Question Paper Code: R18A32EC06

R18

ANURAG Engineering College

(An Autonomous Institution)

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

MICROPROCESSORS AND MICROCONTROLLERS

(ELECTRICAL AND ELECTRONICS ENGINEERING)

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

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

Answer All Questions		Course Outcome	B.T Level	Marks
1.	Define Pipelining.	CO1	L1	2M
2.	What is the maximum memory size that can be addressed by 8086? Also mention the address range.	CO1	L2	3M
3.	Explain the need for interfacing devices.	CO2	L1	2M
4.	Write the control word of 8255 PPI.	CO2	L2	3M
5.	What is the address range of internal RAM of 8051?	CO3	L1	2M
6.	Define stack and stack pointer.	CO3	L2	3M
7.	Define non maskable interrupt.	CO4	L1	2M
8.	What is the difference between timer and counter?	CO4	L2	3M
9.	What do you mean by setup function in Arduino?	CO5	L1	2M
10.	List out the Applications of Arduino.	CO5	L2	3M

Section B (Essay Questions)

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

11. A)	Draw the 8086 microprocessor internal architecture and explain the operation of each block.	CO1	L2	10M
	OR			
B)	Explain the execution of Call instruction of 8086 with suitable example.	CO1	L3	10M
12. A)	Draw the internal architecture of USART 8251 and explain its different status and modes and control formats neatly.	CO2	L2	10M
	OR			
B)	With a neat Diagram Explain the architecture of 8257.	CO2	L2	10M
13. A)	Explain the memory organisation of 8051 microcontroller.	CO3	L2	10M
	OR			
B)	Draw the block diagram representation of architecture of 8051 microcontroller.	CO3	L2	10M
14. A)	Draw the Interrupt Enable (IE) special function register of 8051 microcontroller and explain the significance of each bit.	CO4	L3	10M
	OR			
B)	Mention the significance of the pins $\overline{INT0}$ and $\overline{INT1}$ to 8051 microcontroller.	CO4	L3	10M
15. A)	What is the use of proteus simulation tool? How a hardware can be simulated in it? Explain.	CO5	L2	10M
	OR			
B)	Write a simple program on Arduino to light the LED connected to pin number 13. We want to ON the LED for 4 seconds and OFF the LED for 1.5 seconds.	CO5	L3	10M