B. Voc Automotive Mechatronics
Subject: Microcontroller and PLC
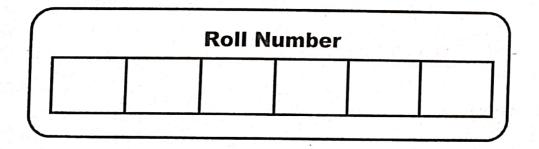### Subject Code: ABEC-205
Semester-3rd
Theory (External): 35
Time: 03 hours

Instructions to the Students

1. This Question paper consists of two Sections. All sections are compulsory.

2. **Section A** comprises 10 questions of objective type in nature. All questions are compulsory. Each question carries 1 mark.

3. **Section B** comprises 6 essay type questions out of which students need to do any 5. Each question carries 5 marks.

4. Read the questions carefully and write the answers in the answer sheets provided.

5. Do not write anything on the question paper.

6. Wherever necessary, the diagram drawn should be neat and properly labelled

Roll Number

SECTION –A (OBJECTIVE TYPE QUESTIONS)
(10x1=10 Marks)

1. State any two differences between microprocessor and microcontroller.
2. Mention the number of bytes in internal RAM and internal ROM of 8051?
3. When 8051 is reset, all interrupts are disabled. How to enable these interrupts?
4. What are the instructions used to access external RAM?
5. List the Addressing modes in 8051?
6. Explain Jump and Call instruction in brief.
7. Write advantages and different application of PLC.
8. Explain briefly the I/O processing with refers to PLC.
9. What is the basic operation of retention timer?
10. Differentiate between arithmetic and logic operation in PLC.

SECTION –B (ESSAY TYPE QUESTIONS)
(5x5=25 Marks)

1. Define Microprocessor and Microcontroller in brief. Explain the technological trends in microcontroller development with its application.
2. Draw and explain the block Diagram of 8051 microcontrollers.
3. Discuss about the organization of Internal RAM and special function registers of 8051 microcontrollers in detail.
4. Describe Interrupts used in 8051. Give their priority & addresses.
5. What are the main parts of PLC and describe their function?
6. Write down the various control instruction in detail.

--------End of Paper--------