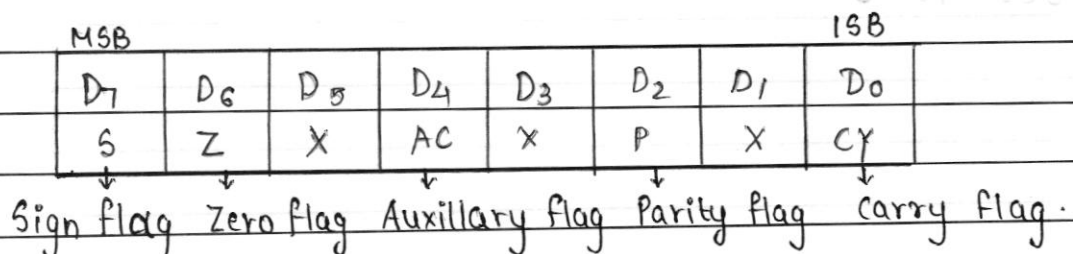
- **INSTRUCTION REGISTER :**

1) The instruction register holds the op-code of instruction which is been decoded and executed.

- **TEMPORARY REGISTER :**

It is 8-bit register associated with 'ALU'.
1) It is not available for user.
2) It holds data during arithmatic and logical operations.
3) It is used by microprocessor.

- **FLAG REGISTER :**

MSB							ISB	
D_7	D_6	D_5	D_4	D_3	D_2	D_1	D_0	
S	Z	X	AC	X	P	X	CY	

Sign flag   Zero flag   Auxillary flag   Parity flag   carry flag.

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1] CARRY FLAG [CY or CF] :

After execution of instruction carry flag is generated. Carry flag set to '1' or reset to '0'

FLAG REGISTER :

1) It is available for user.
2) The ALU stores status of result in flag register
3) These flag registers are connected to ALU.
5) There are 5 flags of 8085 microprocessor.

2] AUXILLARY FLAG [AC] :

If carry is generated from bit-3 to bit-4 [$D_4 - D_3$], it is said to '1' otherwise reset to '0'.

3] PARITY FLAG [P] :

If result of operation contain even no. of '1' the parity flag is said to '1' or parity flag contain odd no. of '1' the parity flag reset to '0'.

4] ZERO FLAG :

If result of operation is zero [0] then zero flag is said to '1' otherwise non-zero result reset to '0'.

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5] SIGN FLAG :

1) The sign flag set to 1, if result of operation is negative.

2) It is always used in signed arithmatic operation.

3) In logical operation MSB is 1, the sign flag is set to '1'

* 8085 SYSTEM BUS :

A typical microprocessor communicates with memory and other devices. [input and output] using three buses i.e. Address bus, Data bus and control bus.

1. ADDRESS BUS :

1) To communicate with memory the microprocessor sends an address on the address bus.

2) Address bus is unidirectional i.e. no.s only sent from MPR to memory, not other way.

3) The address bus consist of 16 wires; therefore its width is "16-bit"

2. DATA BUS :

1) Data bus is used to transfer "data", i.e. information, results of arithmatic, etc between

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