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

Question Paper Code: U5402

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

Fifth Semester

Electronics And Communication Engineering

21UEC502-MICROPROCESSORS, MICROCONTROLLERS & APPLICATIONS

(Regulations 2021)

Duration: Three hours | Maximum: 100 Marks

PART A - (5 x 1 = 5Marks)

1.	The BIU contains FIFO, is the type of ----------.				CO1-U
	(a) stack	(b) queue	(c) Bus	(d) register	
2.	Find the output of the AND AL, BL if AL= 55 and BL= 0F instruction is executed.				CO2-App
	(a) 05H	(b)50H	(c) FFH	(d) 55H	
3.	8051 series has how many 16 bit registers.				CO1-U
	(a) 2	(b) 3	(c) 1	(d) 0	
4.	In a cascaded mode, the number of vectored interrupts provided by 8259A is ----------				CO1-U
	(a) 4	(b) 8	(c) 16	(d) 64	
5.	How many digital pins are there on the UNO board?				CO1-U
	(a) 14	(b) 12	(c) 16	(d) 20	

PART – B (5 x 3= 15Marks)

6.	Compare 8085 and 8086 microprocessors.	CO1-U
7.	Develop an ALP to add two numbers using immediate addressing mode.	CO2-App
8.	Find the control word to set bit 3 of port C and reset bit 5 of port C.	CO3- App
9.	Calculate the pulse rate using Arduino.	CO4-App
10.	Find out hexadecimal equivalent for displaying the word ‘SIT’	CO3- App

PART – C (5 x 16= 80Marks)

11.	(a)	Describe the function of various register in 8086.	CO1-U	(16)
		Or		
	(b)	With a neat sketch, Explain the functional components of 8086.	CO1-U	(16)
12.	(a)	(i) Develop an algorithm for which each number is sum of two preceding ones. (ii) Implement an assembly language program to find the largest number in an array with an example using control transfer instructions.	CO2-App	(16)
		Or		
	(b)	Determine the result of the following instruction with appropriate examples. ROR AL, 2 RCR AL, 2 SHR BL, 2 SAR AL, 2	CO2-App	(16)
13.	(a)	Describe the data transfer and control instruction in 8051 with an examples.	CO1-U	(16)
		Or		
	(b)	With a neat sketch, Explain 8051 microcontroller.	CO1-U	(16)
14.	(a)	Implement an Assembly language program to interface a stepper motor with 8051 with Microcontroller.	CO3- App	(16)
		Or		
	(b)	Develop an Assembly language program to set bit 3, bit 5 and bit 7 in BSR mode.	CO3- App	(16)
15.	(a)	Design a circuit which is used to calculate real time Beats per minute (BPM) using Arduino uno.	CO4- App	(16)
		Or		
	(b)	Write in detail about Cold fire microprocessor. Compare it with 8086 microprocessor.	CO4- App	(16)