

BACHELOR OF PRINTING ENGINEERING EXAMINATION, 2019

(3rd Year, 2nd Semester)

Microprocessors

Time : Three hours

Full Marks : 100

*The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.***GROUP – A****(Short Answer Type Questions)**

Answer any four of the following.

4×5 = 20

1. Explain stack operation in 8085 microprocessor with example. 5
2. Explain several logical instructions with example. 5
3. Show the timing diagram of MOV instruction for both read and write. 5
4. Write a program of transfer a block of data from one section of memory to other section of memory. 5
5. Show the interfacing diagram of memory and I/O interfacing with microprocessor. 5
6. Explain the significance of instructions i)LHLD ii) JNC iii)PSW. What are two and three address instructions (3+2)

GROUP B**(Long Answer Type Questions)**Answer any *five* of the following.

16×5 = 80

7. Design the interfacing circuit to interface of 8K*8 bit RAM with microprocessor. Assume the starting address is 7000H. Show the memory mapping. Also draw the memory organization of 2K*8 memory using 1K*4 bits. Differentiate between SRAM and DRAM.

7+6+3

8. a) What is Subroutines call explain with example. What is the significance of Subroutine. What is nested subroutine.
b) Write an assembly code of find out largest among three numbers. 5+2+3+6
9. a) What are the significance of HOLD, HLDA and ALE pins of microprocessor. Explain different types of flag register of 8085 microprocessor.
b) Explain some instruction with their features through example i) XRA ii)RLC iii)RAL. Write a program of 2's complement of 8 bit number. (4+5)+(3+4)

10) What is interrupt. Explain the classification of several interrupt with example. Explain all the accumulator contents of SIM instruction for interrupt. Explain the functional block diagram of 8259A or interrupt controller with diagram. 1+4+4+7

11) Write the architecture of DMA controller. What are different types of registers used in DMA operation. Explain the DMA operations briefly. 7+4+5

12) a)	Mnemonics	T-State
	MVI B,80	7
loopII	MVI C,FF	7
loopI	DCR C	5
	JNZ loopI	10
	DCR B	5
	JNZ loopII	10

What will be the total time delay of using both loops in the program.

b) What will be content of accumulator and several flag after executing the instructions

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MVI A,01 H
MVI B, 02 H
ADD B
XRA A
HLT
    
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6+3+7

c) Write a program of generation of Fibonacci series using assembly programming.

13) a) Explain several addressing modes with example.

b) What is the significance of control and address bus in 8085.

c) Write a program of multiplication of two 8 bit numbers.

d) What is monitor programming.

5+3+6+2