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Exam.Code:0927
Sub. Code: 6899

1128
B.E. (Electronics and Communication Engineering)
Third Semester
EC-303: Microprocessor and Applications

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

- I. Attempt the following:-
- a) What do you mean by peripheral mapped I/O?
 - b) Give an example of indirect addressing.
 - c) What is the difference between ANA and ANI instruction?
 - d) Mention any two instructions that do not affect the flags.
 - e) What is the role of the Mode word in 8251? (5x2)

UNIT - I

- II. a) Explain the function of the various pins of the 8085 microprocessor.
b) How does the memory read machine cycle differ from opcode fetch machine cycle of 8085? Explain with the help of timing diagram. (5,5)
- III. a) Interface an 8-key input port with the 8085 such that it has address FAH.
b) Write a program in 8085 to load the data byte A9H in register C. Mask the high-order bits (D7 -D4) and display the low-order bits (D3-D0) at an output port. (5,5)
- IV. a) Write a program to add two 16-bit hexadecimal numbers and store the result in the memory locations 2500 and 2501 and the resultant carry, if any, in 2502 location.
b) -A system is designed to monitor the temperature of a furnace. Temperature readings are recorded in 16 bits and stored in memory locations starting at XX60H. The high-order byte is stored first and the low-order byte is stored in the next consecutive memory location. However the high-order byte of all the temperature readings is constant. Write a program to transfer low-order readings to consecutive memory locations starting at XX80H and discard the high-order bytes. (5,5)

P.T.O.

(2)

UNIT - II

- V. a) Write a program to meet the following specs:
- i) Initialize the stack pointer register at XX99H.
 - ii) Clear the memory locations starting from XX90H to XX9FH
 - iii) Load register pairs B, D, and H with data 0237H, 1242H and 4087H respectively
 - iv) Push the contents of the register pairs B, D and H on the stack.
- b) Write a delay routine for 10ms using the instructions of 8085 having clock period of 3MHz. (5,5)
- VI. a) Interpret the accumulator bit pattern for the SIM instruction. What are RST 7.5, 6.5 and 5.5?
- b) Illustrate the interfacing of an 8-bit D/A converter with the 8085. (5,5)
- VII. Write short notes on:-
- a) 8259 programmable interrupt controller (5,5)
 - b) CPU architecture of 8086