C 58199 (Pages : 2) Name.....

Reg. No.....

FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION JUNE 2009

AI/BM 04 403—INTRODUCTION TO MICROPROCESSORS

(2004 admissions)

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

Part A

1. (a) Name the general purpose and special purpose registers of 8085 microprocessor and also specify their functions.

(b) List and explain different addressing modes supported by the 8085 instruction set.

(c) What is a stack ? How it is realized in 8085 based system ?

(d) State the difference between the "JUMP" and "ALL" instructions.

(e) Name the four memory segments with which 8086 processor works and also state the advantages of segmented memory operation.

(f) What is an interrupt vector table ? Where it is located in 8086 based system ?

(g) How many 8259 programmable interrupt controller ICs are to be nested to provide interrupt facility to 32 different devices ? (State the minimum number of ICs).

(h) Discuss about Rs. 232-C serial standard.

(8 × 5 = 40 marks)

Part B

2. (a) What is meant by multiplexed address data bus (AD bus) ? How this AD bus can be demultiplexed, explain with the help of diagram ?

(9 marks)

(b) List the different hardware interrupt pins of 8085 microprocessor in ascending order of priority along with their respective vector address.

(6 marks)

Or

Turn over

3. (a) What is meant by address space of 8085 processor ? Why it is necessary to partition the address space ?

(6 marks)

(b) Explain the DMA mode of data transfer with the help of block diagram. (9 marks)

4. (a) Explain with the help of example how the DAA instruction adjust the content of accumulator after the addition instruction.

(8 marks)

(b) Write a nested delay loop program using 3, eight bit registers.

(7 marks)

Or

5. Write an assembly language program using 8085 instructions to multiply two 8-bit unsigned binary numbers. (Use shift and add algorithm). Also explain the algorithm with an example.

(15 marks)

6. List the addressing modes supported by the 8086 instruction set and explain each one with an example.

(15 marks)

Or

7. (a) State the difference between logical address and physical address. Also explain how the physical address is generated by 8086.

(8 marks)

(b) Name the flag bits of 8086 processor and explain the use of each one. (7 marks)

8. Draw the internal architecture of 8255 programmable peripheral chip in block diagram form and explain the function of each block.

Or

9. With the help of interface circuit diagram explain how a successive approximation Type ADC can be interfaced to 8085 microprocessor also explain the function of the circuit diagram.

(15 marks)