

Question Paper Code : 12251
B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2015.

Sixth Semester

Electrical and Electronics Engineering

EE 2354/10133 EC 506/10133 EE 503 — MICRO PROCESSORS AND
MICROCONTROLLERS

(Regulation 2008/2010)

(Common to PTEE 2354 — Microprocessors and Microcontrollers for
B.E. (Part – Time) Electrical and Electronics Engineering — Regulation 2009)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the function of ALE in 8085 microprocessor?
2. What is the maximum number of byte of memory addressable by the 8086 microprocessor?
3. What is the function of Rotate instructions? Give an example.
4. How is time delay generated using subroutines?
5. What are the internal Registers available in 8259 PIC?
6. Distinguish between synchronous and asynchronous transmission.
7. Write down the instruction format for 8051 microcontroller.
8. What is the purpose of timing diagram in 8051 microcontroller?
9. How pulse is generated using 8051 Microcontroller?
10. What are the control signals from 8051 microcontroller required for Washing machine control?

11. (a) (i) Explain with a neat block diagram the interrupt structure of 8085 microprocessor. (6)
- (ii) Describe the interrupt structure of 8085 Microprocessor from the order their priority. (6)

Or

- (b) (i) Describe the data transfer concepts in 8086 microprocessor. (8)
- (ii) Draw the timing diagram of memory READ and WRITE operations in 8086 Microprocessor. (8)
12. (a) (i) Describe the 8085 Assembly Language Program for the Loop structure with counting of 10 numbers. (10)
- (ii) Describe the different addressing modes of 8085 microprocessor. (6)

Or

- (b) (i) Write an assembly language program using 8085 instructions to find the biggest number in a block of data stored in the memory locations from 70H-7FH. (10)
- (ii) Write short notes on Look up table and its usage. (6)
13. (a) (i) With a neat functional block diagram, explain the functions of 8255 PPI. (8)
- (ii) With a neat functional block diagram, explain the functions of 8279 keyboard controller. (8)

Or

- (b) (i) With a neat functional block diagram, explain the function of 8259 PIC. (8)
- (ii) Explain with a neat sketch, the A/D converter interfacing with 8085 microprocessor. (8)
14. (a) (i) Explain with a neat functional block diagram, the 8051 Microcontroller hardware. (10)
- (ii) Describe the interrupt structure of 8051 Microcontroller. (6)

Or

- (b) (i) Explain various I/O ports and its functions of 8051 Microcontroller. (8)
- (ii) Explain how the internal timers are used to generate time delay by using 8051 Microcontroller. (8)

- (ii) Explain with a neat diagram the stepper motor control using 8051 Microcontroller. (6)

Or

- (b) (i) Explain with a neat diagram, a 4×4 keyboard interfacing with 8051 microcontroller. (8)
- (ii) Describe with a neat diagram, the Washing machine control using 8051 Microcontroller. (8)