

SNS COLLEGE OF TECHNOLOGY An Autonomous Institution Coimbatore-35

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING MICROPROCESSORS AND MICROCONTROLLERS

II YEAR/ IV SEMESTER

UNIT 1 – 8085 AND 8086 ARCHITECTURE

TOPIC – Instruction set of 8085





- An instruction is a binary pattern designed inside a microprocessor to perform a specific function.
- The entire group of instructions that a microprocessor supports is called Instruction Set.
- 8085 has 246 instructions.
- Each instruction is represented by an 8-bit binary value.
- These 8-bits of binary value is called Op-Code or Instruction Byte.







Classification of Instruction Set

- Data Transfer Instruction
- Arithmetic Instructions
- Logical Instructions
- Branching Instructions
- Control Instructions





Data Transfer Instructions

- These instructions move data between registers, or between memory and registers.
- These instructions copy data from source to destination.
- While copying, the contents of source are not modified.







Data Transfer Instructions

Opcode	Operand	Descript
MOV	Rd, Rs M, Rs Rd, M	Copy from source to destin

- This instruction copies the contents of the source register into the destination register.
- The contents of the source register are not altered.
- If one of the operands is a memory location, its location is specified by the contents of the HL registers.
- Example: MOV B, C or MOV B, M





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Data Transfer Instructions

Opcode	Operand	Des	
MVI	Rd, Data M, Data	Move immediate 8-bi	

- The 8-bit data is stored in the destination register or memory.
- If the operand is a memory location, its location is specified by the contents of the H-L registers.
- Example: MVI B, 57H or MVI M, 57H





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Data Transfer Instructions

Орсо	Opcode	Operand	Desc
LDA		16-bit address	Load Accumulator

• The contents of a memory location, specified by a 16bit address in the operand, are copied to the accumulator.

- The contents of the source are not altered.
- Example: LDA 2034H





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Data Transfer Instructions

Opcode	Operand	De	
XCHG	None	Exchange H-L with	

- The contents of register H are exchanged with the contents of register D.
- The contents of register L are exchanged with the contents of register E.
- Example: XCHG





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D-E



Data Transfer Instructions

Opcode	Operand	Description
OUT	8-bit port address	Copy data from accumulator to a port with 8- bit address

• The contents of accumulator are copied into the I/O port.

Opcode	Operand	Description
IN	8-bit port address	Copy data to accumulator from a port with 8- bit address

- Example: IN 8C H

• Example: OUT 78 H





Data Transfer Instructions

• The contents of I/O port are copied into accumulator.



THANK YOU

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Instruction set of 8085/ MICROPROCESSORS & MICROCONTROLLERS/P.UMA MAHESWARI/ECE/SNSCT



