

## **Programme Overview**

### **M.Sc. (Chemistry)**

Department of Chemistry, Bundelkhand University Jhansi, is well updated M.Sc. Chemistry syllabus as per NEP-2020. It aims to develop young talents for scientific research, chemical industry and education. The curriculum is developed in such a way that the students are able to venture into allied fields as well. Through the courses offered by the department, the department aims to provide "a cut above the rest" man-power for the growing demands of the industry and prepare the students for higher studies and research. The interactive method of teaching in the Department of Chemistry is meant to bring about behavioral change for the future professionals of the industry. Equal importance is given to practical and theoretical methods of learning apart from experiential and digital methods of learning. Industrial projects form an integral part of the curriculum. Apart from the curriculum, the university lays emphasis on value addition programs like Current Affairs, Holistic Education, Certificate Courses and Placement Training Programs which include training the students in group discussions, face to face interviews etc. We have a diverse student population with representation from almost all states in India and abroad. The department is blessed with highly qualified faculty members who come from diverse backgrounds and are involved in cutting edge research in various subject areas as well as in interdisciplinary areas. The curriculum is frequently revised and provides opportunities for projects and joint research with faculty members.

Apart from curricular subjects, the department offers personality development and society-oriented programmes, career guidance, placements, and opportunities to participate in competitions, seminars and conferences. Our commitment to excellence in teaching and research has helped graduate students from the department achieve distinction in academia and industry.

## **Program Outcomes(POs)**

**PO1: Creative Thinking:** Students will be able to think creatively (divergent and convergent) propose new ideas to explain facts and figures or provide new solutions to problems in chemistry. Drawing skills and logical conclusions from observations scientific experiments will also develop.

**PO2: Interdisciplinary Approach:** Students will feel how development takes place in any science. The subject helps in the development of other science subjects and vice versa and how Interdisciplinary approach helps to provide better solutions and new ideas for sustainable Events. as well as knowledge of subjects in other faculties such as humanities, performance arts, social science etc. can have immense and effective influence which motivates to develop New scientific theories and inventions.

**PO3: Personality Development:** Students will imbibe moral, ethical and social values Personal and social life leads to a highly cultured and civilized personality. they will also Realize that the pursuit of knowledge is a lifelong activity and that it is in combination with tireless efforts and positive attitude and other essential qualities lead to a successful life.

**PO4: Skills in Research and Industry:** Scientific temper will be inculcated in students and will be able to learn the skills needed to be successful in the research or industrial sector. besides they will acquire skills in handling, planning and performing scientific equipment in the laboratory Experiment.

**PO5: Communication Skills:** Students will develop various communication skills such as reading, listening, speaking etc., which will help us to express thoughts and ideas clearly and Effectively.

**PO6: Environmental Monitoring:** Students will be able to understand environmental issues will create awareness in global warming, climate change, acid rain, ozone depletion and community.

### **Program Specific Outcomes (PSOs)**

**PSO-1** Students will understand the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevancies in the day-to-day life. They will also be able to acquire knowledge about the fundamentals and applications of chemical and scientific theories.

**PSO-2** Students will find that every branch of science and technology is related to Chemistry. They will develop scientific outlook not only with respect to science subjects but also in all aspects related to life.

**PSO-3** Students will become familiar with the different branches of chemistry like analytical, organic, inorganic, physical, environmental, polymer and biochemistry. They will also learn to apply appropriate techniques for the qualitative and quantitative analysis of chemicals in laboratories and in industries.

**PSO-4** The student will acquire knowledge of Chemical Thermodynamics, Kinetics, Electrochemistry, Atomic Structure, Organic Chemistry, Spectroscopy and Skill in Industrial Chemistry.

**PSO-5** Viewing chemistry as a tool the developing mind and critical attitude and the faculty of logical reasoning that is prepared to serve in diverse fields.

**PSO-6** Students will gain a thorough Knowledge in the subject to be able to work in projects at different research as well as academic institutions