

Course Title: **Microcomputer Organization and Microprocessors LAB**

Credit: **1**

Course No.: CSIT.125

Nature of the Course: **LAB**

Total hours: **48**

Level: **B.Sc. CSIT** Year: **First**

Semester: **Second**

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**Laboratory Work Guidelines:** Students will have to complete the assigned practical work throughout the semester and Practical examination will be conducted at the end of academic semester. The practical exam will be graded on the basis of the following marking scheme:

In-Semester Evaluation (Lab Book or Journal)	25 %
Final Exam Written	50 %
Final Exam Oral	25 %

Following are the guideline for the lab work:

1. There should be a lab book for the practical work related to the subject
2. The lab book will contain details of all practical's to be conducted in the lab
3. Students should read the lab book before coming to the lab
4. Every practical should have:
  - a. Title
  - b. Objectives
  - c. Description
  - d. Examples
  - e. Self Activities
    - i. Objective questions
    - ii. Sample programs to be typed and executed
  - f. Task list to be decided by the lab in-charge.
  - g. Outputs to be verified by the lab in-charge.
5. Each practical should be conducted in the following manner:
  - a. Explanation by lab in-charge – 10 minutes
  - b. Self activities by students
  - c. Lab in-charge will allocate tasks to each student (selection from a list / modify given task / specify new task )
  - d. At the end of the slot, the lab in-charge has to verify the outputs and give a remark (Complete / Incomplete / Needs Improvement)

### Assignment List for Lab Work

The main objective of Practical work in the course is to familiarize students with Assembly Language instruction set and programming using various microprocessors such as 8085\8086\8088 using trainer kit. The programming should include: Arithmetic operation, base conversion, conditional branching etc. Lab in-charge should assign lab work to each student. Sample Lab work list may include:

1. Assembly language program using 8085 microprocessor kit.
2. Program should comprise the use of all types of instructions and addressing modes.
3. The programming should include the concept of Arrays and the concept of Multiplications and Division operations on Microprocessor.
4. Assembly language programming, using any type of Assembler, which should include the different functions of Int 10h, and Int 21h.

### Recommended Books

6. Ramesh S. Gaonkar, **Microprocessor Architecture, Programming, and Applications with 8085**, Prentice Hall
7. A. P. Malvino and J. A. Brown, **Digital Computer Electronics**, 3rd Edition, Tata McGraw Hill
8. D. V. Hall, **Microprocessors and Interfacing - Programming and Hardware**, McGraw Hill
9. P. K. Gosh and P.R. Sridhar, 0000 to 8085 **Introduction to 8085 Microprocessor for Engineers and Scientists**, 2<sup>nd</sup> edition, Prentice Hall, 2001.
10. Malvino Leach, **Digital principals and applications**, Tata McGraw Hill, 4th Edition