

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE**

**Winter Examination – 2022**

**Course: B. Tech.**

**Branch : Electrical Engineering**

**Semester :V**

**Subject Code & Name: BTEEC502, Microprocessor and Microcontroller**

**Marks: 60**

**Date:31/01/23**

**Duration: 3 Hr.**

*Instructions to the Students:*

*All the questions are compulsory.*

*The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.*

*Use of non-programmable scientific calculators is allowed.*

*Assume suitable data wherever necessary and mention it clearly.*

|             |  | (Level/CO) | Marks     |
|-------------|--|------------|-----------|
| <b>Q.1</b>  | <b>Solve Any Two of the following.</b>   |            | <b>12</b> |
| A)          | Explain different types of addressing modes of 8085 microprocessor.  | <b>CO1</b> | <b>6</b>  |
| B)          | Explain traffic light controller in 8085 microprocessor.   | <b>CO4</b> | <b>6</b>  |
| C)          | What is an interrupt? Explain a different type of interrupt occurs in 8085?  | <b>CO3</b> | <b>6</b>  |
| <b>Q.2</b>  | <b>Solve Any Two of the following.</b>   |            | <b>12</b> |
| A)          | Draw and Explain timing dia. of opcode fetch operation in 8085 microprocessors.  | <b>CO1</b> | <b>6</b>  |
| B)          | Discuss different types of Data transfer techniques in 8085.Explain Synchronous and Asynchronous Data Transfer Method. | <b>CO2</b> | <b>6</b>  |
| C)          | Explain different types of addressing modes in 8051 microcontroller.   | <b>CO5</b> | <b>6</b>  |
| <b>Q. 3</b> | <b>Solve Any Two of the following.</b>   |            | <b>12</b> |
| A)          | Draw and explain block dia. of 8051 microcontroller.   | <b>CO5</b> | <b>6</b>  |
| B)          | Explain what is<br>A. Memory mapped I/O schemes.<br>B.I/O mapped I/O schemes   | <b>CO2</b> | <b>6</b>  |
| C)          | Explain power saving mode in 8051.   | <b>CO6</b> | <b>6</b>  |
| <b>Q.4</b>  | <b>Solve Any Two of the following.</b>   |            | <b>12</b> |
| A)          | Draw Architecture dia. of 8085 microprocessor.   | <b>CO1</b> | <b>6</b>  |
| B)          | Explain interfacing of ADC 0800 converter.   | <b>CO4</b> | <b>6</b>  |
| C)          | Write a programme for addition and subtraction using 8085 instruction set.   | <b>CO1</b> | <b>6</b>  |
| <b>Q. 5</b> | <b>Solve Any Two of the following.</b>   |            | <b>12</b> |
| A)          | Explain DMA controller.  | <b>CO3</b> | <b>6</b>  |
| B)          | Write short note on<br>a. instruction cycles<br>b. machine cycle<br>c. T-state.  | <b>CO1</b> | <b>6</b>  |
| C)          | Explain TCON and TMOD register in 8051 microcontroller.  | <b>CO6</b> | <b>6</b>  |

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