

**2020**

**BCA**

**3rd Semester Examination**

**MICROPROCESSOR**

**PAPER—2105**

*Full Marks : 100*

*Time : 3 Hours*

*The figures in the right-hand margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

**Group A**

Answer any *three* questions. 20×3

1. How microprocessor differentiate between opcode and data? Explain the different addressing mode supported by 8085 microprocessor with example. Describe the different register set of 8085 microprocessor. 5+10+5
2. Why Program Counter and Stack Pointer register are 16 bit? Explain the flag register of 8085 microprocessor. How microprocessor recognize a positive number and a negative number? Why microprocessor is so called micro? 5+5+5+5

*(Turn Over)*

3. Why data bus is bidirectional but address bus is unidirectional? Describe the function of the following pins of 8085 microprocessor: ALE, HOLD, HLDA, READY, TRAP, CLK OUT, RESET OUT. 6+2×7
4. Define Instruction Cycle, Machine Cycle and T State. Draw the Timing diagram for the Instruction MVI A, 4BH (Opcode 3EH). Write different single byte instruction to reset the content of accumulator. 6+10+4
5. Draw the timing diagram for the instruction IN 24H (Opcode: DBH). What is the difference between memory mapped IO and Peripheral IO? 10+10
6. Explain the instruction with example: SUI, XCHG, LDA, SHLD, XRA, CMA, JMP, OUT, JNZ, MVI. 2×10
7. Write a program in 8085 microprocessor to multiply 21H × 0AH and store the result in 2400H and 2401H. Write a program in 8085 microprocessor to add two 16 bit data. 12+8

**Group B**

Answer any *one* question. 10×1

8. Write down the sequence of steps in CALL and RET instruction.
9. How to write and execute a 8085 microprocessor program?
10. Explain the different modes of 8255A.

[ *Internal Assessment: 30* ]

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