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Question Paper Code: 35304

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Fifth Semester

Electrical and Electronics Engineering

01UEE504 – MICROPROCESSORS AND MICROCONTROLLER PROGRAMMING

(Regulation 2013)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. What is a flag? List the flags of 8085?

2. List the Software and Hardware interrupts of 8085?

3. How PUSH B instruction is executed? Give the stack register after execution?

4. Write a program to find one's complement of a given number.

5. Compare 8085 microprocessor and 8051 microcontroller.

6. Mention the interrupts of 8051 microcontrollers.

7. What is the need for 8259 PIC?

8. What are the functions of USART.

9. Write an ALP for 8051 microcontroller to monitor port P1.2 bit until it becomes HIGH?

10. List any two bit manipulation instruction of 8051.

PART - B (5 x 16 = 80 Marks)

11. (a) Explain the architecture of 8085 microprocessor with neat diagram.   (16)

(b) Design a 8085 microprocessor based system such that it should contain 16*Kbyte* of EPROM and 4*Kbyte* of RAM using two 8*Kbyte* EPROM and two 2*Kbyte* RAM. Draw the interfacing diagram and write the memory map for the same.   (16)

12. (a) (i) Develop an assembly language program to calculate the sum of series of even numbers in a given set of array.   (12)

  (ii) Identify the addressing modes for the given instruction

  (1) LDA 8000H   (2) RAL
  (3) MOV A, M   (4) MOV B, A   (4)

Or

(b) (i) Demonstrate the different ways of accessing the internal RAM of 8051.   (8)

  (ii) Write a program in which the 8051 gets data from P1 and sends it to P2 continuously while incoming data from the serial port is sent to P0. Assume that XTAL=11.0592. Set the baud rata at 9600.   (8)

13. (a) With neat sketch explain the architecture of 8051 microcontroller.   (16)

Or

(b) Discuss about the organization of Internal RAM and Special function registers of 8051 microcontrollers.   (16)

14. (a) Explain with neat sketch, the A/D and D/A converter interfacing with 8085 Microprocessor.   (16)

Or

(b) Explain the functional block diagram of 8251 (USART) and its mode of operation with neat sketch.   (16)

15. (a) Explain how to control the stepper motor using 8051. Also write the ALP to run the stepper motor in both forward and reverse directions.   (16)

Or

(b) Explain in detail about the keyboard interfacing with the 8051 microcontroller.   (16)

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