

PROGRAMME NAME

B.Sc. in Chemistry

Programme Outcomes/ Learning Outcomes: (GCU) (Undergraduate)

1. **Disciplinary knowledge:** Capable of demonstrating comprehensive knowledge and coherent understanding of one or more disciplines from the field of Natural Sciences.
2. **Analytical reasoning and thinking:** Ability to apply analytic thoughts to a body of scientific data so as to evaluate scientific evidence and analyze quantitative/qualitative data from a variety of sources to draw valid conclusions.
3. **Problem-solving:** Capacity to extrapolate the acquired knowledge and expertise to solve unfamiliar problems pertaining to real-life situations.
4. **Research-related skills:** Recognise relevant/ appropriate research problems; Ability to recognize cause-and-effect relationships, define problems, formulate and test hypotheses, analyze, interpret, and draw conclusions from data.
5. **Information/digital literacy:** Capability to use ICT in a variety of learning situations; demonstrate the ability to access, evaluate, and use a variety of relevant information sources; and use appropriate software for analysis of data.
6. **Learning how to learn:** Demonstrate the ability to acquire new knowledge and skills, identify appropriate resources, adapt to changes in work processes, and manage a project independently.
7. **Value inculcation:** Demonstrate and uphold moral, constitutional, humanistic, and ethical values so as to become a responsible global citizen capable of contributing towards sustainable development.
8. **Multicultural competence:** Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to effectively engage in a multicultural society and interact respectfully with diverse groups.
9. **Communication Skills:** Demonstrate the ability to listen carefully and express thoughts and ideas effectively through oral and written communications; communicate confidently with diverse groups using appropriate media in a clear and concise manner.
10. **Cooperation/Team work:** Ability to work effectively and respectfully with diverse groups in a cooperative or coordinated manner for a common cause and contribute efficiently towards it.
11. **Leadership qualities:** Ability to demonstrate leadership qualities so as to motivate and steer members of a team/organization in the right direction to achieve aspired goals.
12. **Lifelong learning:** Ability to acquire knowledge and skills that are necessary for participating in learning activities throughout life in the broadest context of science and innovation through self-paced and self-directed learning.

Program Specific Outcomes (PSOs) B.Sc. in Chemistry

The PSOs of the B.Sc. Program in Chemistry are as follows:

PSO1: Acquiring basic and applied knowledge of chemistry in multidisciplinary fields, developing soft skills and critical thinking, effective communication for expanding the knowledge in chemistry with scientific community and common people.

PSO2: Expanding the knowledge of chemistry with digital literacy, reflective thinking maintaining ethical guidelines in every aspect by developing self-directed and lifelong learning.

PSO 3: Professional development through sharing knowledge, collaboration, team-work, setting short-term and long-term goals, project management, and leadership.