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

R 3254

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

Fifth Semester

(Regulation 2004)

Computer Science and Engineering

CS 1304 — MICROPROCESSORS AND MICROCONTROLLERS

(Common to B.E. (Part-Time) Fourth Semester Regulation 2005)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List the different flags affected by the arithmetic and logic operations.

2. Draw the contents of the stack and the registers after a PUSH instruction.

3. What do these 8086 instructions do? : STD, IRET.

4. What is Macro?

5. Draw a simple block diagram of a microprocessor based water-level indicator.

6. What is a Coprocessor?

7. List the uses of USART.

8. Calculate how many devices can be addressed by 8086.

9. Draw the format of PSW of 8051.

10. List the addressing modes supported by 8051.

PART B — (5 × 16 = 80 marks)

11. (a) Discuss in detail the classification of 8085 Instruction set. Explain the instructions under each category. Also explain the classification based on the word size with relevant examples. (16)

Or

(b) (i) Draw and explain about a single board Microcomputer system based on 8085. (8)

(ii) Write a program to check a set of six signed numbers and add the positive numbers. (8)

12. (a) Explain in detail the stack structure of 8086. Write a simple program to illustrate the concept of programming the stack. (16)

Or

(b) (i) Discuss about the different addressing modes of 8086 with relevant examples. (12)

(ii) Explain about the concept of Effective address. (4)

13. (a) Explain about the different Interconnection topologies in Multimicroprocessor systems. (16)

Or

(b) Explain in detail about the maximum and minimum mode operation of 8086 system with their respective timing diagram. (16)

14. (a) With a neat block diagram, explain in detail the internal architecture of 8257 and its register organization. (16)

Or

(b) Discuss about the Architecture, Signal description and Modes of operation of 8279. (16)

15. (a) With a neat sketch, explain the internal working of 8051 with its signal descriptions. (16)

Or

(b) Write short notes about the following in relevance to 8051.

(i) Memory addressing.

(ii) External I/O addressing.

(iii) Interrupts. (16)
