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

Question Paper Code: 94425

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2024

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 8051microcontroller.	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)