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

Question Paper Code: 35304

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2019

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. What is ALE?
3. How PUSH B instruction is executed? Give the stack register after execution?
4. How is time delay generated using Subroutines?
5. What is the purpose of overflow flag in 8051 Microcontroller?
6. Mention the interrupts of 8051 microcontrollers.
7. Summarize the features of 8255.
8. What are the functions of USART?
9. How a keyboard matrix is formed in keyboard interface?
10. State the principle of microcontroller based Stepper motor control System.

PART - B (5 x 16 = 80 Marks)

11. (a) Build the timing diagram for the instruction *MVI A*, 32. (16)

Or

(b) With timing diagram, explain the opcode fetch operation in 8085 Microprocessor. (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) Write an assembly language program using 8085 instructions to sort an array in ascending order. (16)

13. (a) (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)

Or

(b) With neat structure diagram brief the operation of 8051 microcontroller interrupt with its Interrupt Enable (IE), Interrupt Priority (IP) register format and handling of interrupts in detail. (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 about the closed loop control of servo motor using 8051 Microcontroller. (16)

Or

(b) Elaborate the washing machine control using 8051 microcontroller with neat sketch. (16)