M. Sc Chemistry Programmes

PROGRAMME OUTCOMES

PO1: Domain knowledge: Demonstrate knowledge of basic concepts, principles and applications of the specific science discipline.

PO2: Resource Utilisation: Cultivate the skills to acquire and use appropriate learning resources including library, e-learning resources, ICT tools to enhance knowledgebase and stay abreast of recent developments.

PO3: Analytical and Technical Skills: Ability to handle/use appropriate tools/techniques/equipment with an understanding of the standard operating procedures, safety aspects/limitations

PO4: Critical thinking and Problem solving: Identify and critically analyse pertinent problems in the relevant discipline using appropriate tools and techniques as well as approaches to arrive at viable conclusions/solutions

PO5: Project Management: Demonstrate knowledge and scientific understanding to identify research problems, design experiments, use appropriate methodologies, analyse and interpret data and provide solutions. Exhibit organisational skills and the ability to manage time and resources.

PO6: Individual and team work: Exhibit the potential to effectively accomplish tasks independently and as a member or leader in diverse teams, and in multidisciplinary settings.

PO7: Effective Communication: Communicate effectively in spoken and written form as well as through electronic media with the scientific community as well as with society at large. Demonstrate the ability to write dissertations, reports, make effective presentations and documentation.

PO8: Environment and Society: Analyse the impact of scientific and technological advances on the environment and society and the need for sustainable development.

PO9: Ethics: Commitment to professional ethics and responsibilities.

PO10: Life-long learning: Ability to engage in life-long learning in the context of the rapid developments in the discipline.

PROGRAMME SPECIFIC OUTCOMES At the end of the programme, the student will be able to

PSO1: Gains complete knowledge about all fundamental aspects of all branches of chemistry.

PSO2: Understands the basic concepts of organic chemistry like reagents in organic syntheses, stereochemistry, instrumental method of chemical analysis and natural products etc.

PSO3: Identify the importance inorganic chemistry includes coordination chemistry, role of metal ions in biological processes and organometallic chemistry. - 15 –

PSO4: Gathers attention about the physical aspects of molecules like molecular spectroscopy, role of catalysts , polymer chemistry, materials chemistry and biophysical chemistry.

PSO5: Learns about the potential uses of analytical industrial chemistry, medicinal chemistry, and environment oriented chemistry. Apply the various analytical techniques like IR, mass, NMR, NQR, EPR, XRD to structural characterization of unknown compounds.

PSO6: Carry out experiments in the area of organic analysis, estimation, separation derivative process, inorganic semi micro analysis, preparation, conductometric and potentiometric analysis.

PSO7: Obtain knowledge in Spectral, Analytical, Qualitative & Quantitative techniques and contribute new scientific insights or innovative applications of chemical research to the next generation.