

GUIDELINES AND REGULATIONS LEADING TO MASTER OF SCIENCE IN CHEMISTRY (TWO YEARS - SEMESTER SCHEME UNDER CBCS-CAGP)

Programme details

Name of the Department	: PG Department of Chemistry
Subject	: Chemistry
Faculty	: Science
Name of the Programme	: Master of Science (M.Sc.) in Chemistry
Duration of the Programme	: 2 years divided into 4 semesters

Programme Objectives

- To provide the latest subject matter both theory as well as practicals in such a way to foster their core competency and discovery learning. A chemistry postgraduate as envisioned in this framework would be sufficiently competent in the field to understand further discipline specific studies as well as to begin domine related employment.
- To mould a responsible citizen who is aware of most basic domain-independent knowledge including critical thinking and communication.
- Enable the graduate to prepare for national as well as international competitive examinations, especially UGC-CSIR NET and UPSC civil service examinations.

Programme Outcomes

- Students will have a strong foundation in the fundamentals and applications of current theoretical and practical chemistry in Analytical, Inorganic, Organic and Physical Chemistry.
- Students will be able to design and carry out scientific experiments and accurately record and analyze the results of the experiments.
- Students will be skilled in problem solving, critical thinking and analytical reasoning as applied to scientific problems.
- Students will be able to explore new areas of research in both chemistry and allied fields such as Biochemistry, Material Chemistry, Pharmaceutical chemistry and Chemical biology and related technology.
- Students will understand the central role of chemistry to our society which includes understanding of safe handling of chemicals, environmental issues and key issues facing our society in energy, health and medicine.

Programme Specific Outcomes

- Global level research opportunities to pursue Ph.D. programme, targeted approach of CSIR – NET and competitive civil service examinations.
- Enormous job opportunities at all levels of teaching, chemical, pharmaceutical, food products, life oriented material industries.
- Specific placements in R & D and many pharmaceutical & other industries.
- Facile development for the synthesis of biologically significant organic molecules using the green route for chemical reactions for sustainable properties.
- To inculcate the scientific temperament in the students and outside the scientific community.
- Learnt to handle sophisticated equipment for the determination and characterization of chemical compounds.
- Use of the latest chemistry software to avoid the laborious work in research.

Pedagogies used in the programme

- Conventional method such as black board and chalk, and modern methods like power point presentation and information and communications technology (ICT) are used in class room teaching.
- Molecular models are used to teach molecular symmetry, stereochemistry and solid state chemistry topics.
- Each student performs experiments as per the protocol in practical classes.
- For the preparation of new compounds, each student can adopt new experimental setup, and also exposed to different analytical instruments for qualitative and quantitative analyses. In addition to this, students will acquire skill to handle various instruments independently.
- Students will be presenting seminars in each semester.
- Each student will be subjected to viva-voce examinations in every semester.
- Every student will work for project on a small research problem.
- Rigorous training will be giving for every student to interpret spectral data in the respective course including their dissertation.
- Special lectures are delivered by eminent scholars from different intuitions.
- National/International conferences are organized to upgrade the subject knowledge.