

Question Paper Code: 94425

B.E. / B.Tech. DEGREE EXAMINATION, AUGUST 2021

Fourth Semester

Computer Science and Engineering

19UEC425– MICROPROCESSORS AND MICROCONTROLLERS

(Regulation 2019)

Duration: 1:45 hour

Maximum: 50 Marks

PART A - (10 x 2 = 20 Marks)

(Answer any ten of the following questions)

1. The 8086 microprocessor is operating in Maximum Mode. If the outputs of the status signals (S2', S1', S0') equals to 001, which CPU cycle is being performed? **(CO1- Understand)**
(A) I/O Read (B) I/O Write (C) Read Memory (D) Write Memory
2. Example for implied addressing mode **(CO1- Understand)**
(A) CLC (B) STC (C) CMC (D) All of the mentioned above
3. The instruction MOV [BX],CL belongs to the----- address mode. **(CO1-Understand)**
(A) Direct (B) Indirect (C) Register Indirect (D) Implied
4. If the chip select of 8255 is $CS^- = A7A6^-A5^-A4A3A2^-CS^-$. The 8-bit address of control word register would be **(CO2-Apply)**
(A) 62 H (B) 63 H (C) 9E H (D) 9F H
5. In order to program Port A and Port B as output ports in Mode 0 and Port C as input port in Mode 0, the control word for 8255 would be **(CO2-Apply)**
(A) 89 H (B) 98 H (C) 6F H (D) F6 H
6. If the port address of the 8259A for ICW 2 is 81H, then the port address of ICW 3 would be **(CO2-Apply)**
(A) 80H (B) 81H (C) 82H (D) 83H
7. When 8051 wakes up then 0x00 is loaded to which register? **(CO3-Apply)**
A) PSW B) SP C) PC D) None of the mentioned
8. How are the status of the carry, auxiliary carry and parity flag affected if the instruction is **(CO3-Apply)**
MOV A,#9C
ADD A,#64H
A) CY=0,AC=0,P=0 B) CY=1,AC=1,P=0 C) CY=0,AC=1,P=0 D) CY=1,AC=1,P=1
9. On power up, the 8051 uses which RAM locations for register R0- R7 **(CO3-Apply)**
A) 00-2F B) 00-07 C) 00-7F D) 00-0F

10. 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 **(CO4-Apply)**
- A) common port configuration B) common anode configuration
C) common cathode configuration D) none of the mentioned
11. When the port lines of a port are to be used as input lines then the value that must be written to the port address is **(CO4-Apply)**
- A) F0H B) 0FH C) FFH D) 00H
12. Why Vref is set of ADC0848 to 2.56 V if analog input is connected to the LM35? **(CO4-Apply)**
- A) to set the step size of the sampled input B) to set the ground for the chip C) to provide supply to the chip
D) all of the mentioned
13. Is the following instruction correct LDI R3,50? **(CO5-Apply)**
- A) Yes B) No C) Cant be said D) None of the mentioned
14. With fosc=8 MHz, what will the count that has to filled in the UBRR register to account for the 9600 baud rate? **(CO5-Apply)**
- a) 67H b) CEH c) 33H d) 34H
15. Registers R0-R31 are used for what type of works? **(CO5-Apply)**
- a) they are used for arithmetic and logic instructions
b) they are used for data copy
c) they are used for calculations
d) none of the mentioned

PART – B (3 x 10= 30 Marks)

(Answer any three of the following questions)

16. Write an ALP using 8086 processor to sort the numbers in ascending and descending order in an array. **(CO1-Apply)**
17. Write a program to initialize 8279 and to display the character '8' in the first digit of the display. **(CO2-Apply)**
18. Write an ALP to add 8 bit data and 16 bit data using 8051 micro controller. **(CO3-Apply)**
19. Write 8051 ALP to interface 4x4 matrix keyboard. **(CO4-Apply)**
20. Explain the addressing modes of AVR Atmega8 Micro controller. **(CO5-Understand)**

