16P407 (Pages:2) Name…….

Reg. No…….

FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, MARCH 2018

(Regular/Supplementary/Improvement)

(CUCSS - PG)

CC15 PPHY4 E20 – MICROPROCESSORS AND APPLICATIONS

(Physics)

(2015 Admission onwards)

Time: Three Hours Maximum:36 Weightage

Part A.

Answer ***all*** questions. Each question ***1*** weightage.

1. What is address data multiplexing? What advantage does it provide to the bus organization of 8085?
2. Briefly describe the register organization of 8085?
3. What is stack top? How stack is handled in 8085?
4. Distinguish between machine cycle and instruction cycle.
5. What is the necessity of Bus Idle machine cycle? What are the two situations in which the processor, 8085 enter to BI machine cycle
6. Explain how serial data transfer is achieved in 8085.
7. What is interfacing? How control signals for memory and I/O devices are generated using various status lines of 8085.
8. Describe the bit pattern for the control word register of PPI 8255
9. With the help of a block diagram explain a microprocessor based data acquisition system.
10. Why a clock is needed for the operation of an ADC? How clocks are generated for ADCs compatible with 8085?
11. How alphanumeric characters are displayed using 7 segment LED display?
12. Distinguish between the operators RAL and RLC

(12x1 =12 weightage)

Part B

Answer any ***two*** questions. Each question carries ***6*** weightage.

13. With the help of suitable examples discuss the various addressing modes of instructions in 8085.
14. Discuss the various data transfer schemes in 8085.

15. What are the salient features of Intel 8253 programmable counter / interval timer? Discuss its operating modes.

16. Give a brief overview on 8051 microcontroller.

(2 x 6=12 weightage)

Part C

Answer any ***four*** questions. Each question carries ***3*** weightage.

17. Draw the complete timing diagram of the following instructions:

    i. MOV C, M ii. MVI A, FF H

18. Write an 8085 assembly language program to find 2's complement of a 16 bit number.

19. Briefly explain the features of interrupts in 8085.

20. The content of the status register of 8085 immediately after an operation is B4 H. What inferences do you make from this?

21. Explain how to measure the frequency of a sine wave using a microprocessor.

22. An 8 bit ADC employing successive approximation method operates with a reference voltage of 5V. What will be the digital output if the input is 3.41V analog?

(4x3=12 weightage)

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