B.E. PRINTING ENGINEERING

THIRD YEAR SECOND SEMESTER - 2018

MICROPROCESSORS

Time : Three hours Full Marks : 100

Answer any *five questions.*

1. Draw the functional block diagram of 8085 (No need to describe). Describe the difference between RAR and RRC with proper example. Describe the bit-wise implementation of 8085 flag register. 10+5+5 = 20
2. Write an instruction to enable all the interrupts in an 8085 system? List separately vector and non-vector interrupts for 8085. Calculate the time delay for a decimal counter , assuming a value of ABH in register C. 4+6+10 = 20
3. What is partial decoding? How MEMW^ and IOR^ signals are generated ? Draw and describe timing diagram of OUT EFH instruction. 5+5+10=20
4. Explain the following instructions with proper example - a) IN b) XTHL c) CMA d) RIM e) SHLD. Write an assembly language program for storing 8 Fibonacci series numbers in consecutive memory location starting from 5500H in 8085. 2X5+10=20
5. Describe with proper block diagram how DMA controls data transfer. Describe different states in a tri-state buffer and how data can flow through it. Describe the differences of ACI and ADI with proper examples. 10+5+5= 20
6.
   a. Write an assembly language program to covert 2 digit BCD number to its equivalent binary number. Input number should be at 8000H and output number should be from 8500H. 10
   b. Assume that CALL 2088H is stored in memory location 2090H. The content of SP is 2093H. Explain the sequences of event that takes place when this CALL instruction is executed. 10
7. What do you mean by peripheral mapped I/O and memory mapped I/O? Explain the general steps to interface a Successive-Approximation A/D converter AD558 with 8085 microprocessor. Draw the schematic and write the 8085 opcodes for interfacing 8085 microprocessor with A/D converter using status check. 4+6+10=20
8. Write brief and short notes on any two:
   a. DAA and DAD instructions
   b. Subroutine parameter passing techniques
   c. Vectored Interrupts
   d. RIM and SIM instructions. 10 X 2 = 20

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