D 42572 (Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2018

(CUCSS)

Physics

PHY 4E 20—MICROPROCESSORS AND APPLICATIONS

(2012 Admissions)

Time : Three Hours Maximum : 36 Weightage

Section A

Answer **all** *questions.*

Each question carries a weightage of 1.

1. Explain the two's compliment method in binary arithmetic.
2. What are the conditional branch instructions in 8085 microprocessor ?
3. What is the special use of HL register pair in 8085.
4. Explain the function of ALE signal in 8085 system.
5. Explain the function of clock in the microprocessor system.
6. Explain why I/O ports are necessary for interfacing peripheral devices ?
7. What is the function of the controller 8257 in 8085 processor system ?
8. Explain the working and show the application of an analog multiplexer.
9. Explain the application of the decoder 7448.
10. How a microcontroller is different from a microprocessor ?
11. Explain the role of special Function Registers in 8051.
12. Explain the use of stack in 8085.

(12 × 1 = 12 weightage)

Section B

Answer any **two** *questions.*

Each question carries a weightage of 6.

13. Using a suitable functional block diagram give a detailed description of the architecture of 8085 microprocessor.

Turn over

14. Discuss the function and working of the serial interfacing device 8251.

15. Show how to implement an A/D converter using D/A converter in the 8085 microprocessor system.

16. Give a detailed overview of the 8051 microcontroller.

(2 × 6 = 12 weightage)

Section C

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

17. In 8085 instructions, write a program for adding two 16 bit numbers.

18. Write a program in 8085 instructions for sorting 10 numbers in ascending order.

19. In a 8085 system the 20 no of 8 bit data are stored in consecutive memory locations. Write a program for finding the largest data value.

20. Draw a 4 to 16 decoder based circuit for address space partitioning in 8085.

21. Draw the interfacing circuit for ADC 0800.

22. Draw the timing diagram for 8085 during a memory read operation.

(4 × 3 = 12 weightage)