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**Question Paper Code: 94425**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2023

Fourth Semester

Computer Science Engineering

19UEC425– Microprocessors & Microcontroller

(Regulations 2019)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. How much memory a 20 bit address bus can access? CO1-U  
(a) 1KB                      (b) 1MB                      (c) 2MB                      (d) 256KB
2. How many bits of data can be transferred between the 8255 PPI and the interfaced device at a time? CO1-U  
(a) 16 bits                      (b) 12 bits                      (c) 8bits                      (d) None of the above
3. In 8051 which interrupt has highest priority? CO1-U  
(a) IE1                      (b) TF0                      (c) IE0                      (d) TF1
4. Which pin of the LCD is used for adjusting its contrast? CO1- U  
(a) Pin no 1                      (b) Pin no 2                      (c) Pin no 3                      (d) Pin no 4
5. How many clock pulses are confined by each machine cycle of Peripheral-Interface Controllers? CO1- U  
(a) 4                      (b) 8                      (c) 12                      (d) 16

PART – B (5 x 3= 15 Marks)

6. State the difference between Minimum mode and maximum mode configuration in 8086 microprocessor. CO1- U
7. Differentiate two key lockout and N-key rollover CO1- U
8. Why Port 0 needs pull-up resistors? CO1- U
9. How the stepper motor speed is controlled? CO1-U
10. Using the instruction of PIC micro controller convert BCD to hex. CO2-App

PART – C (5 x 16= 80 Marks)

11. (a) Describe the internal architecture of 8086 microprocessor with neat diagram. CO1- U (16)
- Or
- (b) Explain about interrupt handling process in 8086. CO1- U (16)
12. (a) Explain in detail about DMA controller with a neat sketch. CO1- U (16)
- Or
- (b) List the major components of the 8279 keyboard/ display interface and explain their functions, with neat diagram CO1- U (16)
13. (a) Describe the internal architecture of 8051 microcontroller with neat diagram. CO1- U (16)
- Or
- (b) Explain about the memory organization and special function registers in 8051 microcontroller. CO1- U (16)
14. (a) Assume that the 8255 is interfaced to the 8051 at the addresses 8000H-8003. Write a program to read the content of Port A and write it in other ports. CO3- App (16)
- Or
- (b) Write a program to generate a sine wave using DAC chip connected to the 8051 controller. CO3- App (16)
15. (a) With a neat diagram explain in detail about the architecture of aurdino microcontroller. CO1- U (16)
- Or
- (b) Explain in detail about the function of various port pins of aurdino microcontroller. CO1- U (16)