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

Question Paper Code : 51342

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2014.

Fourth Semester

Computer Science and Engineering.

CS 2252/CS 42/EC 1257/080250010/10144 CS 403 — MICROPROCESSORS AND MICROCONTROLLERS

(Common to Information Technology)

(Regulation 2008/2010)

(Also Common to PTCS 2252 – Microprocessors and Microcontrollers for B.E. (Part-Time) Fourth Semester – CSE – Regulation 2009)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Explain the instruction PCHL of 8085 Microprocessor.

2. Write 8085 program to swap the content stored in two different memory addresses?

3. What do you mean by addressing modes?

4. What is meant by a vectored interrupt?

5. What are advantages of coprocessor?

6. What is meant by a loosely coupled configuration?

7. What are the advantages of Programmable Interval Timer/ Counter IC?

8. List the features of memory mapped I/O.

9. What are the differences between a microprocessor and microcontroller?

10. What is the significance of EA line of 8051 microcontroller?

PART B — (5 × 16 = 80 marks)

11. (a) Explain the internal architecture of Intel 8085 Microprocessor.

Or

(b) (i) Write an 8085 Assembly language program to covert a Single Digit BCD number into a binary number. (8)

(ii) Write an 8085 Assembly language program to add two 16-bit BCD Numbers. (8)

12. (a) Draw and discuss the interrupt structure of 8086.

Or

(b) (i) Write an 8086 assembly language program to get an input from the keyboard for 2 digits and convert that input into a hexa decimal number using BIOS int. (8)

(ii) Write an 8086 assembly language program to multiply 2 digit numbers by getting an input from the keyboard using BIOS interrupt call. (8)

13. (a) (i) Explain the execution steps of 8087 CoProcessor. (8)

(ii) Explain the architecture of 8089 I/O Processor. (8)

Or

(b) Explain the closely coupled configuration of multi processor configuration with suitable diagram. (16)

14. (a) (i) Explain the mode 0 operation of 8255 Programmable Peripheral interface. (8)

(ii) Explain the different modes of operation of a timer. (8)

Or

(b) Explain the internal architecture of 8237 Direct Memory Access Controller. (16)

15. (a) Draw the pindiagram of 8051 Microcontroller and explain the Input/Output lines in detail. (16)

Or

(b) (i) Vin = 2.25v. Vref = 5v Number of data lines are 5. Convert the given analog quantity into its equivalent output digital quantity. (8)

(ii) Explain the different techniques to convert a digital quantity into its equivalent analog quantity.

———————