

BACHELOR OF PRINTING ENGINEERING EXAMINATION, 2022
(2nd Year, 2nd Semester)
MICROPROCESSOR

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 two of the following.

10*2 = 20

1. Explain stack operation in 8085 microprocessor with example. Write a program of 2's complement of a number. 10
2. Explain several branching or looping instructions with example. Explain the significance of instructions i) STAX ii) LXI iii) MVI. 10
3. Write a program of transfer a block of data from one section of memory to other section of memory. What are different registers in microprocessor. 10

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

16*5 = 80

7. 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 smallest among three numbers. 5+2+3+6
8. 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) RRC iii) RAL. Write a program of 2's complement of 8 bit number. (4+5)+(3+4)
- 9) What is interrupt. Explain the classification of several interrupt with example. Explain all the accumulator contents of RIM and SIM instruction for interrupt. 2+6+8

[Turn over

10) Write the architecture of DMA controller. Write a program of whether a no is even or odd. What is memory interfacing explain with example. 6+5+ 5

11) 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

```

MVI A,01 H
MVI B, 02 H
ADD B
XRA A
HLT
    
```

c) Write a program and flow chart of converting hexadecimal no to binary number using assembly programming. 6+3+7

12) a) Explain several addressing modes with example.

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

c) Write a program and flow chart of addition of two 8 bit numbers. 5+3+8

