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

B 2236

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2008.

Fourth Semester

Information Technology

IF 250 — MICROPROCESSOR AND MICROCONTROLLER APPLICATIONS

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — ($10 \times 2 = 20$ marks)

1. State the use of RESET IN and RESET OUT Pin of 8085 processor.

2. What is the operation performed by LHLD and SHLD instruction?

3. Why address and data lines are multiplexed in 8086 processor?

4. How many address lines are required to address 2048 locations?

5. List out any four features of 8051 micro controller.

6. Differentiate maskable and Non Maskable interrupts.

7. State the role of In Service Register (ISR) of 8259 PIC.

8. What is the use of Control Word register in 8255 PPI?

9. List out the functionalities of a Digital Signal Processor.

10. Give the significance of degrees of freedom of a Robot.

PART B — ($5 \times 16 = 80$ marks)

11. (a) (i) Explain how an I/O device is interfaced with 8 bit Microprocessor. (8)

(ii) Write a ALP to add two 16 bit numbers (use 7 instructions only). (8)

Or

(b) (i) Draw the timing diagram for the instruction LDA 2300H and explain the steps involved. (10)

(ii) Name the various operation cycles and the T states of the instruction STA 2500H. (6)

12. (a) Draw the Architecture of 8031 and explain the functionalities of it. (16)

Or

(b) (i) List out the advantages of 16 bit μC over 8 bit μC. (8)

(ii) Explain the interrupt handling procedure adopted in a Micro Controller. (8)

13. (a) Explain the operation of 8086 processor in Minimum mode. (16)

Or

(b) List out the features of the following :

(i) Intel 32 bit processor. (8)

(ii) Intel 64 bit processor. (8)

14. (a) Explain the functions of a programmable peripheral interface (8255) with a neat block diagram. (16)

Or

(b) Explain how Analog to Digital Converter (ADC) is effectively interfaced with the processor. (16)

15. (a) With a neat sketch, explain how the high power devices are interfaced with a processor? (16)

Or

(b) Explain with a neat sketch about the working of Microprocessor based Industrial Process Control System. (16)
