Reg. No. : ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Question Paper Code: 45405

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2022

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. The end of a macro can be represented by the directive

    (a) END   (b) ENDS   (c) ENDM   (d) ENDD

5. Programmable peripheral input-output port is other name for

    (a) serial input-output port   (b) parallel input-output port
    (c)) serial input port   (d) parallel output port

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. The configuration in which each LED receives operating current of 8 mA from power supply while the port lines sink the current on each port line is

    (a) common port configuration   (b) common anode configuration
    (c) common cathode configuration   (d) none of these

10. The internal schematic of a typical stepper motor has

    (a) 1 winding   (b) 2 winding
    (c) 3 winding   (d) 4 winding

<div align="center">PART - B (5 x 2 = 10 Marks)</div>

11. What is the need for ALE signal in 8085 microprocessor?

12. What are the different flag available in status register of 8086?

13. Write the BSR control word format in 8255.

14. How can the 8051 instructions be classified?

15. List the different types of ADC.

<div align="center">PART - C (5 x 16 = 80 Marks)</div>

16. (a) Explain in detail about internal architecture of 8085 microprocessor with diagram.

                                                              (16)

<div align="center">Or</div>

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

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17. (a) Explain the maximum and minimum modes operation of 8086 processor with a neat schematic. (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) Discuss briefly about keyboard/display controller. (16)

19. (a) Explain the architecture of 8051 with its diagram. (16)

Or

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

20. (a) Explain the working of microcontroller based stepper motor control with suitable diagrams. (16)

Or

(b) Explain how intelligent LCD displays can be interfaced with 8051 Microcontroller? Write an assembly language program for the same. (16)

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