M.Sc.DEGREE EXAMINATION,APRIL 2020
II Year IV Semester
Microprocessor 8086 and Micro controller 8051

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

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

Answer any **TEN** questions

1. How auto-initralisation works in DMA 8237?
2. How many ports are available in PPI 8255 Chip? Which of them can be used as two 4 bit lower and upper ports?
3. What does 8086 processor do on recognition of instruction $\overline{TEST}$?
4. List the status signals available in 8086 microprocessor and give their functions.
5. Write the different addressing modes in 8086.
6. What does LEA, SI, INPUT instruction do when executed?
7. Write the importance of pin numbers 18 and 19 in 8051 microcontroller?
8. How many register banks are available in 8051 microcontroller? Which registers can be used as a pointer to access external memory.
9. What is keyboard debouncing?
10. Define step angle in a stepper motor.
11. Write a short note on the pipeline architecture of 8086.
12. Write short notes on FLASH series micro controllers.

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

Answer any **FIVE** questions

13. Explain different modes of operation in 8255 PPI.
14. Explain minimum and maximum mode in 8086.
15. Discuss in detail about data transfer instructions available in 8086.
16. With a neat diagram, explain the internal RAM memory organization in 8051 microcontroller.
17. Explain the interface of an ADC with 8051 microcontroller and write an ALP for obtaining digital equivalent of the analog input signal.
18. Explain the different flags available in 8086 and their functions with a neat diagram.

19. Discuss the different internal registers in DMA 8237.

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

Answer any **THREE** questions

20. Explain the architecture of PPI 8155 with a neat block diagram.
21. Draw the block diagram of the internal architecture of 8086 and explain the different units.
22. Write an ALP for 8086 to convert BINARY NUMBER to BCD and VICE-VERSA and explain the Mnemonics.
23. Explain in detail about the serial data communication 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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