Seat No.: _____ PR No._____

SANKALCHAND PATEL UNIVERSITY

B.Tech – SEMESTER (V) – EXAMINATION – WINTER 2018

Subject Code: 1ET1030505 **Date:30/10/ 2018**

Subject Name: Microprocessor and Interfacing

Time: 3 Hours **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q. 1 (A) Define the Following. **10**

(1) 16 bit registers in 8085.
(2) What is microprocessor?
(3) What is the use of ALE?
(4) Define T-state.
(5) What is opcode and operand?
(6) What do you mean by unidirectional data bus?
(7) RRC Instruction.
(8) Define CMA.
(9) 8085 Power supply is____volts and clock frequency is_____.
(10) Define AD0-AD7.

(B) Explain the following in Brief. **10**

(1) Interrupts of 8085.
(2) Buses in 8085.
(3) Addressing Modes.
(4) JC and JNC.
(5) RIM and SIM.

Q. 2 (A) Give List of Different types of instruction sets and explain any one in brief. **7**

(B) Draw and explain architecture of 8085 microprocessor. **7**

OR

(B) List out the general purpose register available in 8085. Explain the flag register of 8085 microprocessor. **7**

Q. 3 (A) Write a Program to subtract two numbers stored on location 4000 and 5000. **6**

(B) Draw a Timing Diagram for LDA 2050 Instruction. **6**

OR

(A) Write a Program to multiply two numbers stored on location 1234 and 1235. **6**

(B) Draw Timing Diagram for STA 2050 Instruction. **6**

Q. 4 **(A)** State the function of following instructions. **6**

1. OUT 2. LDA 3. RLC

(B) Draw a Diagram to Generate Control Signals. **6**

OR

(A) State the function of following instructions **6**

1. IN 2. ADI 3. RRC

(B) Draw the Pin Diagram of 8085. **6**

Q. 5 **(A)** Write a program to make sum of 12 numbers stored from location 2050 onwards. **6**

(B) Write a Program to count even and odd number stored from location 3000 to 3010. **6**

OR

(A) Write a program to make sum of 8 numbers stored from location 4000 onwards. **6**

(B) Write a program to count positive and negative number stored from location 2050 to 2062. **6**

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Seat No.: _____ PR No._____

SANKALCHAND PATEL UNIVERSITY

B.Tech – SEMESTER 5 – EXAMINATION – WINTER 2019

Subject Code: 1ET1030505 ` Date:22/11/ 2019

Subject Name: Microprocessor and Interfacing

Time: 3 Hrs. Total Marks: 70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q. 1 Answer following Mark as indicate in bracket 20

1. 8085 Power supply is ____ volts and clock frequency is_____. (1)
2. An 8-bit microprocessor can have …….. Data lines. (1)
3. CALL instruction is a _____ bytes instruction. (1)
4. 8085 microprocessor has how many _____ pins. (1)
5. 8085 microprocessor have 20 bit address line. [TRUE/FALSE] (1)
6. 8085 microprocessor have 246 difference instructions. [TRUE/FALSE] (1)
7. ALU stands for _____. (1)
8. A microprocessor has a unidirectional address bus. [TRUE/FALSE] (1)
9. Differentiate between compiler and assembler (2)
10. Differentiate between microprocessor and microcontroller (2)
11. Explain CY and AC Flag with example (2)
12. Draw the Programming model of 8085 (3)
13. Draw the timing of the memory read cycle (3)

Q. 2 Answer following questions (Any Two) 14

A Draw the pin diagram of 8085 microprocessor and explain ALE & TRAP.

B List out the general purpose register and Explain the flag register of 8085 microprocessor.

C List and Explain register and direct addressing modes of 8085 microprocessor with example.

Q. 3 Answer following questions (Any Two) 12

A State the function of following instructions
1. IN 2. ADI 3. RRC

B Draw the architecture of 8085 microprocessor in detail.

OR

A Draw and explain Opcode fetch machine cycle of 8085 microprocessor.

B Explain the register of 8085 microprocessor in detail.

Q. 4 Answer following questions 12

A Give list of different types of instruction set and explain any two in detail.

B Write an AL program that show the Zero flag is set and CY flag is reset condition.

OR

A Vectored and Non-Vectored Interrupts with example.

B Write ALP to copy content of C250H to C350H with HL register pair.

Q. 5 Answer following questions (Any Two) 12

A What is Subroutine? Explain conditional call instruction.

B List the Interrupts of 8085 microprocessor and explain any two of them.

C Write ALP to exchange the content of two registers with comment .

D Write 8085 AL program to add two 16 bit numbers.

