

**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 (Multidisciplinary )	<b>US02MDCHE01</b>	Title of the Course	<b>ENVIRONMENTAL POLLUTION - II</b>
Total Credits of the Course	2	Hours per Week	2

Course Objectives:	To make students familiar with: 1. Chemistry as a subject. 2. Basic concepts related to pollution and its effect on environment.
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Course Content		
Unit	Description	Weightage (%)
1.	<b>Soil Pollution</b> Introduction, Importance and formation of soil, Composition of soil, Salt affected to soil, Sources of soil pollution, Soil erosion and its types, Agents of soil erosion, Mechanism of soil erosion, Factors affecting to soil erosion, Detrimental effects of soil erosion, Measures of soil erosion, Preventing soil erosion, Chemical method of SEWAGE Treatment, Control of soil pollution, Sources using wastes.	<b>50</b>
2.	<b>Radioactive Pollution</b> Introduction, How radioactive pollution differs from other pollution. Types and unit of radiation, Radiation chemistry, Interaction of ionizing radiation with matter, Principal Types of radiation, Chemical change, Effect of ionizing radiation on water and aqueous solution, Effect of radiation on organic compound, Auto radiolysis, Natural sources of radiation, Anthropogenic sources of radiation, Classification and effects of radiation, Effect of ionizing & non-ionizing radiation.	<b>50</b>

Teaching-Learning Methodology	Conventional method (classroom blackboard teaching), ICT. Courses for B. Sc. Chemistry programme are delivered through classroom, laboratory work in a challenging, engaging, and inclusive manner that
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	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 : Class test/Internal written test 10 Marks (40%), Quiz 05 Marks (20%), Home Assignments 05 Marks (20%), Attendance 05 Marks (20%), (As per SPU Letter No. E-3/2748 dated 02/02/2024) [Total 25 Marks (100%)].	50
2.	Semester End Examination [Total 25 Marks (100%)].	50

Course Outcomes: Having completed this course, the learner will be able to	
1.	Gain the knowledge of pollution chemistry using various fundamental aspects of chemical sciences.
2.	Understand types of pollutions and its effect on surrounding environment.
3.	To have knowledge of basic aspects of pollution chemistry.

Suggested References:	
Sr. No.	References
1.	Environmental studies by S.V.S. Rana Second reprint (F. Edi) : 2007.
2.	Environmental Chemistry by B. K. Sharma, H.KAUR, Third revised and enlarged edition -1996-97.

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

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