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Question Paper Code : 21302

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2013.

Fourth Semester

Computer Science and Engineering

CS 2252/CS 42/EC 1257/10144 CS 403/080250010 — 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. What is the effect of executing the instruction DAD B and ADD M?

2. Draw the contents of the flag register of 8085.

3. Name the hardware interrupts of 8086.

4. What is the function of $\overline{LOCK}$ and $\overline{RQ}$ / $\overline{GT}$ signals?

5. How does CPU differentiate the 8087 instructions from its own instructions?

6. How 8089 operates in loosely coupled configuration and tightly coupled configuration?

7. What are the requirements to be met while interfacing memory or I/O devices to 8085 processor?

8. What are the modes of operation of 8237?

9. What is Baud rate for mode 0 operation of the serial port of 8051?

10. In the program status word of 8051, the bits RS0 and RS1 are 1 and 0, then which register bank is selected for operation?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Write a program to find the average of ten numbers. (8)

(ii) Describe the addressing modes of 8085. (8)

Or

(b) (i) Discuss the functional block diagram of 8085. (12)

(ii) Write a program to divide two eight bit numbers. (4)

12. (a) (i) Explain about the following assembler directives :
END P, EQU, EVEN, EXTRN with examples. (8)

(ii) Draw and discuss a typical minimum mode 8086 system. (8)

Or

(b) (i) Describe the maximum mode of operation of 8086. (12)

(ii) What are assembler directives and pseudo ops? (4)

13. (a) Discuss the operation of 8087 numeric data processor.

Or

(b) Describe the architecture of 8089.

14. (a) Explain the (i) modes of operation of timer and (ii) operation of interrupt controller. (16)

Or

(b) Discuss briefly about keyboard/display controller. (16)

15. (a) (i) Describe the functions of the signals present in 8051. (10)

(ii) How a DAC is interfaced with 8051? (6)

Or

(b) (i) Explain how an LCD and keyboard is interfaced with 8051. (12)

(ii) Describe about serial port interface of 8051. (4)
