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Mid-Term Examination, Even Semester 2020-21

B.Tech, Year: 2ⁿᵈ., Semester: 4ᵗʰ

Introduction to Microprocessors(BCSC 0007)

Time : 2 Hours

Maximum Marks: 30

Section- A

Note: Attempt All Three Questions.

3 x 2 = 6 Mark

I. What is the use of RESET IN and RESET OUT instruction.

II. Write any four Logic and Bit Manipulation Instructions.

III. Explain Register Indirect Addressing Mode with example.

Section- B

Note: Attempt All Three Questions.

3 x 3 = 9 Marks

I. How AD7-AD0 signal lines are used to transfer both data and low order address using multiplexing? Explain with diagram.

II. Write a program to exchange the contents of memory locations 3000H and 4000H.

III. Explain the following instructions with example:

    1. LXI

    2. SUI

    3. INR

Section – C

3 x 5 = 15 Marks

I.   Draw Timing diagram for the execution of the instruction MVI B,44.(HEX code of instruction MVI B is 06 which is stored at memory location 2001and data 44 is stored at memory location 2002).

II. Explain all the Control and Status Signals of microprocessor 8085.

III. Write a program in microprocessor 8085 assembly language for addition of two 16-bit numbers. Add the 16-bit number in memory locations 4000H and 4001H to the 16-bit number in memory locations 4002H and 4003H. The most significant eight bits of the two numbers to be added are in memory locations 4001H and 4003H. Store the result in memory locations 4004H and 4005H with the most significant byte in memory location 4005H.

IV. What will be the value of all 5 Flag registers and Accumulator after executing each program:

   1. MVI A, 86   4. MVI A, ~~
      MVI B, A7   MV~
      ADD B   SUB~

   2. MVI A, 59   5. MVI A, 86
      MVI B, 99   MVI B, 97
      ADD B   SUB B

   3. MVI A, EF
      MVI B, CD
      ADD B

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First Mid-Term Examination, Even Semester 2019-20
B. Tech (CSE, IOT, DA, CCV & CSF), II, IV
BCSC 0007: Introduction to Microprocessor

Time: 1 Hour
                                        Maximum Marks: 15

Section – A

Attempt All the questions.   3 x 2 = 6 Marks

1. Write any four features of 8085 microprocessor? List fo⸱ applications of Microprocessor?

2. Draw and explain flag register of 8085 MPU. .... be t⸱ value of all flags (except auxiliary carry flag) of 8085 after performing subtract 8E by 7E hexadecimal data.

3. Write the working of following pins of 8085 MPU.

   I. HOLD and HLDA   II. $\overline{\text{RESET IN}}$ and RESET OUT

Section – B

Attempt All the questions.   3 x 3 = 9 Marks

1. Define Instruction cycle, machine cycle. The instruction MVI B, FF (hexadecimal) is useful to load FF (hexadecimal) as data byte in register B. It is a 2-Byte instruction. Draw the timing diagram for MVI B, FF (hexadecimal).

2. Write the assembly language program to subtract two sixteen bits numbers available in BC and DE register pair, after performing operation store the result in 3000 and 3001 memory location respectively. Also write description of each instruction with program.

3. List all addressing modes used in 8085 MPU. Explain any two with example.

Mid-Term Examination
Even Semester, 2018-19

Programme: B. Tech   Branch: CSE   Year: II
Subject & Code: Introduction to Microprocessor (BCSC0007)
Time: 1 Hour   Maximum Marks: 15

Section – A   3 x 2 = 6 Marks

Q1. Define PSW? Distinguish between 8085 and 8086 microprocessors?

Q2. Draw the 8086-flag register bits pattern. Explain flags which are not available in 8085 microprocessors.

Q3. Define stack & subroutine in microprocessor. Calculate the maximum delay by using microprocessor register as a counter with clock frequency 2MHz.

Section – B   3 x 3 = 9 Marks

Q1. Explain CMP instruction with example. Write Assembly language program to find max number from a list starting from memory location 3000h and number of items in given list store at memory location 2500h.

Q2. Draw the functional block diagram of 8086. List all functional blocks of execution unit and describe bus interface unit in brief.

Q3. How many times the loop will be executed (write in decimal)? Find out total t-state for each loop.

a. MVI B, 11h	b. LXI H, 1000h	c. MVI C, 00h
L1: DCR B	L1: DCR H	L1: DCR C
JNZ L1	MOV A, L	JNC L1
	ORA H	
	JNZ L1	

I Mid-Term Examination
Even Semester, 2018-19

Programme: B.Tech   Branch: CSE   Year: II
Subject & Code: Introduction to Microprocessor (BCSC0007)
Time: 1 Hour

Maximum Marks: 15

Section – A   3 x 2 = 6 Marks

Q1. Define Microprocessor? What do you understand with word size of microprocessor? Distinguish between microprocessor and microcontroller (Any two)?

Q2. Enlist functional block of 8085 and describe Instruction decoder & Machine cycle encoder unit in brief.

Q3. The instruction MOV A, B is useful for copies the contents of register B into register A. It is a 1-Byte instruction. Draw the timing diagram for the machine cycle for MOV A, B.

Section – B   3 x 3 = 9 Marks

Q1. Enlist, how can signals be classified for the 8085 Microprocessor? Explain the use of Ready, HOLD and A_{15}-A_8 signals in 8085.

Q2. What is Instruction Format? The 8085 can perform many instructions, these instructions can be functionally classified. Enlist the classification and explain any one of them.

Q3. Write instruction used for given descriptions with its size (in bytes) and addressing mode.

a. Load 2200H in any register pair.
b. Subtract the contents of Register B with the contents of accumulator with borrow
c. Clear the contents of accumulator
d. Load the contents of memory location 2000H in accumulator.