Question Paper Code: R22A31EC03

R22

# ANURAG Engineering College

## (An Autonomous Institution)

## III B.Tech I Semester Regular Examinations, December – 2024

## MICROPROCESSORS & MICROCONTROLLERS

## (ELECTRICAL AND ELECTRONICS ENGINEERING)

**Time: 3 Hours** **Max. Marks: 60**

### Section – A (Short Answer type questions) (10 Marks)

| Answer All Questions | | Course Outcome | B.T Level | Marks |
|---|---|---|---|---|
| 1. | In how many modes we can operate of 8086 Microprocessor? | CO1 | L2 | 1M |
| 2. | Interpret the usage of ALE pin? | CO1 | L2 | 1M |
| 3. | PPI stands for what? | CO2 | L1 | 1M |
| 4. | What is the usage of DMA Controller? | CO2 | L2 | 1M |
| 5. | Expand USART? | CO3 | L1 | 1M |
| 6. | Which communication is better for long distance and why? | CO3 | L1 | 1M |
| 7. | What is the operating frequency of 8051 microcontroller? | CO4 | L1 | 1M |
| 8. | How Port-0 is differ with other ports? | CO4 | L1 | 1M |
| 9. | Expand LED? | CO5 | L2 | 1M |
| 10. | Maximum number of segments in seven segment display? | CO5 | L2 | 1M |

### Section B (Essay Questions)

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

| | | | | |
|---|---|---|---|---|
| 11. A) | Draw the Architecture of 8086 microprocessor explain in detail? | CO1 | L3 | 10M |
| | **OR** | | | |
| B) | Identify different Addressing modes and explain with example? | CO1 | L3 | 10M |
| 12. A) | Interface the following memory IC's with 8086<br>i) Two 4KB EPROMs, ending at FFFFFH<br>ii) Two 4KB SRAMs, starting at 00000H | CO2 | L3 | 10M |
| | **OR** | | | |
| B) | Explain Master and Slave mode in 8257 DMA controller? | CO2 | L2 | 10M |
| 13. A) | Interface USART with 8086 and explain with registers? | CO3 | L3 | 10M |
| | **OR** | | | |
| B) | Explain in detail with neat sketch IEEE-488? | CO3 | L2 | 10M |
| 14. A) | List the Timer mode operations in detail and explain the registers? | CO4 | L2 | 10M |
| | **OR** | | | |
| B) | Explain the Architecture of 8051 Microcontroller explain each and every block in detail? | CO4 | L2 | 10M |
| 15. A) | Write a program to send Commands and Data to LCD with a time delay? | CO5 | L2 | 10M |
| | **OR** | | | |
| B) | Explain ADC interfacing to 8051 Microcontroller? | CO5 | L2 | 10M |