

**K. J. SOMAIYA COLLEGE OF SCIENCE AND COMMERCE , AUTONOMOUS**

**CERTIFICATE COURSE IN LABORATORY TECHNIQUES -2**

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Course Details

**Department of Chemistry**

**4/1/2019**

Certificate Course of Laboratory Techniques (CCLT) level 2 is a two semester elective course comprising of two credits per year. It is a continuation of level 1 course. The course is designed to train students in additional laboratory skills 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) level 2**

❖ **Preamble:** Certificate Course of Laboratory Techniques (CCLT) level 2 is a two semester elective course comprising of two credits per year. It is a continuation of level 1 course. The course is designed to train students in additional laboratory skills 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 draw independent conclusions from the results.

❖ **PREREQUISITES** : F.Y. B. Sc pass and level-1 of CCLT

❖ **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**

<b>Title: Certificate Course in Laboratory techniques (CCLT) Level 2</b>	<b>Theory Hrs</b>	<b>Practical Hrs.</b>
Module 1: Elemental powder analysis by Flame Photometry	02	03
Module 2: Green Synthesis	02	03
Module 3: Use of Travelling microscope for measurements	02	03
Module 4: Kinetics using conductometry	02	03
Module 5: Estimation of fluoride spectrophotometrically	02	03
Module 6: Protein separation studies by Polyacrylamide electrophoresis	02	03
	<b>Total Hrs: 30</b>	<b>02 credits</b>

❖ **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