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Question Paper Code : 21406

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

Sixth Semester

Electrical and Electronics Engineering

EE 2354/EE 64/10133 EC 506/EC 2312 / 10133 EE 503– MICROPROCESSORS AND MICROCONTROLLER

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

(Regulation 2008/2010)

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

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — ($10 \times 2 = 20$ marks)

1. What is the function of Program counter in 8085 Microprocessor?

2. How many address and data lines are used in 8086 microprocessor?

3. What is the different control machine control instructions used in 8085 microprocessor?

4. What is the function of stack?

5. What are the different peripheral interfacing used with 8085 microprocessor?

6. What are the output terminals in USART 8251?

7. What are the addressing modes of 8051 microcontroller?

8. What is the function of R registers in 8051 microcontroller?

9. Write an ALP to receive input from port P1.5 and if it is high then an output 35H is sent to port port 0? What are I/O instructions in 8051 microcontroller?

10. How is pulse generated from microcontroller for stepper motor control?

PART B — (5 × 16 = 80 marks)

11. (a) Explain with a neat block diagram the architecture of 8086 microprocessor. (16)

Or

(b) (i) Compare the features of 8085 and 8086 microprocessors. (6)

(ii) Describe the interrupt structure of 8086 microprocessors. (10)

12. (a) (i) Describe with suitable examples the data transfer instructions in 8085 microprocessor. (8)

(ii) Write an 8085 assembly language program to sort numbers ascending orders. (8)

Or

(b) (i) Describe the categories of instructions used for data manipulations in 8085 microprocessor. (8)

(ii) Describe with a suitable 8085 assembly language program the use of subroutine instructions. (8)

13. (a) (i) Draw and explain the functional block diagram of 8255 PPI. (8)

(ii) Draw and explain the functional block diagram of 8251 USART. (8)

Or

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

(ii) Draw and explain the functional block diagram of 8253 timer. (8)

14. (a) Explain with a neat block diagram the architecture of 8051 microcontroller. (16)

Or

(b) (i) Explain the different addressing modes of 8051 microcontroller. (8)

(ii) Explain the vectored interrupts in 8051 microcontroller. (8)

15. (a) Describe with a neat diagram the stepper motor control using microcontroller. (16)

Or

(b) Explain with a neat diagram the closed loop control of servo motor using microcontroller. (16)