**INTEGRAL UNIVERSITY, LUCKNOW**
**DEPARTMENT OF CHEMISTRY**
**M.Sc. Industrial Chemistry**

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| **Program Educational Objectives (PEOs)** | **1.** Postgraduate will have significant opportunities in various service domains at national and international level, and can work as scientist, analyst, quality controller, academics, research organizations and set testing labs.<br>**2.** On the basis of specialized knowledge and experience, postgraduate students will be able to do divers synthesis, separation, analysis, computational, design and development of new products.<br>**3.** Post-graduate will have leadership quality to handle all kind of circumstances in diversities by providing interdisciplinary and multidisciplinary learning environment.<br>**4.** Postgraduate will be continuous learner to learn and adopt new skills and techniques to overcome the problem related with new technologies.<br>**5.** Postgraduate will be able to formulate, investigate and analyze scientifically real life problems along with ethical attitude which works in multidisciplinary team. |
| **Program Specific Outcomes (PSOs)** | **1.** Apply principles of pharmaceutical chemistry, medicinal chemistry, analytical chemistry, quantum chemistry, chemical process and laboratory skills for volumetric analysis, synthesis, separation, isolation and formulation.<br>**2.** Work with professional ethics in quality control and quality assurance sections of pharmaceutical, paint, polymers, ceramics, food and agrochemical industries.<br>**3.** Apply knowledge of chemistry to excel in higher studies and field of research.<br>**4.** Application of research skills to pursue doctoral programme.<br>**5.** To be in a noble profession of teaching and helping in nation building. |
| **Program Outcomes (POs)** | **1. Critical thinking:** In depth knowledge of basic and applied area of Chemistry. Capability to demonstrate knowledge and understanding of major chemistry concepts, theoretical principles and experimental findings. Ability to use modern instrumentation techniques with chemical analysis and separable to employ critical thinking and efficient problem solving skills in the basic areas of chemistry (analytical, organic, inorganic, physical and material).<br>**2. Effective Communication-** Excellent communication skills to transmit complex technical information related to chemistry in a clear and concise written and verbal manner as oral presentations and compilation in the form of scientific reports.<br>**3. Social Interaction-** Comprehend to apply contextual multi-disciplinary knowledge to assess societal, health, safety, and cultural issues relevant to the science practices.<br>**4. Effective Citizenship-** Imbibe moral and social values in personal and social life leading to highly cultured and civilized personality.<br>**5. Ethics-:** Students will be able to recognize the ethical component of complex situations. Acquired with awareness of work ethics and ethical issues in scientific research as well as plagiarism policies.<br>**6. Research related skills:** Will develop ability to scale up chemical products and techniques developed at laboratory to the industrial level.The course will take students beyond chemistry knowledge into the world of industrial professionals.<br>**7. Environment and Sustainability-** Advanced knowledge of fundamentals of industrial chemistry with enhanced command over modern scientific methods, techniques and chemical processes equipped with environment safety measures.<br>**8. Self-directed and Lifelong learning-** Students will be capable of self-paced and self-directed learning aimed at personal development and for improving knowledge/skill development. They will keep themselves updated with the best international practices and latest development in technologies, which will help them to gain a broader global perspective of the subject. Develop awareness of the role and importance of industrial chemistry in interdisciplinary research as well as in daily life. |