

SANGAM UNIVERSITY, BHILWARA

M.SC. CHEMISTRY

2020-22

Program Educational Objectives (PEOs):

PEO1: To have advance knowledge of chemistry domain.

PEO2: To provide the professional services to industry, Research organization, institutes.

PEO3: To provide the professional consultancy and research support for the relevant organization in the domain of super specialization.

PEO4: To opt for higher education, disciplinary & multi-disciplinary research and to be a life-long learner.

PEO5: To provide, value based and ethical leadership in the professional and social life.

Program Outcomes [PO's]

PO-01. Scientific knowledge: Apply the knowledge of basic science fundamentals to the solution of complex scientific problems.

PO-02: Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.

PO-03: Design/development of solutions: Design solutions for complex scientific problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO-04. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

- PO-05. Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern chemical IT tools including prediction and modeling to complex chemical activities with an understanding of the limitations.
- PO-06. Social Interaction:** Elicit views of others, mediate disagreements and help reach conclusions in group settings.
- PO-07. Environment and Sustainability:** Understand the issues of environmental contexts and sustainable development.
- PO-08. Ethics:** Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them
- PO-09. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO-10: Effective Communication:** Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.
- PO-11. Project management and finance:** Demonstrate scientific knowledge with the understanding of the management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- PO-12 Self-directed and Life-long Learning:** Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

PROGRAM SPECIFIC OUTCOMES [PSO's]

- PSO-1.** Develop knowledge, understanding and expertise in their chosen field of chemical science.
- PSO-2.** Develop an understanding of eco-friendly chemical processes and impact of chemistry on health and environment.
- PSO-3.** Understand theoretical concepts of organic analysis, estimation, separation, derivative process, instruments that are commonly used in most chemistry fields as well as interpret and use data generated in instrumental chemical analyses.
- PSO-4.** Provide opportunities to excel in academics, research or Industry.