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Question Paper Code : 21180

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

Sixth Semester

Electrical and Electronics Engineering

EC 1301 — MICROPROCESSOR AND MICROCONTROLLER

(Common to Electronics and Instrumentation Engineering/Instrumentation and Control Engineering and Fifth Semester Electronics and Communication Engineering)

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Write a 8085 program to find the 2's complement of a number.
2. If the contents of the A and D registers are B9H and B7H respectively, what are the flags that will be affected when the instruction CMP D is executed?
3. Distinguish asynchronous and synchronous data transmission.
4. Distinguish RS-232C and RS-485 standards.
5. What does the instruction MOV CS: [BX], DL mean?
6. Give the difference between near and far jumps.
7. Write the applications of data pointer of 8051.
8. What are the functions of special function registers in 8051?
9. Write a 8051 program to divide two 8-bit numbers.
10. Mentions the applications of ACALL and LCALL instructions.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Draw and explain the architecture of 8085. (12)
(ii) Write a program to subtract two 16 bit numbers. (4)

Or

- (b) (i) Explain the addressing modes of 8085 with suitable examples. (10)
(ii) Discuss the software delays using suitable examples. (6)
12. (a) (i) Draw the block diagram of 8255 and explain its operating modes. (10)
(ii) Discuss the interfacing of 8279 with 8085. (6)

Or

- (b) (i) Explain with a neat block diagram the interfacing of RS-232 terminal with an 8085 system using 8251. (12)
(ii) What are the important considerations in interfacing ADC/DAC with microprocessors? (4)
13. (a) Draw the internal architecture of 8086 and explain the bus interface and execution units. (16)

Or

- (b) (i) Describe the addressing modes of 8086 with necessary examples. (10)
(ii) Discuss the 8086 interrupts. (6)
14. (a) (i) Describe the memory structure of 8051. (10)
(ii) Explain the 8051 interrupts. (6)

Or

- (b) (i) Discuss the timers and counters in 8051. (10)
(ii) Write a brief note on the operating modes of the serial port. (6)
15. (a) (i) Discuss the addressing modes supported by 8051. (10)
(ii) Write an 8051 program to find the maximum number from a set of 8-bit numbers. (6)

Or

- (b) (i) Explain the interfacing of a stepper motor with 8051. (10)
(ii) Discuss the I/O port programming in 8051. (6)