SNS COLLEGE OF TECHNOLOGY

An Autonomous Institution

Coimbatore-35

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A++' Grade

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

MICROPROCESSORS AND MICROCONTROLLERS

II YEAR/ IV SEMESTER

UNIT 1 – 8085 AND 8086 ARCHITECTURE

TOPIC – Instruction set of 8085

Branching Instructions:

The branching instruction alter the normal sequential flow.

These instructions alter either unconditionally or conditionally.

Opcode	Operand	Description
JMP	16-bit address	Jump unconditionally

The program sequence is transferred to the memory location specified by the 16-bit address given in the operand.

Example: JMP 2034 H.

Instruction set of 8085

Opcode	Operand	Description
Jx	16-bit address	Jump conditionally

The program sequence is transferred to the memory location specified by the 16-bit address given in the operand based on the specified flag of the PSW.

Example: JZ 2034 H.

Instruction set of 8085

Opcode	Description	Status Flags
JC	Jump if Carry	CY = 1
JNC	Jump if No Carry	CY = 0
JP	Jump if Positive	S = 0
JM	Jump if Minus	S = 1
JZ	Jump if Zero	Z = 1
JNZ	Jump if No Zero	Z = 0
JPE	Jump if Parity Even	P = 1
JPO	Jump if Parity Odd	P = 0

Instruction set of 8085

Opcode	Operand	Description
CALL	16-bit address	Call unconditionally

The program sequence is transferred to the memory location specified by the 16-bit address given in the operand.

Before the transfer, the address of the next instruction after CALL (the contents of the program counter) is pushed onto the stack.

Example: CALL 2034 H.

Instruction set of 8085

Opcode	Description	Status Flags
CC	Call if Carry	CY = 1
CNC	Call if No Carry	CY = 0
CP	Call if Positive	S = 0
CM	Call if Minus	S = 1
CZ	Call if Zero	Z = 1
CNZ	Call if No Zero	Z = 0
CPE	Call if Parity Even	P = 1
CPO	Call if Parity Odd	P = 0

Instruction set of 8085

Opcode	Description	Status Flags
RC	Return if Carry	CY = 1
RNC	Return if No Carry	CY = 0
RP	Return if Positive	S = 0
RM	Return if Minus	S = 1
RZ	Return if Zero	Z = 1
RNZ	Return if No Zero	Z = 0
RPE	Return if Parity Even	P = 1
RPO	Return if Parity Odd	P = 0

The control instructions control the operation of microprocessor.
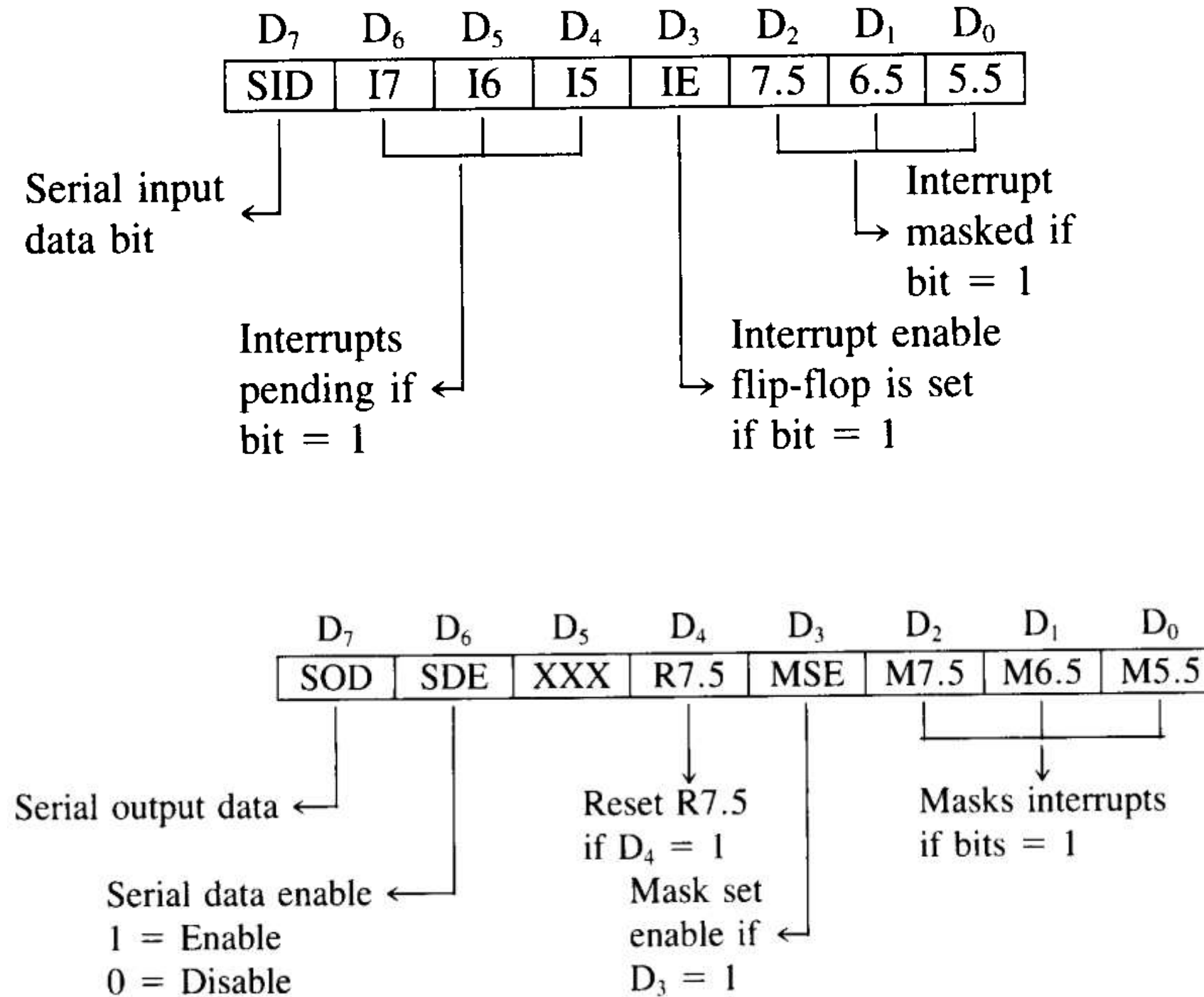
No operation is performed.

The instruction is fetched and decoded but no operation is executed.

Example: NOP

Opcode	Operand	Description
NOP	None	No operation

RIM AND SIM

D_7	D_6	D_5	D_4	D_3	D_2	D_1	D_0
SID	I7	I6	I5	IE	7.5	6.5	5.5

Serial input data bit

Interrupts pending if bit = 1

Interrupt enable flip-flop is set if bit = 1

Interrupt masked if bit = 1

D_7	D_6	D_5	D_4	D_3	D_2	D_1	D_0
SOD	SDE	XXX	R7.5	MSE	M7.5	M6.5	M5.5

Serial output data

Serial data enable
1 = Enable
0 = Disable

Reset R7.5 if D_4 = 1

Mask set enable if D_3 = 1

Masks interrupts if bits = 1

THANK YOU