

List of Courses having focus on local, national, regional and global developmental needs offered by the M.Sc Chemistry

M.Sc CHEMISTRY						
Programme: M.Sc., Chemistry					Year: 2020-2021 Batch	
Course Code	Course Title	Need				Rationale
		Local	National	Regional	Global	
20PCY101	Inorganic Chemistry –I- Solid state and Nuclear Chemistry	✓	✓	✓	✓	Smart materials/ Competitive examination like, SET/NET/GATE/ JAM/ TNPSC/ novel energy material synthesis
20PCY102	Organic Chemistry – I- Reactions and Mechanisms	✓	✓	✓	✓	New innovative compounds can be synthesized by using the mechanisms like antiviral, anti-cancer drugs
20PCY103	Physical Chemistry –I- Group Theory and Chemical Kinetics	✓	✓	✓	✓	Competitive exams, rate of the reaction are useful for studying the reaction.
20PCY204	Inorganic Chemistry –II-Coordination and Organometallic Chemistry	✓	✓	✓	✓	Anti-cancer drugs, antipyretic and other drugs can be synthesized, biomedical applications
20PCY205	Organic Chemistry- II –Organic Reactions and Stereochemistry	✓	✓	✓	✓	Stereo specific and regio selective drugs can be synthesized, Pharmaceutical importance
20PCY206	Physical Chemistry- II – Quantum and Electrochemistry	✓	✓	✓	✓	Competitive exams/scientific computation of molecular energy / simulation/docking/ molecular modelling studies / energy materials/ corrosion control

20PCY2N1	*Non Major Elective-I Chemistry in day to day life	✓	✓	✓	✓	To control the pollutions and reduction of plastic usage
20PCY207	Inorganic Chemistry Practical –I	✓	✓	✓	✓	New skills are helpful to improve the efficiency and manage time during newer materials preparation.
20PCY208	Organic Chemistry Practical –I	✓		✓	✓	
20PCY209	Physical Chemistry Practical –I	✓	✓	✓	✓	
19PCY310	Organic Chemistry – III	✓	✓	✓	✓	Competitive exams/ preparation of relevant drugs using natural products by semi synthetic path way/isolation of phytochemicals.
19PCY3E1	Major Elective –I * Spectroscopy	✓	✓	✓	✓	* Helpful to characterize the structures of newly prepared inorganic and organic materials.
19PCY3E2	* Applied Electrochemistry					* Helpful to reduction of various pollutants, and increase the efficiency of newer electric/electronic machineries.
19PCY3E3	* Polymer Chemistry					* Synthesizing newer polymeric materials for sustainable environment and various applications.
19PCY311	Physical Chemistry –III	✓		✓	✓	Helpful to know the mechanism of Classical and Statistical Thermodynamics. To apply the knowledge for developing new machineries.
19PCY3E4	Major Elective –II * Green, Nano chemistry and Cyber security	✓	✓	✓	✓	* Greener methods and nanoscale materials can be prepared with enormous energy efficient devices and battery materials, semiconductors, solar cells/ current needs.
19PCY3E5	* Water Pollution and Industrial Effluents treatment.					* Treatment of wastewater leads to recycle and reduction of waste/ environmental consciousness.
19PCY3E6	* Nano technology and Supra molecular					* To increase the efficiency of newer materials

	Chemistry					as prepared
19PCY412	Inorganic Chemistry –III	✓	✓	✓	✓	Competitive exams/ greener synthesis/ medicinal applications/ catalyst/ role metals in biological systems.
19PCY4E7	Major Elective –III * Medicinal Chemistry					* Drugs and their structure activity relationship will help to know the mechanism of action of newer drugs.
19PCY4E8	* Food Science and Technology	✓	✓	✓	✓	* Understanding various methods of food processing, Structure and Composition of food materials
19PCY4E9	* Dye Chemistry					* Synthesizing new dyes for sustainable development and to apply natural pigments in industries.
19PCY413	Physical methods in Chemistry	✓	✓	✓	✓	Useful for characterization of materials/ compounds/separation techniques/ biological activities like Antioxidant, anticancer activities.
19PCY414	Inorganic Chemistry Practical –II	✓	✓	✓	✓	New skills are helpful to improve the efficiency and manage time during newer materials preparation
19PCY415	Organic Chemistry Practical –II	✓	✓	✓	✓	
19PCY416	Physical Chemistry Practical –II	✓	✓	✓	✓	
19PCY417	Project Work & Viva voce	✓	✓	✓	✓	Helps to identify the potential of students as scientist and chemists/ able to develop and design next generation materials for benefit of society.

lc. P-HL

HOD

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HEAD

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