

Vitthalbhai Patel & Rajratna P. T. Patel Science College
(Autonomous)

(Reaccredited with 'A' Grade by NAAC (CGPA 3.13))

Affiliated to SARDAR PATEL UNIVERSITY

Vallabh Vidyanagar, Gujarat

Syllabus effective from the Academic Year 2024-2025



Course Code (Multi Disciplinary)	US01MDCHE02	Title of the Course	CHEMISTRY PRACTICAL-4
Total Credits of the Course	2	Hours per Week	4

Course Objectives:	To make students familiar about: 1. Chemistry as a subject 2. Practical aspects of chemistry 3. Basic concepts related qualitative analysis of inorganic substances. 4. Hands on training of laboratory practices.
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Course Content	
Practical	Description
	Introduction to chemical laboratory, use of glass wares, chemical and reagents, organic and inorganic solvents, bench reagents, side reagents, safety practices in the chemistry laboratory, knowledge about toxic chemicals and safety precautions in their handling.
1	Analysis of Inorganic substances (water soluble and water insoluble) Identification of inorganic substance [at least 12 substances] as a positive and negative radicals like : Pb^{+2} , Cu^{+2} , Fe^{+2} , Zn^{+2} , Al^{+3} , Ni^{+2} , Mn^{+2} , Ba^{+2} , Sr^{+2} , Ca^{+2} , Mg^{+2} , NH_4^+ , K^+ , Cl^- , Br^- , I^- , NO_3^- , CO_3^{-2} , S^{-2} , PO_4^{-3} (soluble and insoluble), SO_4^{-2} , CrO_4^{-2} , $Cr_2O_7^{-2}$.

Teaching-Learning Methodology	Hands on training, Practical Courses for B. Sc. Chemistry programme are delivered through classroom, laboratory work in a challenging, engaging, and inclusive manner that accommodates a variety of learning styles and tools (PowerPoint presentations, audio visual resources, e-resources, seminars, workshops, models).
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage (%)
1.	Continuous and compression evaluation : Laboratory work Assessment 10 (40%), Viva Voce/Lab Quiz 10 (40%), Attendance 05 (20%). [Total 25 Marks (100%)]	50
2.	Semester End Examination : Laboratory work Assessment 20 (80%), Viva Voce/Lab Quiz 5 (20%). (As per SPU Letter No. E-3/2748 dated 02/02/2024) [Total 25 Marks (100%)].	50

Course Outcomes: Having completed this course, the learner will be able to learn	
1.	About hands on training of analysis of Inorganic substances.
2.	About improvement in practical skills of students.

Suggested References:	
Sr. No.	References
1.	Mendham, J., Denney, R. C., Barnes, J. D., Thomas, M. J. K., <i>Vogel's textbook of quantitative chemical analysis</i> , 6 th Edition.
2.	Pandey, O. P., Bajpai, D. N., Giri, S., <i>Practical Chemistry</i> .
3	Ghoshal, Mahapatra, Nad , <i>An Advanced course in Practical Chemistry</i> .

On-line resources to be used if available as reference material
On-line Resources : Google books, INFLIBNET, Google Web
