Payyanur College, Payyanur
(Affiliated to Kannur University)

Programme Outcomes (POs)

BSc DEGREE PROGRAMME (FOR SCIENCE)

PROGRAMME OUTCOMES (PO)

PO1: Critical Thinking and Problem-Solving - Apply critical thinking skills to analyse information and develop effective problem-solving strategies for tackling complex challenges.

PO2: Effective Communication and Social Interaction - Proficiently express ideas and engage in collaborative practices, fostering effective interpersonal connections.

PO3: Holistic Understanding - Demonstrate a multidisciplinary approach by integrating knowledge across various domains for a comprehensive understanding of complex issues.

PO4: Citizenship and Leadership - Exhibit a sense of responsibility, actively contribute to the community, and showcase leadership qualities to shape a just and inclusive society.

PO5: Global Perspective - Develop a broad awareness of global issues and an understanding of diverse perspectives, preparing for active participation in a globalized world.

PO6: Ethics, Integrity and Environmental Sustainability - Uphold high ethical standards in academic and professional endeavours, demonstrating integrity and ethical decision-making. Also acquire an understanding of environmental issues and sustainable practices, promoting responsibility towards ecological well-being.

PO7: Lifelong Learning and Adaptability - Cultivate a commitment to continuous self-directed learning, adapting to evolving challenges, and acquiring knowledge throughout life.

Programme Specific Outcomes (PSOs)

Name of the Programme: **BSc CHEMISTRY**

PROGRAMME SPECIFIC OUTCOMES (PSOs)

PSO1

Demonstrate a comprehensive understanding of the fundamental principles and theories in various domains of chemistry.

PSO2

Develop proficient laboratory skills to use laboratory techniques, equipment, perform experiments, analyze data, and interpret the result.

PSO3

Cultivate critical thinking skills and the ability to apply scientific principles and wisdom to solve complex problems in chemistry and related fields.

PSO4

Recognize and appreciate the interdisciplinary nature of chemistry with biological-physical science, environmental science and materials science.

PSO5

Gain proficiency in advanced concepts, modern technologies and software tools relevant to chemistry, including computational chemistry software, laboratory instrumentation and data analysis tools.

PSO6

Develop awareness on environmental and social impact of chemical processes and recognizes the importance of sustainable methods and green chemistry in various contexts.

PSO7

Develop the ability to conduct independent research and introduce a culture of scientific collaboration with peers in projects and laboratory work along with fostering teamwork and interpersonal skills.

Course Outcomes (COs)

COURSE OUTCOMES (COs)

Sl. No	Name of the Course	Outcomes
DISCIPLINE SPECIFIC COURSES		
1.	**KU1DSCCHE101: FUNDAMENTALS OF CHEMISTRY- I**	**CO1:** Demonstrate a good understanding of the various theories on atomic structure and periodicity in the properties of elements. **CO2:** Apply the acquired knowledge about periodicity to predict and explain the properties of elements. **CO3:** Analyse and apply the rules in representing organic compounds with structural formulae and naming organic compounds **CO4:** Develop skill in solving problems involving stoichiometric calculations **CO5:** Develop skills in practical Chemistry and in using online resources **CO6:** Demonstrate good laboratory practices.
2.	**KU1DSCCHE114: BASIC CONCEPTS IN THEORETICAL AND ENVIRONMENTAL CHEMISTRY**	**CO1:** Develop basic idea regarding atomic structure and atom models. **CO2:** Analyse the periodicity and predict properties of elements. **CO3:** Describe various theories of chemical bonding and explain the structure of simple molecules based on these theories. **CO4:** Comprehensive understanding on the various pollutants causing atmospheric pollution to minimise the global warming and carbon footprint. **CO5:** Acquire proficiency in analytical chemistry techniques and adhereto good laboratory practices, ensuring safety and precision in experimental procedures.
3.	**KU1DSCCHE115: BASICS OF STRUCTURAL &ANALYTICAL CHEMISTRY**	**CO1:** Attain basic information on atomic structure and theories associated with it and understand the periodic properties of elements. **CO2:** Get insight about the concept of chemical bonding and theories to explain bonding in various molecules. **CO3:** Get awareness about various types of molecules including coordination compounds and organic molecules. **CO4:** Acquire proficiency in analytical chemistry techniques, they will also demonstrate knowledge of

		qualitative and quantitative analysis methods and be able to apply them in practical scenarios. **CO5:** To provide practical experience on various titrimetric analysis.