

National Institute of Technology, Delhi

Name of the Examination: B. Tech.

End Semester Examination (Autumn, 2019)

Branch : ECE

Semester : V

Title of the Course : Microprocessor and Microcontroller

Course Code : ECB 302

Time: 3 Hours

Maximum Marks: 50

Section A (10x01 = 10)

Answer all the questions

1. What is the use of HOLD and HLDA signals?
2. What is a coprocessor? How is it useful?
3. What do you mean by pipelining in an 8086 processor?
4. Difference between a subroutine and interrupt service routine.
5. List the different modes of operation in 8253.
6. Difference between a LJMP, AJMP and SJMP instruction in microcontroller.
7. What is the use of RS0 and RS1 in 8051 Program Status Word .
8. What is the function of the chip MAX232?
9. What is the role of SMOD bit in power control register?
10. How many address and data lines in a 8192 x8 RAM IC and 131072 x 8 EPROM IC?

Section A (04x05 = 20)

Answer any four questions

11. Discuss all the addressing modes of 8086 in detail with examples for each of the addressing modes.
12. With a neat functional block diagram explain the Key board and display controller IC 8279.
13. Write an Assembly Language Program using 8051 instruction sets for $c=(a^2+b^2+2ab)$.
14. Discuss the Special Function Registers in 8051 microcontroller.
15. What is the need for programmable interrupt controller? Draw and discuss the internal architecture of programmable interrupt controller.

Section C (02x10 = 20)

Answer any two questions

16. Draw and discuss a typical maximum mode 8086 system. What is the use of a bus controller in maximum mode?
17. Design a microprocessor based electronic weighing bridge and explain with neat diagram.
18. Design a stepper motor control system using microprocessor/microcontroller. Give the necessary diagrams also.