Roll No.:.....

National Institute of Technology, Delhi

Name of the Examination: B. Tech.

Branch	**: Electronics and Communication Engineering**	**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 ALE?
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. What is the use of 8255 IC?
6. Difference between microprocessor and microcontroller.
7. Name the six mode of operation in 8254 programmable interval timer.
8. What is the function of the microcontroller EA/VPP and PSEN?
9. Which register bank shares the same space with stack in microcontroller?
10. State the reason why external pull up resistor is necessary to make port P0 as an output port.

Section A (04x05 = 20)

Answer any four questions

11. With neat diagram explain the internal architecture of 8085 microprocessor.
12. Discuss the various addressing modes of 8086 microprocessor.
13. With neat block diagram explain the functions of 8251.
14. What is the need for programmable interrupt controller? Draw and discuss the internal architecture of programmable interrupt controller.
15. Explain different modes of operation of the timer in 8051.

Section C (02x10 = 20)

Answer any two questions

16. Design a microprocessor system to interface an 8K × 8 EPROM and 8K × 8 RAM.
17. Explain with neat diagram about BIU and EU in 8086 microprocessor.
18. Design a traffic light control system using microprocessor. Give the necessary diagrams also.