



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

**COURSE TITLE: Industrially Important Materials
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	:	Industrially Important Materials
Course Code	:	S606CHT
Name of the Vertical in adherence to NEP 2020	:	Elective
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	:	Formative
Level	:	PG
Pattern of Marks Distribution for SEE and CIA	:	60:40
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.- V

Course Title: Industrially Important Materials

No. of Credits - 02

Type of Vertical: Elective

Course Code: S606CHT

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	Understand	Classify terms involved in industrial method
CLO-02	Apply	Illustrate petrochemical products and their properties.
CLO-03	Understand	Describe quality parameters and purification process of different type water resources.

Syllabus for Second Year of Master of Science in Chemistry

(With effect from the academic year 2024-2025)

SEMESTER-III

Paper No.- V

Course Title: Industrially Important Materials

No. of Credits - 02

Type of Vertical: Elective

Course Code: S606CHT

COURSE CONTENT			
Module No.	Content	Credits	No. of Hours
1	Unit 1: Industrial Method <ul style="list-style-type: none">• Insecticides, Pesticides: definition, classification of insecticides pesticides. Biodegradation of insecticides and pesticides• Soaps and Detergents: classification and composition, qualitative analysis, quantitative analysis of detergents- alkalinity, active ingredients and oxygen releasing capacity. Biodegradable detergents• Petrochemical products: crude oils, fuels, and calorific values, fractional distillation process and fractions, properties of fuel, composition of fuel, flashpoint, fire point, corrosion test, carbon residue and impact on environment.	01	15
2	Unit 2: Water Quality Standard <ul style="list-style-type: none">• Water: quality and requirements of potable water, direct and indirect pollutants for potable water reservoirs, quality of potable water from natural sources.• Bore well water quality and analytical parameters. Quality of bottled mineral water• Process of purification of bore well water to bottled mineral water.• Regulatory requirements for packaged drinking water.	01	15
Total		2	30

Access to the Course

The course is available for all the students admitted for Master of Science.

Methods of Assessment

The assessment pattern would be 60:40, 60% for Semester End Examination (SEE) and 40% for Continuous Internal Assessment (CIA). The structure of the SEE and CIA would be as recommended by the Board of Studies and approved by the Board of Examination and the Academic Council of the college.

References:

1. Environmental Chemistry, A. K. De, 2nd ED. Wiley (1989).
2. Environmental Pollution Analysis, S. M. Khopkar, John Wiley (1993).
3. Environmental Pollution Analysis, S. M. Khopkar, New Age International publication (2011).
4. Green chemistry An Introductory text, Mzike Lancaster, Royal Society of Chemistry (2002)
5. Pesticide Analysis Ed K. G. Das, Dekker (1981)
6. Analytical, Agricultural Chemistry S. L. Chapra J.S Kanwar Kalyani publication.