



- **Programme Outcome (PO)**

PO 1: Disciplinary knowledge: A graduate student is expected to be capable of demonstrating comprehensive knowledge and understanding both theoretical and practical knowledge in all disciplines of Chemistry. Students can solve their subjective problems very methodically, independently and finally draw a logical conclusion. Further, the student will be capable of applying modern technologies, handling advanced instruments and Chemistry related soft-wares for chemical analysis, characterization of materials and in separation technology.

PO 2: Problem solving: Students will be able to think and apply evidence based comparative chemistry approach to explain chemical synthesis and analysis.

PO 3: Critical thinking: The course curriculum also includes components that can be helpful to graduate students to develop critical thinking and to design, carry out, record and analyze the results of chemical reactions.

PO 4: Research-related skills / Scientific reasoning: Students will demonstrate strong research-related skills by formulating research questions, designing experiments, and employing appropriate methodologies for data collection and analysis. They will exhibit scientific reasoning through critical evaluation of evidence, interpretation of results, and drawing logical conclusions, enabling them to address complex problems and contribute to advancements in their field.

PO 5: Communication Skills: The course curriculum has been designed in such a manner as to enabling a graduate student to become a skilled project manager by acquiring knowledge about chemistry project management, writing, planning, study of ethical standards and rules and regulations pertaining to scientific project operation.

PO 6: Cooperation/Teamwork: The course curriculum has been designed to provide opportunity to act as team player by contributing in laboratory, field based situation and industry.

PO 7: Information/digital literacy: The course curriculum has been so designed to impart a good working knowledge in understanding and carrying out data analysis, use of library search tools, use of chemical simulation software and related computational work.

PO 8: Self-directed learning: Students will demonstrate the ability to independently identify learning needs, set goals, and pursue knowledge using diverse resources. They will reflect on their learning process, adapt strategies as needed, and apply insights to achieve continuous personal and professional growth.

PO 9: Multicultural competence: Students will demonstrate multicultural competence by understanding diverse cultural perspectives, effectively communicating across cultures, and applying inclusive practices in professional settings to promote equity and collaboration.

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PO 10: Moral and ethical awareness/reasoning: As an inhabitant of this green planet a Chemistry graduate student should have many social responsibilities. The course curriculum is designed to teach a Chemistry graduate student to follow the green routes for the synthesis of chemical compounds and also find out new greener routes for sustainable development. The course also helps them to understand the causes of environmental pollution and thereby applying environmental friendly policies instead of environmentally hazard ones in every aspect.

PO 11: Leadership readiness/qualities: Students will demonstrate leadership readiness by effectively communicating a vision, motivating teams, and fostering collaboration. They will exhibit critical thinking, problem-solving abilities, and emotional intelligence, enabling them to navigate challenges and drive positive change in diverse environments. This outcome prepares students for impactful leadership roles in their future careers.

PO 12: Lifelong learning: The course curriculum is designed to inculcate a habit of learning continuously through use of advanced ICT technique and other available e-techniques, e-books and e-journals for personal academic growth.