15P407 (Pages:2) Name.....

Reg. No.....

FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, MARCH 2017

(CUCSS - PG)

(Physics)

CC15P PHY4 E20 – MICROPROCESSORS AND APPLICATIONS

(2015 Admission)

Time: Three Hours Maximum: 36 Weightage

Section A

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

1. Distinguish between instruction cycle and Clock cycle.
2. Explain the Mode 1 operation of programmable interval timer with timing diagram.
3. Distinguish between machine language and assembly language.
4. Discuss the method of forming the control word for 8255.
5. What is a vectored interrupt? Explain?
6. What is the function of sample and hold circuit?
7. What is DMA transfer scheme?
8. Convert each of the following decimal numbers to their binary, octal and hexadecimal system. (a) 32 (b) 256
9. What are the various addressing modes of 8085?
10. Explain synchronous and synchronous data transfer?
11. Explain PUSH & POP operation
12. Draw a timing diagram for the I/O write operation of 8085 and explain the signals.

(1x12= 12 weightage)

Section B

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

13. Discuss in detail the architecture of Programmable DMA controller, explaining various pins.
14. With the help of a labeled diagram Explain the basic architecture of Intel 8051 microcontroller chip.
15. What is an ADC? Explain the interfacing of ADC 0800, Multiplexer and S/H circuit to a microprocessor
16. Discuss the architecture and working of Programmable Interrupt controller.

(2 x 6= 12 weightage)

Section C

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

17. Explain the programming of 8253 to generate square wave?
18. Using successive approximation techniques what would be the 5 digit approximation to an analogue input of 3.825V for a Full scale reading of 10V.
19. How many machine cycles are required for the following instructions of Intel 8085?
    MOV r_1, r_2 b) MVI r, data c) MOV r, M d) LXI rp, data
20. Write a program to add the contents of memory locations 2500H and 2501H and store the result in 2502H
21. Explain how an A/D converter can be realized employing a D/A converter.
22. What are the various registers of Intel 8085?

(4 x 3= 12 weightage)

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