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

Question Paper Code: 45405

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

Fifth Semester

Electronics and Communication Engineering

14UEC505 - MICROPROCESSORS, MICROCONTROLLERS AND APPLICATIONS

(Regulation 2014)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The number of hardware interrupts that the processor 8085 consists of is

   (a) 1 (b) 3 (c) 5 (d) 7

2. Why is 8085 processor called as 8 bit processor?

   (a) Has 8 bit ALU (b) Has 8 bit Data bus
   (c) None of these (d) Both (a) and (b)

3. Which bus is bidirectional?

   (a) Address bus (b) Control bus
   (c) Data bus (d) None of these

4. Which microprocessor has multiplexed data and address lines?

   (a) 8086 (b) 8085
   (c) 8051 (d) Pentium

5. Which group of instructions does not affect the flags?

   (a) Arithmetic operations (b) Logic operations
   (c) Data transfer operations (d)Branch operations

6. In 8086 microprocessor the following has the highest priority among all type interrupts?

(a) NMI (b) DIV 0 (c) TYPE 255 (d) OVER FLOW

7. What is SJMP?

(a) Short Jump (b)Stack Jump
(c)Synchronize Jump (d) State Jump

8. When 8051 wakes up then 0x00 is loaded to which register?

(a) DPTR (b) Stack pointer
(c) PC (d) PSW

9. If we push data onto the stack then the stack point

(a) increases with every push (b) decreases with every push
(c) none of the above (d) increases with only push

10. Resolution of ADC is defined as

(a) 1/ (2N – 1) (b) 1/ (2^N-1) (c) 2^N-1 (d) 2N-1

PART - B (5 x 2 = 10 Marks)

11. Explain various types of Instructions used in 8085.

12. Draw the HOLD response timing cycle in Minimum mode of 8086.

13. List the six modes of timer.

14. Write an ALP for adding of two numbers and store the result in 2050H in 8051.

15. Give an application for Sensor based 8051 Microcontroller.

PART - C (5 x 16 = 80 Marks)

16. (a) (i) Describe the addressing modes of 8085. (8)

(ii) Write an assembly language program to sort the numbers in ascending order. (8)

Or

(b) Write an assembly language program for Sorting of Numbers in ascending order using 8085. (16)

17. (a) With a neat sketch draw and explain the Internal architecture of 8086. (16)

Or

(b) (i) Discuss the various Addressing Modes of 8086. (8)

(ii) List out the different types of Instruction used in 8086. (8)

18. (a) With the help of a neat diagram explain DMA Controller. (16)

Or

(b) With the help of a neat diagram explain Programmable Interrupt Timer(8253/8254). (16)

19. (a) Discuss 8051 Microcontroller Hardware Architecture with a neat diagram. (16)

Or

(b) Brief about 8051 Microcontroller ports in detail. (16)

20. (a) Describe the Analog to Digital Conversion (ADC) Interfacing with 8051. (16)

Or

(b) Develop a microcontroller based traffic light controller and explain its working. (16)

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