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

R 3253

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

Fourth Semester

Information Technology

CS 1304 — MICROPROCESSORS AND MICROCONTROLLERS

(Regulation 2004)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — ($10 \times 2 = 20$ marks)

1. What is a Program Counter?

2. Define indirect addressing mode and give an example.

3. What is the use of ALE signal?

4. List any four unconditional branch instructions.

5. What is the use of HOLD and HLDA signals?

6. Why we use MN/MX pin in 8086?

7. Differentiate memory mapped and program controlled I/O.

8. What are the advantages of DRAM?

9. List the advantages of microcontrollers.

10. Draw the format of timer mode control register.

PART B — ($5 \times 16 = 80$ marks)

11. (a) Draw the functional block diagram of 8085 microprocessor and explain.

Or

(b) Write a program to perform the following functions and verify the output steps :

(i) Load the number 8B H in register D

(ii) Load the number 6F H in register C

(iii) Increment the contents of register C by one

(iv) Add the contents of register C and D and display the sum at output port1.

12. (a) Discuss in detail about the interrupts and interrupt service routines with interrupt cycle of 8086.

Or

(b) Write an assembly language program to find out the largest number from a given unordered array of 8 bit numbers, stored in the locations starting from a known address.

13. (a) Discuss in detail about the interconnecting topologies of a multiprocessor system.

Or

(b) (i) Discuss the software aspects of a multiprocessor system. (12)

(ii) Explain the I/O addressing capability of 8086. (4)

14. (a) Draw the block diagram of keyboard/display controller 8279 and describe its operations.

Or

(b) What is the use of DMA controller? Explain its operations with neat block diagram.

15. (a) (i) Discuss in detail about the register set of 8051. (10)

(ii) Describe the use of following signals : (6)

(1) PSEN

(2) EA

(3) PORT1.

Or

(b) Design a micro controller 8051 based length measurement system.
