

Total No. of printed pages = 7

END SEMESTER EXAMINATION, NOVEMBER 2018

(SET - I)

Semester – 5th

Subject Code : ET-502

MICROPROCESSOR

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks for the questions.

Instructions :

1. Questions on Part A are compulsory.
2. Answer any five questions from Part B.

PART – A

Marks – 25

1. Fill in the blanks :

1 × 10 = 10

(a) Address bus of 8085 microprocessor is of _____ bits.

(b) An instruction has two parts : Opcode and the _____.

[Turn over

- (c) The method of specifying an Operand is called _____.
- (d) STA 2500 H takes _____ machine cycles.
- (e) There are _____ addressing modes.
- (f) The _____ ensures that only one IC is active at a time to avoid a bus conflict caused by two ICs writing different data to the same bus.
- (g) When referring to instruction words, a _____ is a short abbreviation for the operation to be performed.
- (h) The technique of assigning a memory address to each I/O device in the computer system is called _____.
- (i) Intel 8085 operates on _____ MHz frequency.
- (j) 74LS373 is used to multiplexed address bus of Intel 8085 with the _____ bus.

2. Write true or false : 1×10=10

- (a) The 8085 is a 4-bit microprocessor.
- (b) ALE stands for Address Latch Enable.
- (c) Opcode fetch machine cycle of 8085 microprocessor has 4 T states.
- (d) The memory is the brain of the computer.
- (e) 8085 microprocessor operates on +5V.
- (f) Port-A, Port-B, Port-C are the Ports of PPI 8255.
- (g) ROM is a non-volatile memory.
- (h) EPROM stands for electrically provided read only memory.
- (i) Intel 8255 has three modes of operation.
- (j) Intel 8237A is a high performance DMA controller.

3. Choose the correct answer : .

 $1 \times 5 = 5$

- (a) 8085 microprocessor has how many pins ?
 - (i) 30
 - (ii) 39
 - (iii) 40
 - (iv) 41
- (b) Which one of the following is not a vectored interrupt ?
 - (i) TRAP
 - (ii) INTR
 - (iii) RST 7.5
 - (iv) RST 3
- (c) What is meant by ALU ?
 - (i) Arithmetic logic upgrade
 - (ii) Arithmetic logic unsigned
 - (iii) Arithmetic local unsigned
 - (iv) Arithmetic logic unit
- (d) CPU does not perform the operation.
 - (i) Data transfer
 - (ii) Logical operation
 - (iii) Arithmetic operation
 - (iv) All of the above

- (e) The five flags in 8085 are, designated as
- (i) Z, CY, S, P and AC
 - (ii) D, Z, S, P, and AC
 - (iii) Z, C, S, P, AC
 - (iv) Z, CY, S, D, AC

PART - B

Marks – 45

Answer any five questions.

4. (a) Explain with diagram the function of each register of 8085. 3
- (b) Give description of different types of bus of 8085 microprocessor with proper diagram. 3
- (c) Define machine language, assembly language, and high level language. 3
5. (a) What are the different addressing modes of 8085? 3
- (b) What is Stack? Explain the operation of stack. 3
- (c) Explain why D/A conversion is required. 3

6. (a) Write the meaning of the following 8085 instruction : LXI 2025H, INR C, JMP 8023. 3

(b) What is the function of a programmable interrupt controller ? 3

(c) Explain what is memory mapped I/O scheme. 3

7. (a) What is DMA data transfer scheme? Discuss the function of DMA data controller 8257 or 8237. 4½

(b) Show the interface connections of ADC 0800 to 8085. Show important signals. 4½

8. (a) Draw and explain the timing diagram for memory read operation. 4½

(b) Classify the instruction set for 8085 microprocessor in various groups. 4½

9. (a) Draw the memory hierarchy diagram. Classify the Memory. 4½

(b) Show with diagram how different control signals are generated. 4½

10. Draw and explain the internal architecture of Intel 8085 microprocessor. 9

11. Write an assembly language to add two 8-bit numbers, result is 8-bit. 9

12. Write an assembly language to find the one's complement of an 8-bit number. 9