Question Paper Code: R18A31EC02

R18

ANURAG Engineering College

(An Autonomous Institution)

III B.Tech I Semester Supplementary Examinations, December-2024

MICROPROCESSORS AND MICROCONTROLLERS

(COMMON TO ECE & CSE)

Time: 3 Hours **Max. Marks: 75**

Section – A (Short Answer type questions) (25 Marks)

Answer All Questions		Course Outcome	B.T Level	Marks
1.	Compare Conditional and unconditional branching instructions.	CO1	L1	2M
2.	Mention the various types of memory segments in 8086.	CO1	L2	3M
3.	Illustrate I/O mode 1 operation of 8255.	CO2	L1	2M
4.	Discuss about the Direct Memory Access.	CO2	L2	3M
5.	Mention the important features of 8051 microcontrollers.	CO3	L1	2M
6.	List out the arithmetic instructions of 8051.	CO3	L2	3M
7.	What is Timer auto-reload feature?	CO4	L1	2M
8.	Give the format of TMOD register.	CO4	L2	3M
9.	What is Proteus circuit simulator?	CO5	L1	2M
10.	Write an Arduino Program to blink an LED connected at D3 of Arduino Board.	CO5	L2	3M

Section B (Essay Questions)

Answer all questions, each question carries equal marks. **(5 X 10M = 50M)**

11. A)	Explain the minimum mode of operation for memory write with the help of timing diagram.	CO1	L2	10M
	OR			
B)	Identify and explain the different addressing modes used in 8086 microprocessor with examples.	CO1	L3	10M
12. A)	Draw the interfacing diagram of D/A convertor with 8086 CPU and write the assembly program.	CO2	L3	10M
	OR			
B)	Draw the internal architecture of 8251 USART and explain its operation.	CO2	L3	10M
13. A)	List the features of 8051 microcontroller and discuss its operation with the help of neat architectural block diagram.	CO3	L3	10M
	OR			
B)	Discuss the internal memory organization and I/O Ports of 8051 microcontroller.	CO3	L3	10M
14. A)	Define interrupt and Explain different software interrupts used in 8051 microcontroller.	CO4	L3	10M
	OR			
B)	Develop an 8051 ALP to transmit the letter "A" serially at a baud rate of 9600.	CO4	L3	10M
15. A)	Discuss in detail about the features of Arduino Board.	CO5	L2	10M
	OR			
B)	Discuss about the features and advantages of Proteus software.	CO5	L2	10M