B.C.A. (H) 4th Semester Examination, 2022
Subject: Computer Application
Course Title: Introduction to Microprocessor
Course Code: BCA- 402

Time: 4 Hours   **F.M: 80**

Answer question no 1 and any four from the rest.   **16x5=80**

1. **Answer any *eight* Questions:**   **8x2=16**

    (a) What is micro instruction?
    (b) What is DMA?
    (c) Why is the data bus of 8085 microprocessor bi-directional?
    (d) Why a 16 bit address(data) stored in memory in the reverse order- the lower order byte first followed by the higher order byte?
    (e) Can an input port and the output port have the same address?
    (f) What are the addressing modes of the instructions MOV A,B and LDA 2010H?
    (g) What do you mean by memory mapped I/O?
    (h) What are the functions of an accumulator?
    (i) List a few applications of microprocessor based system.
    (j) What is program counter?
    (k) Mention the purpose of SID and SOD lines.
    (l) Define machine cycle and instruction cycle.

2. (a) Explain different externally initiated signals including interrupts of 8085 microprocessor. What is T-state?
    (b) Write an assembly language program in 8085µp to transfer one block memory of 10 bytes.
                                                                                                 7+2+7

3. (a) Discuss different modes of DMA Transfer.
    (b) What is bus arbitration? Write an assembly language programme in 8085 to generate fibonacci series.   7+2+7

4. (a) Discuss different flags in 8085 microprocessor. Determine the status of the flags if the arithmetic operation (A+B) is made, where A=0010 1000 and B=1101 1010.
    (b) Discuss the function of ALE and IO/$\overline{\text{M}}$ pins of 8085 microprocessor. 6+6+4

5. (a) Draw the timing diagram of the instruction STA 2050H instruction. Write the difference between RRC and RAR operation.
    (b) Write an assembly language programme to find GCD of two given 8 bit numbers.

    8+3+5

6. What is stack? What is stack pointer? Explain the PUSH and POP operation of a stack. Briefly explain the software model of 8086 microprocessor.   2+2+5+7

7. (a) How many machine cycle does 8085µp have? Mention them.
    (b) Write down the steps involved to fetch a byte in 8085 microprocessor. Explain priority interrupts of 8085 microprocessor.   5+5+6