



**FIRST-YEAR OF BACHELOR OF SCIENCE
CHEMISTRY OPEN ELECTIVE COURSE
REVISED SYLLABUS ACCORDING TO CBCS
NEP2020**

**COURSE TITLE: CHEMISTRY IN DAILY LIFE
SEMESTER-I
W.E.F. 2023-2024**

**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: 03 dated 08 July 2023

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	:	Bachelor of Science
Name of the Department	:	Chemistry
Name of the Class	:	First Year
Semester	:	First
No. of Credits	:	02
Title of the Course	:	Chemistry in Daily Life
Course Code	:	CHOE101
Name of the Vertical in adherence to NEP 2020	:	Generic/ Open Elective Courses
Eligibility for Admission	:	Any 12 th Pass seeking Admission to Degree Programme in adherence to Rules and Regulations of the University of Mumbai and Government of Maharashtra
Passing Marks	:	40%
Mode of Assessment	:	Formative and Summative
Level	:	UG
Pattern of Marks Distribution for SEE and CIA	:	60:40
Status	:	NEP-CBCS
To be implemented from Academic Year	:	2023-2024
Ordinances /Regulations (if any)		

Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce and Vid. Dadasaheb Pitre Science College, Devrukh (An Autonomous College Affiliated with University of Mumbai)

Syllabus for First Year of Bachelor of Science in Chemistry

(With effect from the academic year 2023-2024)

SEMESTER-I

Course Title: Chemistry in Daily Life

No. of Credits - 02

Type of Vertical: Generic/Open Elective Courses

COURSE CODE: CHOE101

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	describe applications of fuel cells and batteries.
CLO-02	Understand	understand basic terms related to polymers, their structure, application in day today life.
CLO-03	Apply	illustrate chemicals involved in cosmetics.
CLO-04	Analyse	identify differences between thermoplastic and thermosetting polymers.

Syllabus for First Year of Bachelor of Science in Chemistry

(With effect from the academic year 2023-2024)

SEMESTER-I

Course Title: Chemistry in Daily Life

No. of Credits - 02

Type of Vertical: Generic/Open Elective Courses

COURSE CODE: CHOE101

COURSE CONTENT			
Module No.	Content	Credits	No. of Hours
1	<p>POLYMERS</p> <ul style="list-style-type: none"> ○ Macromolecule, Monomer, Repeat unit, degree of polymerization ○ Classification based on source, structure and thermal response. ○ General characteristics and applications of polythene, nylon, polyesters, Bakelite, rubber. Elastomers, Vulcanization. ○ Typical examples of polymers used as plastics, in textiles, in electronic and automobile components, in medical and aerospace materials. ○ Importance of plastics and recycling 	01	15
2	<p>FUELS, CELLS, BATTERIES AND COSMETICS</p> <ul style="list-style-type: none"> ○ Definition and classification of fuels, Characteristics of good fuel, Combustion, Calorific value, wood, coal, petroleum-origin – different fractions, their composition & uses. ○ Natural gas, Biogas & LPG, their composition and uses. ○ Primary Batteries- Zinc carbon and Zinc alkaline and ○ Secondary Batteries- lithium-ion batteries. ○ Ni-Cd ion battery, lead acid battery, Nickel-Metal Hydride Batteries - advantages and limitations. 	01	15
	Total	02	30

Access to the Course

The course is available for all the students admitted for Bachelor of Arts and Commerce faculties.

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. P. Bahadur and N. V. Sastry, Principles of Polymer Science, second edition, Narosa Publishing House, 2005.
2. C. E. Carraher, Jr., Carraher's Polymer Chemistry, 8th edition, CRC Press, New York, 2010.
3. Joel R. Fried, Polymer Science and Technology, Prentice-Hall of India Pvt. Ltd., 2000.
4. V. R. Gowarikar, H.V. Viswanathan and J. Sreedhar, Polymer Science. New Age International Pvt. Ltd., New Delhi, 1990.
5. F. W. Billmeyer Jr., Text Book of Polymer Science, 3rd edition, John Wiley and Sons, 1984.
6. V. K. Ahluwalia & A. Mishra, Polymer Science, A text book, Ane-Books Pvt. Ltd, 2008.
7. R. Sinha, Outline of Polymer Technology manufacture of Polymers, Prenticehall of India Pvt.Ltd. 2000.
8. Saikia, Kaustav; Kakati, Biraj Kumar; Boro, Bibha; Verma, Anil (2018). "Current Advances and Applications of Fuel Cell Technologies". Recent Advancements in Biofuels and Bioenergy Utilization. Singapore: Springer. pp. 303–337. doi:10.1007/978-981-13-1307-3_13. ISBN 978-981-13-1307-3.
9. Khurmi, R. S. (2014). Material Science. S. Chand & Company. ISBN 9788121901468.
10. Schneider, Günther; Gohla, Sven; Schreiber, Jörg; Kaden, Waltraud; Schönrock, Uwe; Schmidt-Lewerkühne, Hartmut; Kuschel, Annegret; Petsitis, Xenia; Pape, Wolfgang (2001). Skin Cosmetics. Ullmann's Encyclopedia of Industrial Chemistry. John Wiley & Sons, Ltd. doi:10.1002/14356007.a24_219. ISBN 978-3-527-30673-2. OCLC 910197915. Archived from the original on 21 February 2022. Retrieved 2022-02-21.
11. Liddell, Henry George and Scott, Robert. Archived 2020-08-03 at the Wayback Machine in A Greek-English Lexicon.