M.Sc DEGREE EXAMINATION,APRIL 2019
II Year IV Semester
Microprocessor and Micro Controller

Time : 3 Hours **Max.marks :75**

Section A $(10 \times 2 = 20)$ Marks

Answer any **TEN** questions

1. Write a BSR control word subroutine to SET bits PC_7 and PC_3 and RESET them after 10mS. Assume that a dealy subroutine is available.

2. Explain HOLD and HLDA pins in DMA?

3. Write a short note on the pipeline architecture of 8086.

4. What does 8086 processor do on recognition of instruction $\overline{TEST}$?

5. What is register addressing mode in 8086? Give an example.

6. What does LEA, SI, INPUT instruction do?

7. Expand RISC and mention the advantages.

8. Write a short note on Flash series available in XX51 microcontrollers.

9. What are the default settings that would occur to 8051 when a RESET is done?

10. How many ports are there in 8051 microcontroller? Which is the only true bidirectional port.

11. Write an example of based addressing mode in 8086 and explain.

12. Write a program to transfer a 8 bit data to port 1of 8051 microcontroller.

Section B $(5 \times 5 = 25)$ Marks

Answer any **FIVE** questions

13. Explain the interfacing of 8254 with 8086 with a neat diagram.

14. Draw and Explain the pin function of 8086.

15. Explain the different flags available in 8086 and their functions with a neat diagram.

16. Explain the addressing modes available in 8051 microcontroller with one example for each.

17. Explain the internal and external program memory organization in 8051 micro-controller.

18. Write an assembly language program for 8051 micro controller to sort 10 bytes of data in assending order using linear sort method.

19. Draw and explain the software model of 8086.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Explain the architecture of PPI 8255 with a neat block diagram.

21. Draw the block diagram of the internal architecture of 8086 and explain the different units.

22. Write an assembly language program in 8086 for conversion of Binary to BCD and BCD to Binary.

23. Explain the internal RAM memory organization in 8051 microcontroller.

24. With a block diagram, explain the interfacing of stepper motor with 8051. Write an ALP to rotate stepper motor clock wise continuously.

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