SECOND-YEAR OF MASTER OF SCIENCE ANALYTICAL CHEMISTRY REVISED SYLLABUS ACCORDING TO CBCS NEP2020

COURSE TITLE: ANALYTICAL CHEMISTERY PRACTICAL SEMESTER-III W.E.F. 2024-2025

RECOMMENDED BY THE BOARD OF STUDIES IN CHEMISTRY AND APPROVED BY THE ACADEMIC COUNCIL

Devrukh Shikshan Prasarak Mandal's
Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh.
Tal. Sangameshwar, Dist. Ratnagiri-415804, Maharashtra, India

Academic Council Item No:

Name of the Implementing Institute	:	Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh. Tal. Sangameshwar, Dist. Ratnagiri-415804,
Name of the Parent University	:	University of Mumbai
Name of the Programme	:	Master of Science
Name of the Department	:	Chemistry
Name of the Class	:	Second Year
Semester	:	Third
No. of Credits	:	02
Title of the Course	:	Analytical Chemistry Practical
Course Code	:	S604CHP
Name of the Vertical in adherence to NEP 2020	:	Compulsory major
Eligibility for Admission	:	Chemistry Graduate learner seeking Admission to Post Graduate Programme in adherence to Rules and Regulations of the University of Mumbai and Government of Maharashtra
Passing Marks	:	40%
Mode of Assessment	:	Summative at the end of semester
Level	:	PG
Pattern of Marks Distribution for SEE	:	100 %
Status	:	NEP-CBCS
To be implemented from Academic Year	:	2024-2025
Ordinances /Regulations (if any)		

Syllabus for Second Year of Master of Science in Chemistry

(With effect from the academic year 2024-2025)

SEMESTER-III **Paper No.-IV**

Course Title: Analytical Chemistry Practical **No. of Credits - 2**

Type of Vertical: Compulsory Major **Course Code: S604CHP**

Learning Outcomes Based on BLOOM's Taxonomy:

After completing the course, the learner will be able to…		
Course Learning Outcome No.	Blooms Taxonomy	Course Learning Outcome
CLO-01	Remember	Review on basic principles involved in instrument.
CLO-03	Apply	Calculate pKa value , conductance ,absorbance and pH of analyte solution.
CLO-04	Evaluate	Measure fluoride content in toothpaste and percentage purity of drug and methylene blue indicator.

Syllabus for Second Year of Master of Science in Chemistry

(With effect from the academic year 2024-2025)

SEMESTER-III **Paper No.-IV**

Course Title: Analytical Chemistry Practical **No. of Credits - 2**

Type of Vertical: Compulsory Major **Course Code: S604CHP**

COURSE CONTENT			
Module No.	**Content**	**Credits**	**No. of Hours**
1	**Practicals** **GROUP :A** • Determination of the pKa value of an indicator. • Determination of copper and bismuth in mixture by photometric titration. • Estimation of strong acid, weak acid and salt in the given mixture conductometrically. • Analysis of mixture of carbonate and bicarbonate (present in ppm range) using pHmetry. **GROUP : B** • Estimation of drugs by non aqueous titration: Pyridoxine hydrochloride, Sulphamethoxazole.	**1**	**30**
2	• Determination of percentage purity of methylene blue indicator. • Estimation of cholesterol and Uric acid in the given sample of blood serum • Estimation of fluoride in a tooth paste.	**1**	**30**
	Total	**2**	**60**

Access to the Course

The course is available second year students admitted for Master of Science.

Methods of Assessment

Vocational Skill Courses, Skill Enhancement Courses and the courses having laboratory sessions shall be assessed at the end of each semester.

References:

1. Vogel's textbook of quantitative chemical analysis, Sixth Ed. Mendham, Denny, Barnes, Thomas, Pearson education
2. Standard methods of chemical analysis, F. J. Welcher
3. Standard Instrumental methods of Chemical Analysis, F. J. Welcher
4. W. W. Scott "Standard methods of Chemical Analysis", Vol. I, Van Nostrand Company, Inc.,1939.
5. E. B. Sandell and H. Onishi, "Spectrophotometric Determination of Traces of Metals", Part II, 4th Ed., A Wiley Interscience Publication, New York, 1978.