D 51602 (Pages 2)

Name.....

Reg. No.....

FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, DECEMBER 2008

ECO 4506—MICRO PROCESSOR AND MICRO CONTROLLERS

(2004 Admission)

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** *questions.*

I. (a) If code segment register contains $(456\ A)_{16}$ and Instruction pointer contains $(1620)_{16}$. From which address will the next instruction be fetched.

(b) List out advantages of memory segmentation.

(c) List out the functions of Bus Interface unit.

(d) Write an 8086 Assembly language program to generate a delay of 100 ms if 8086 system clock frequency is 10 MHz.

(e) Distinguish between 2 key Lock out and N key roll over.

(f) Define Parity error, overrun error and framing error.

(g) Mention functions of IE and IP registers of 8051 Micro controller.

(h) Compare AJMP, LJMP and SJMP instructions of 8051 Micro controller.

($8 \times 5 = 40$ marks)

Part B

Unit I

III. (a) (i) Write an 8086 assembly language program to evaluate the series $1^2 + 2^2 + ... + n^2$ where 'n' is a 8-bit number. (10 marks)

(ii) Write short notes on Assembler directives. (5 marks)

Or

(b) Explain the various addressing modes of 8086 microprocessor with suitable examples.

Unit II

III. (a) (i) Explain the various classifications of 8086 interrupts. (10 marks)

(ii) Discuss minimum mode signals of 8086 micro processor. (5 marks)

Or

Turn over

(b) (i) Distinguish between static RAM and dynamic RAM. (5 marks)

(ii) Interface 4K × 16 EPROM and 2K × 16 RAM to 8086 microprocessor. Available memory chips are 2732 (4K EPROM) and 6112 (2K RAM). Draw a neat interface diagram and memory map.

(10 marks)

UNIT III

VI. (a) Explain the working of an Intel 8253 programmable Internal Timer with a neat block diagram.

Or

(b) (i) Interface a 4 × 4 matrix keyboard to processor using 8279 IC. Discuss its operation.

(10 marks)

(ii) What is key debouncing ? (5 mar

UNIT IV

V. (a) Discuss the architecture of 8051 microcontroller with a neat block diagram.

Or

(b) (i) Write an 8051 assembly language program to sort an array of ten number is ascending order.

(10 marks)

(ii) Discuss steps involved in model programming of Timer. (5 marks)

[4 × 15 = 60 marks]