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

Question Paper Code: 31652

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

Fifth Semester

Instrumentation and Control Engineering

01UIC502 – MICROPROCESSORS AND CONTROLLER

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. Discuss the function of program counter.
2. List the pointer and index registers of 8086 architecture.
3. Describe instruction format in 8085.
4. What is meant by look up table?
5. Differentiate the features of 8051 with 8085.
6. What is the need of external pull up for port 0 in 8051?
7. Draw the generalized block diagram of 8085 based temperature control system.
8. Give the different types of command words used in 8259.
9. Is real time system an embedded system? Justify.
10. Differentiate RISC and CISC processor.

PART - B (5 x 16 = 80 Marks)

11. (a) With a neat diagram discuss in detail about pin diagram of 8085. (16)

Or

(b) (i) Draw and explain the minimum mode configuration of 8086 microprocessor. (8)

(ii) Discuss about the bus interfacing unit and execution unit available in 8086 microprocessors. (8)

12. (a) (i) Write an 8085 assembly language program for the following: Search the given byte in the list of 50 numbers stored in the consecutive memory locations and store the address of memory location in the memory locations 2200H and 2201H. Assume byte is in the C register and starting address of the list is 2000H. If byte is not found store 00 at 2200H and 2201H. (10)

(ii) Identify the addressing modes and the number of T- states required for the following instructions of 8085: MOV M, Rs; DAA,LDAX Rp; ORA M. (6)

Or

(b) (i) List the different control instructions in 8085 and explain any two with example. (10)

(ii) Define lookup table. Explain with an example. (6)

13. (a) (i) What is the use of interrupts in microcontroller systems? With suitable examples explain the sequence of operations done by a microcontroller when it is interrupted. (8)

(ii) Briefly explain the data transfer instructions available in 8051 microcontroller.(8)

Or

(b) Explain the serial communication with various modes of operation. (16)

14. (a) With a neat diagram explain in detail about 8085 based traffic light controller. (16)

Or

(b) Describe about the 8255 programmable peripheral interface and its operation with neat block diagram. (16)

15. (a) Explain the different types of memory and memory management methods. (16)

Or

(b) Describe the CAN bus and PCI. (16)

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