Printed Pages : 3

EEE404

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : **121408**

Roll No.

B. Tech.

(SEM. IV) THEORY EXAMINATION, 2014-15

MICROPROCESSORS

Time : **3** Hours] [Total Marks : **100**

Note : Attempt **all** questions. Each question carries **equal** marks.

1 Attempt any **four** parts of the following. **(5×4=20)**

(a) Differentiate among address and data buses of 8085 and 8086 microprocessor?

(b) Explain the function of following pins of 8086.

(i) ALE (ii) HLDA (iii) INTR (iv) RESET (v) READY

(c) Differentiate between offset, physical and effective addresses in 8086.

(d) Enlist and explain the interrupt pins in 8085.

(e) Explain the addressing modes of 8085.

(f) Explain the division and multiplication instructions of 8086.

2 Attempt any **two** parts of the following. **(10×2=20)**

(a) Draw and discuss the instruction fetch, read and write cycle of 8085.

(b) Explain the flag register of 8085 microprocessor. What is flags status when addition of following hexadecimal numbers is performed?
(i) EE+7D (ii) A5+59 (iii) 87+5B

(c) Develop an assembly language programme in 8085 for finding the sum of two eight bit numbers if result is more than 8 bits. Consider that numbers are in the memory and result is to be stored in the memory.

3 Attempt any **two** parts of the following. **(10×2)**

(a) Draw the register organization of 8086 and explain the significance of each register.

(b) Explain the data addressing modes in 8086 with example.

(c) Explain the following Instructions of 8086 with example.
(i) LDS (ii) SBB (iii) ADD (iv) MOV (v) ADC (vi) XCHG (vii) PUSH (viii) POP (ix) XLAT (x) IN

4 Attempt any **two** parts of the following. **(10×2)**

(a) Explain the interrupts and interrupt sequence in 8086. Also explain the following instructions.
(i) INT 30H (ii) INT 45H

(b) Draw and explain the internal architecture of 8259 interrupt controller. What are its operation command words?

(c) Develop an assembly language programme for 8086 to add two binary numbers each of 16 byte long. The numbers are stored from 9300 to 930F and 9400 to 940F. The result is to be stored from 9300 to 930F.

5 Attempt any **two** of the following **(10×2)**

(a) What are the methods to generate delay in software? Write a programme to generate a delay of 200 ms using 8085 system that runs on 50 MHz frequency.

(b) Draw and explain the internal architecture of 8255. What are its modes of operation.

(c) Interface an 8255 with 8085 to work as an I/O port. Initialize port A as output port, port B as input port and port C as output port. The address of Port A, Port B, Port C and CWR is 0840, 0842, 0844 and 0846 respectively. Write a programme to sense the input as 10011001 at Port B. The sensed pattern is to be displayed on Port A through LEDS.