

5) S_0 and S_1 :

- These are status signals sent by the microprocessor to distinguish various types of operation given in table

S_1	S_0	OPERATION
0	0	HLT
0	1	Write
1	0	Read
1	1	Fetch

6) \overline{RD} :

This signal is used to control read operation when it goes low. The memory or I/O devices are read.

7) \overline{WR} :

This signal is used to control WRITE operation when it goes low, data is written to selected memory or I/O device.

8) READY :

This signal is used by the microprocessor to check that peripheral is ready to transfer the data or not.

9) HOLD :

Another device or I/O devices requesting to the processor for use of address and data bus.



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

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10) HLDA :

This is acknowledgement pin. The processor sends acknowledgement to requesting devices that processor is ready to accept request.

11) INTR :

It is an interrupt request signal.

12) INTA :

If processor is ready to accept the request then it sends acknowledgement signals.

13) RESET IN :

This is active low signal used to reset microprocessor when it is received by microprocessor, it clears program counter (i.e. 0000).

14) RESET OUT :

It is active high output signal. It indicates that processor is being reset.

15) X₁, X₂ :

These are clock input pins connected to crystal oscillator which drives an internal circuit of microprocessor to produce suitable clock for operation of microprocessor.

16) CLK :

It is clock output for user that can be used for other digital IC

- It's frequency is same at which processor operates.
- Internal operating system of microprocessor available on this pin and used to operate other devices in system with speed.

17) SID and SOD :

These are Serial Input Data and Serial Output Data. SID pin is used to accept one bit data under software control.

18) V_{CC} :

V_{CC} provides +5v power supply for operation of microprocessor.

19) V_{SS} :

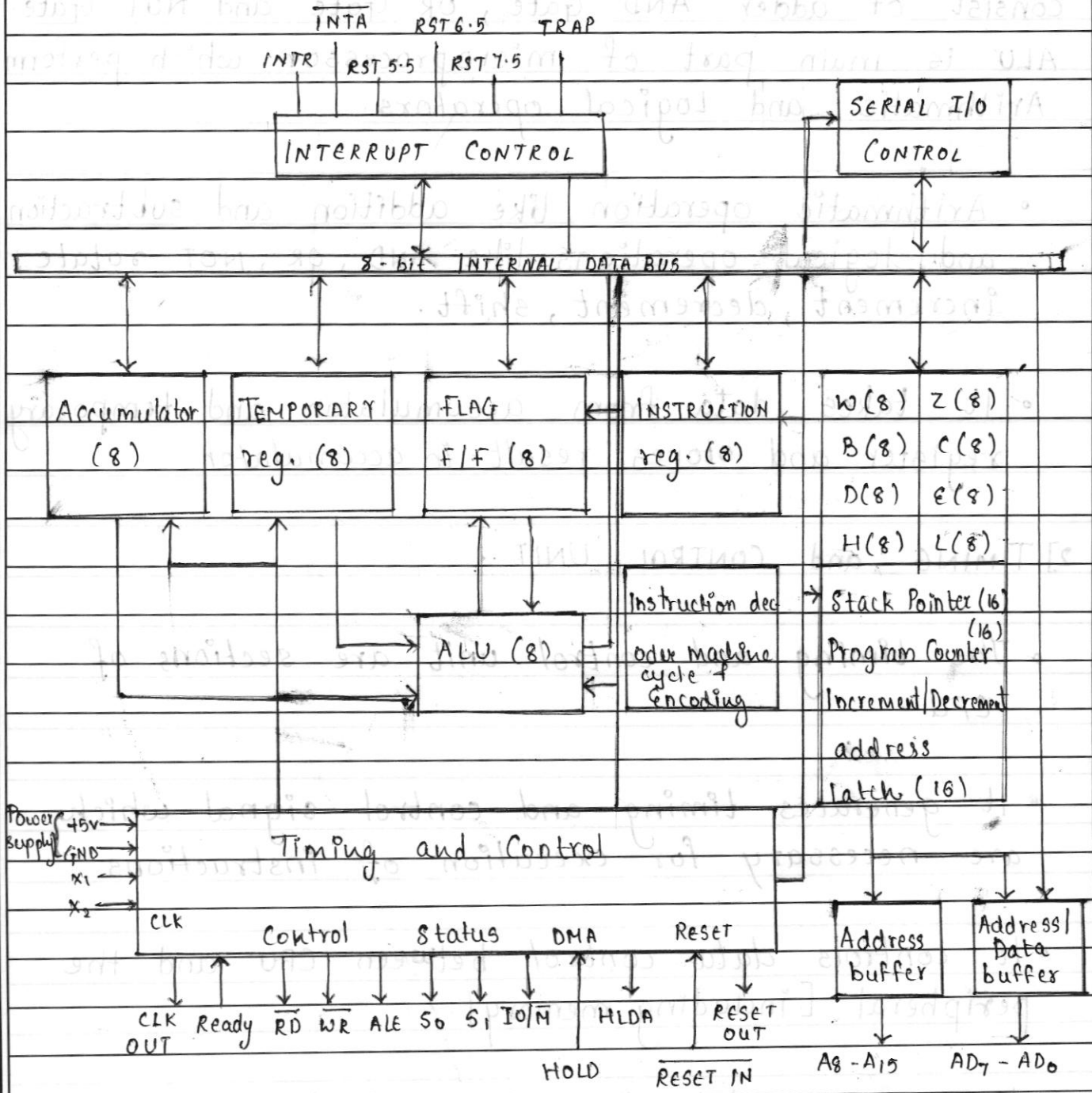
These provides ground references.



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

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* ARCHITECTURE and BLOCK DIAGRAM OF MICROPROCESSOR :



1] ARITHMETIC and LOGICAL UNIT [ALU] :

- ALU is a combinational circuit which consist of adder AND Gate, OR Gate and NOT Gate. ALU is main part of microprocessor which perform Arithmetic and Logical operators.

- Arithmetic operation like addition and subtraction and logical operations like AND, OR, NOT rotate, increment, decrement, shift.

- It takes data from accumulator and temporary register and stores result in accumulator.

2] TIMING and CONTROL UNIT :

- The timing and control unit are sections of CPU.

- It generates timing and control signal which are necessary for execution of instructions.

- It controls data control between CPU and the peripheral [including memory].

- It performs data transfer and decision making operations.