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

Question Paper Code : 61195

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014.

Fifth/Sixth Semester

Electronics and Communication Engineering

EC 1301 — MICROPROCESSOR AND MICROCONTROLLER

(Common to Electrical and Electronics Engineering, Electronics and Instrumentation Engineering and Instrumentation and Control Engineering)

(Regulation 2008)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. How do you classify 8085 instructions?

2. What is the function of program counter in 8085?

3. Draw the 'mode word' format of 8251 USART.

4. What is the use of ISR and PR registers in 8259 PIC?

5. What is the function of given 8086 instructions : AAA, JNBE and ROL?

6. What is the use of following assembler directives : DD and EXTERN?

7. List various registers available in 8051 microcontrollers.

8. What are the addressing modes of 8051 microcontrollers?

9. Write the I/O instructions of 8051 microcontroller.

10. List Boolean variable instructions of 8051.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the instruction format and addressing modes of 8085 microprocessor. (8)

(ii) Draw the timing diagram of IN and OUT instructions of 8085 microprocessor. (8)

Or

(b) (i) Explain the interrupt structure of 8085 microprocessor. (8)

(ii) Write on 8085 assembly language program to arrange the elements in an array of 10 elements in ascending order. (8)

12. (a) (i) Explain the operation and programming of 8255 PPI. (8)

(ii) How to interface ADC with 8085? Explain with a functional block diagram. (8)

Or

(b) (i) Draw and explain the block diagram of 8279 keyboard/display controller. (8)

(ii) Write short notes on RS232C and RS – 485. (4 + 4)

13. (a) (i) Explain with an example different types of interrupts used in 8086. (8)

(ii) How do you classify 8086 instructions? Explain in detail. (8)

Or

(b) (i) Draw the architecture of 8086 and explain bus interface unit and execution unit. (8)

(ii) Describe the addressing modes of 8086 microprocessing with suitable example. (8)

14. (a) (i) Explain different operating modes of times in 8051 microcontroller. (10)

(ii) Explain the memory structure of 8051. (6)

Or

(b) (i) Explain how serial communication is performed in 8051 microcontroller? (8)

(ii) Draw the pin diagram of 8051 microcontroller and explain the function of signals of 8051. (8)

15. (a) (i) Write a program to rotate stepper motor in both clockwise and anticlockwise directions using 8051. (8)

(ii) How do you interface keyboard with 8051? (8)

Or

(b) (i) Write an 8051 based assembly language program to add two 8 bit numbers. (8)

(ii) How to interface LCD with 8051 microcontroller? (8)
