

Exam.Code:0927
Sub. Code: 6899

2021
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:-
- Explain the function of the ALE and IO/\bar{M} signal of the 8085 microprocessors?
 - Why the data bus bidirectional and what is the size of the data bus for 8085 microprocessors?
 - Differentiate between absolute decoding and partial decoding?
 - When an 8085 system is Reset, all the interrupts including the TRAP are disabled. Yes/No, justify your answer
 - List four instructions which control the interrupt structure of the 8085 microprocessors? (5x2)

UNIT – I

- II. a) Explain the function of following pins of 8085 in detail:- S0, S1, Ready, HOLD, IO/M', Reset out. (2x5)
- b) Explain instruction format of 8085 with an example. (2x5)
- III. a) Draw and explain the timing diagram of INR C. If the clock frequency is 2MHZ, how much time is required to execute this instruction?
- b) Write instructions to clear the CY flag, to load number FFH in register C, and to add 01 to C. If the CY flag is set, display 01 at an output; otherwise, display the contents of register C. Explain your results. (2x5)
- IV. a) A set of eight data bytes is stored in the memory location starting at XX50H. Check each byte for the bits D7 and D0. If the D7 or D0 is 1, reject the data byte; otherwise, store the data bytes at memory locations starting at XX60H. Assume Data(H): 80,52, E8,78, F2,67,35,62.
- b) Design a seven segment LED output port with the device address 66H using decoder 3:8, NAND gate & a common anode seven segment LED. Also write the instruction to display digit 0 at the output port. (2x5)

P.T.O.

(2)

UNIT – II

- V. a) What is the need of Subroutine? Explain the concept of CALL and RET.
b) Write a program to generate a continuous square wave with the period of 500 μ s. Assume the system clock period as 325ns, and use bit Di to output the square wave. (2x5)
- VI. a) Explain sequential events when the INTR pin of 8085 goes high.
b) Draw neatly Pin Configuration of 8253/8254 and list all the modes of the 8253/8254? Explain the mode that generates the square wave in detail. (2x5)
- VII. Write short notes on the following:-
a) MMU (Memory Management Unit)
b) Compare Maximum and Minimum mode of 8086 (2x5)