

K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

July Aug May-June 2025

(B. Tech) Program: EXTC

Regular Examination: SY

Course Code: EXC403

Date of Exam: **01-08-25** and Duration: 02.5 Hours

Scheme : III

Semester: IV

Course Name: Microcontrollers

Max. Marks: 60

Instructions:

- (1) All questions are compulsory.
- (2) Draw neat diagrams wherever applicable.
- (3) Assume suitable data, if necessary.

| Q. No. | Question | Max. Marks | CO | BT level |
|------------|--|------------|----|----------|
| Q 1 | Solve any two questions out of three: (05 marks each) | 10 | | |
| a) | Distinguish between Von Neumann and Harvard Architecture. | | 1 | U |
| b) | Classify Memory : Primary and Secondary | | 2 | U |
| c) | Comparison of 8051 family members | | 3 | U |
| Q 2 | Solve any two questions out of three: (05 marks each) | 10 | | |
| a) | List 8051 Data types and directives | | 4 | U |
| b) | Explain ARM 7 CPSR and SPSR | | 5 | U |
| c) | WAP to ADD and multiply in ARM 7 | | 6 | U |
| Q.3 | Solve any two questions out of three. (10 marks each) | 20 | | |
| a) | Explain concept of Interrupts in 8051 | | 1 | U |
| b) | Explain Virtual Memory Concept with Memory Management Unit with Segmentation and Paging. | | 2 | U |
| c) | Explain serial data input and output concept in 8051 | | 3 | U |
| Q.4 | Solve any two questions out of three. (10 marks each) | 20 | | |
| a) | WAP to find smallest and Largest number in series | | 4 | Ap |
| b) | Explain ARM 7 Interrupts and Exception | | 5 | U |
| c) | Write Short Note on LPC2148 | | 6 | U |
