

Shri Manibhai Virani and Smt. Navalben Virani Science College, Rajkot
(An Autonomous College affiliated to Saurashtra University, Rajkot)

Department of Biochemistry
Bachelor of Science (Hon/Hon with Research (FYUGP))
For the students admitted from A.Y. 2023-2024 & onwards
NCrF- Level 4.5: First Year FYUGP: Semester I & II (UG Certificate in Sciences)

Department of Biochemistry

Part III		
Skill Enhancement Course (SEC) – I – Vocational Skill Course (VSC)		
For the students admitted from A.Y. 2023-2024 & onwards		
Offered by: Department of Biochemistry,	Offered to: (Please mark \checkmark as applicable)	
	<input type="checkbox"/>	Students across the College other than the offering department.
	<input checked="" type="checkbox"/>	Students across the College including the offering department. (The course should not be a part of regular curriculum of the offering department.)
Semester : I		
Course Code	Course Title	Course Credit and Hours
	Basic laboratory techniques	1 Credits -2 hrs/wk

Objective of the course:

The course is designed to train students in basic laboratory techniques in different subjects like Chemistry, Physics, Biological sciences, Environmental sciences etc. 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.

Target Skills (Course outcomes):

1. Implement Good Laboratory practices
2. Preparation and storage of reagents
3. Basic concepts of different ways of analysis
4. Measurement of pH and Buffer preparation

Course Description:

It will provide basic understanding of qualitative, quantitative and automated laboratory

techniques. Topics will include an overview and introduction to laboratory safety and basic skills as used in science laboratories, Laboratory mathematics, quality control and the proper use of basic instrumentation will be presented. The lab session will give the students the opportunity to practice the techniques discussed in the lecture.

Course Content	Hours
Module-I : Good Laboratory Practice	3 hrs
<ul style="list-style-type: none"> • Safety Measures • Working of Basic laboratory instruments • Introduction to different types of glassware's and its use. • Cleaning of Glassware's 	
Module-II: Preparation of Standard solutions	3 hrs
<ul style="list-style-type: none"> • Mole, Molar and Normal solution • Percent solutions • Dilutions. 	
Module-III : Measurement of pH and preparation of Buffers	3 hrs
<ul style="list-style-type: none"> • Basic introduction to pH • Measurement of pH by different methods. • Introduction to Buffer and its importance. • Preparation of Buffers. 	
Module-IV : Types of Analysis	3 hrs
<ul style="list-style-type: none"> • Qualitative analysis • Quantitative analysis using colorimeter method. • Quantitative analysis using titremetric method 	