Reg. No. : | | | | | | | | | | | |

Q 2206

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Fifth Semester

Electronics and Communication Engineering

EC 331 — MICROPROCESSOR AND APPLICATIONS

(Common to Bio-Medical Engineering)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — ($10 \times 2 = 20$ marks)

1. List the operations performed by IO/$\overline{M}$ in 8085.

2. What is memory mapping of I/O device?

3. What are the two memory address pointers in 8051 microcontroller?

4. State any four important features of 16 bit microcontroller.

5. What is the use of Instruction Queue in 8086 microprocessor?

6. State the function of AAA, DAA, CBW, DAS 8086 instructions.

7. Give the format of Bit Set/Reset control word of 8255 PPI.

8. List the four main functions of 8257 DMA controller.

9. What are the requirements for interfacing high power devices with microprocessor?

10. What is a microcomputer based Smart Scale system?

PART B — (5 × 16 = 80 marks)

11. (a) (i) With neat sketch, explain the architecture and signals of 8085 microprocessor. (10)

(ii) Discuss about the interrupts of 8085. (6)

Or

(b) (i) With suitable example, explain the various types of 8085 instructions. (8)

(ii) Write 8085 based assembly language programs for BCD addition and BCD subtraction. (8)

12. (a) (i) Explain in detail the special function registers of 8051. (8)

(ii) Explain briefly the Instruction set with addressing modes of 8051. (8)

Or

(b) Discuss about I/O ports, Interfacing to RS 232 and External memory in 8051 microcontroller. (16)

13. (a) (i) Show and explain the function of 8086 microprocessor in minimum mode and maximum mode configurations. (10)

(ii) Discuss about the interrupts of 8086. (6)

Or

(b) (i) Write 8086 based assembly language program to search a largest data in a set of numbers. (8)

(ii) Describe the enhanced features in 80486 and Pentium processors compared to 8086. (8)

14. (a) Explain the architecture, function, operating modes and programming of 8251 serial interface. (16)

Or

(b) (i) Explain the function of major components in 8279 keyboard display controller. (8)

(ii) Show and explain DAC interfacing with a microprocessor. (8)

15. (a) (i) With neat diagram, explain the interfacing of LCD. (8)

(ii) Explain the function and types of optical motor shaft encoders. (8)

Or

(b) (i) Describe the function of a Industrial Process Control System. (8)

(ii) Write about Robotics and Digital filters. (8)