

Certificate course in laboratory Techniques -1 (CCLT-1)

Course Details

Department of Chemistry
2019-2020

Certificate Course of Laboratory Techniques (CCLT) is a two semester elective course comprising of two credits per year. The course is designed to train students in basic laboratory techniques in different subjects like Chemistry, Physics, Biological sciences, Environmental sciences etc. CCLT course is a starting point to learn required skills and to hone interdisciplinary approach towards all science and it is hoped that by doing the course well, our students will have slight edge over other competitors in job market.

Course Details

- ❖ **Course type** : Certificate course
- ❖ **Course Title** : **Certificate Course in laboratory techniques (CCLT) -1 level 1**
- ❖ **Preamble:** Certificate Course of Laboratory Techniques (CCLT) is a two semester elective course comprising of two credits per year. The course is designed to train students in basic laboratory techniques in different subjects like Chemistry, Physics, Biological sciences, Environmental sciences etc. CCLT course is a starting point to learn required skills and to hone interdisciplinary approach towards all science and it is hoped that by doing the course well, our students will have slight edge over other competitors in job market.

- ❖ **Objectives of course** :

1. To impart basic practical skills in chemistry and other basic sciences
2. To hone interdisciplinary approach in science
3. To effectively link the theoretical principles with practical analysis or situation

- ❖ **EXPECTED LEARNING OUTCOME / SKILLS**

1. Students are expected to do simple stoichiometric calculations.
2. They should able to prepare the required solutions/ reagents or other prerequisites of the experiments.
3. They should able to do calibrations/ standardisation for their experiments.
4. They should able to arrive at results with using logical steps.

- ❖ **PREREQUISITES** : Std XII pass in Science

- ❖ **INTAKE CAPACITY** : 20

- ❖ **DURATION** : Total 30 Hrs (2 credits)

- ❖ **Fees** :Rs. 2000/-

❖ Course co-ordinator : Dr. Yogesh V Ghalsasi, Department of Chemistry, KJSSC
Email: yogesh@somiya.edu

❖ **Career opportunities:** It is a primary level course for undergraduates

❖ **Syllabus**

Title: Certificate Course in Laboratory techniques (CCLT) Level 1	Theory Hrs	Practical Hrs.
Module 1: Preparation of buffer solution and demonstration of buffer action	02	03
Module 2: Green Synthesis	02	03
Module 3: Use of Vernier calliper and Screw gauge micrometer for measurement	02	03
Module 4: Preparation of solutions of different concentration units	02	03
Module 5: Introduction to TLC and use of Microscope	02	03
Module 6: DNA isolation and separation	02	03
	Total Hrs: 30	02 credits

❖ **Evaluation Pattern :**

	Internal	End of the course	Final Exam	Grades offered
Theory	20 marks	30 marks	-	
Project work	-	-	-	-

❖ **Venue:** K J Somaiya College of Science and Commerce

❖ **Reference Books**

1. Inorganic quantitative analysis by Vogel.
2. Fundamentals of Analytical Chemistry by Skoog