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Seat No.: _____ PR No._____

SANKALCHAND PATEL UNIVERSITY

B. Tech. – SEMESTER (5) – EXAMINATION – WINTER 2021

Subject Code:1ET1030505 **Date:25/11 / 2021**

Subject Name: Microprocessor and Interfacing

Time: 3 Hrs. **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q. 1 Answer the following questions. 20

1 What is store by register?

a) Data b) operand c) Memory d) None of them

2 Which is not the control bus signal

a) Read b) Write c) Reset d) None of them

3 Each memory location has,

a) Address b) Content c) Both A and B d) None of them

4 What is mean by ALU

a) Arithmetic logic upgrade b) Arithmetic logic unsigned

c) Arithmetic local unsigned d) Arithmetic logic unit

5 Which one of the following is not a vectored interrupt?

a) TRAP b) INTR c) RST 7.5 d) RST 3

6 8085 microprocessor has how many pins

a) 20 b) 8 c) 40 d) 50

7 HLT opcode means

a) load data to accumulator b) store result in memory.

c) load accumulator with contents of register. d) end of program.

8 What is SIM?

a) Select interrupt mask. b) Sorting interrupt mask.

c) Set interrupt mask. d) None of these.

9 The program counter in a 8085 micro-processor is a 16-bit register, because

a) It counts 16-bits at a time b) There are 16 address lines

c) It facilitates the user storing 16-bit data temporarily

d) It has to fetch two 8-bit data at a time

10 In 8085A microprocessor ALE signal is made high to

a) Enable the data bus to be used as low order address bus

b) To latch data D0-D7 from data bus

c) To disable data bus

d) To achieve all the functions listed above

11 What Are The Various Flags Used In 8085?

12 What Is Stack Pointer?

13 What Is Program Counter?
14 What Happens When HLT instruction is Executed in Processor?
15 Which Interrupt has the Highest Priority?
16 What is Microprocessor?
17 Difference between microprocessor and microcontroller.
18 Explain instruction ADD and SUB with example.
19 Define the term: Address bus
20 What is an interrupt?

Q.2 Answer the following questions. (Any Two) 14

A Explain 8085 Architecture with neat and clean diagram.
B Explain Interrupts of 8085 with example.
C How is PUSH B instruction executed? Find the status after the execution.
D Draw timing diagram for LXI A, F045H.

Q. 3 Answer the following questions. (Any Two) 12

A Explain priority interrupts of 8085?
B Mention the purpose of SID and SOD lines in 8085 architecture.
C Define instruction cycle, machine cycle and T-state?

Q. 4 Answer the following questions. (Any Two) 12

A Explain in details all categories of signals (Pins) of 8085 processor.
B Write a program to calculate the factorial of a number between 0 to 8.
C Write the steps involved to fetch a byte in 8085.

Q. 5 Answer the following questions. (Any Two) 12

A List out the five categories of the 8085 instructions. Give example of the instructions for each group?
B Explain the difference between a JMP instruction and CALL instruction.
C What are the differences between the shift and rotate instructions? Explain with example.

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Seat No.: _____ PR No._____

SANKALCHAND PATEL UNIVERSITY

B.Tech. - SEMESTER – 5– EXAMINATION – SUMMER 2022

Subject Code: 1ET1030505 **Date:01/06/ 2022**

Subject Name: Microprocessor and Interfacing

Time: 3 Hours **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q. 1 Do as directed. 20

1. What is Microprocessor?
2. What is the machine control operation used in 8085?
3. Define: SIM, RIM
4. What is meant by maskable interrupt?
5. 8085 Power supply is____ and clock frequency is_____.
6. There are ____ interrupts available in 8085.
7. What is Interfacing?
8. Total ____ operations are available in 8085 instruction set.
9. What do you mean by Address bus and Data bus?
10. What are the basic units of microprocessor?
11. What is a Flag?
12. List out software interrupts.
13. Write function of an accumulator.
14. What is Opcode and Operand? Give example.
15. Explain the concept of de-multiplexing AD0-7 lines in 8085.
16. Define Tstate.
17. What is the use of directive in 8085?
18. Write a program to find 1's complement in 8085.
19. Name 16 bit registers of 8085.
20. What is the use of ALE?

Q.2 A. Draw and Explain architecture of 8085 microprocessor in detail. 7

B. Define term: Addressing mode? Explain the Addressing modes supported by 8085 by giving suitable examples. 7

OR

B. Give the use of following pins: 1. HOLD 2. HLDA 3. READY 4. TRAP 7

Q.3 A. Explain arithmetic and logical instruction of 8085 microprocessor in detail. 6

B. Explain the execution of the instruction STA 4500H and MVI A, 50H with neat timing diagram. 6

OR

B. Draw and explain diagram of memory write operation in detail. 6

Q.4	A.	Draw flag register structure of 8085 and explain function of each flag with example.	6
	B.	What is interrupt? Explain the 8085 interrupt system in detail.	6
		OR	
	B.	List and Explain types of instructions based on the size of machine code.	6
Q.5	A.	What do you mean by subroutine? Write a subroutine to continuously display FF on output device.	6
	B.	Write assembly language program in 8085 to find the number of odd and even numbers from the given 10 8-bit numbers.	6
		OR	
	A.	Explain the following instructions of 8085. Also mention about the addressing mode and flags the instruction affects. (1) LHLD 1000H (2) RAL (3) DAD D (4) PUSH PSW (5) PCHL (6) LXI	6
	B.	Write an assembly language program with comment lines to add two 16 bit numbers.	6

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