Addressing Modes :-

- The various ways of specifying data (or operands) for instructions are called as addressing modes.
- The 8085 addressing modes are classified into following types

(i) Register Addressing Mode

→ In register addressing mode the source and destination operation are in the general purpose registers.

→ The opcode specifies the operation and registers to be used to perform the operation.

→ eg MOV A, B Move the content of register B to register A.

ADD C Add the content of register C to register A. Store result in A.

(ii) Direct Addressing Mode

→ In direct addressing mode, the address of the operand is given in the instruction itself.

→ eg STA 7500H Store the content of accumulator in memory location 7500 H.

→ IN, 01 Read data from port 01 or B.

(iii) Indirect Addressing Mode

→ In indirect addressing mode the address of operand is specified by register pair.

→ The address stored in register pair points to memory location.

→ eg LXI H, 7500H Load HL with 7500 H.

MOV A, M Move the content of memory location whose address is in HL pair, to the accumulator.

LXI H, 4000 H Load HL pair with 4000 H.

ADD M Add the content of memory location, whose address is in HL pair, to the content of accumulator.

(iv) Immediate Addressing Mode

In immediate addressing mode the data or operand is specified with in the instruction itself or it is a part of instruction.

eg MVI A, 05H Move 05H in register A.

LXI, H, 2600H Load HL pair with 2600H i.e 16-bit data.

(V) Implicit or Implied Addressing Mode

→ In implicit addressing mode, the operand is not specified in the instruction.

→ The operand is specified with in the opcode itself.

→ The data is supposed to be present generally in accumulator.

eg RAL Rotate the content of the accumulator towards left.

(Whenever RAL is used it is implied that the data to be operate on is available in the instruction itself.)