Master of Science (Chemistry)

Program Outcomes (POs)

PO01 Knowledge about Science : Foster learning through accumulation of knowledge in Science : Using research-based knowledge and research methods to provide valid conclusions.

PO02 Identification, Design/ Development of solutions to scientific problems : Apply knowledge of theories and practices of science to identify and solve problems related to science.

PO03 Analytical & Critical thinking : Foster analytical and critical thinking abilities for data-based decision making.

PO04 Ability to analyze the societal problems / issues : Ability to understand, analyze and communicate problems relevant to the society such as agriculture, food, health, environment, water and energy, which are related to science.

PO05 Individual and Team Work : Ability to lead self and others in the achievement of organizational goals, contributing effectively to a team environment and to communicate scientific information to stakeholders, being able to comprehend and write reports, develop documentation, make presentation and to give and receive clear instructions.

PO06 Usage of modern tools and techniques : Ability to adopt various tools for decision making and problem solving

PO07 Value based Leadership : Ability to develop value based leadership.

Program specific outcomes (PSOs)

At the end of the course, the students should be able to :

PSO01 Understand the different concepts associated with subjects of Inorganic, Organic, Physical and Analytical Chemistry.

PSO02 Explain the various theories in subjects associated with Inorganic, Organic, Physical and Analytical Chemistry.

PSO03 Demonstrate practical skills in in subjects associated with Inorganic, Organic, Physical Chemistry investigations.

PSO04 Design and perform experiments in all subjects of Chemistry through critical thinking and reasoning skills learnt in the theory sessions.

PSO05 Gain knowledge related to research work of associated subject though the project work.

PSO06 Communicate the research outcomes to general readership of Chemistry.

PSO07 Construct new related chemistry experiments.

PSO08 Exhibit originality in recognizing, undertaking and solving scientific chemistry problems.

Course Outcomes (COs)

2019-20 Batch

Semester	Course Code	Course Name	Course Outcomes (COs)
I	18MSCH1H01	Inorganic Chemistry–I	**CO1 :** Recall the basic aspects of chemistry including bonding theories and spectroscopic techniques **CO2 :** Understand various qualitative inorganic and organic chemistry experiments
	18MSCH1H02	Organic Chemistry–I	
	18MSCH1H03	Physical Chemistry–I	
	18MSCH1H04	Spectroscopy–I	
II	18MSCH2H01	Inorganic Chemistry–II	**CO1 :** Apply the basic knowledge of chemistry in advanced chemical synthesis and characterizations **CO2 :** Assess the appropriate reaction mechanism and kinetics involved in various chemical reactions
	18MSCH2H02	Organic Chemistry–II	
	18MSCH2H03	Physical Chemistry–II	
	18MSCH2H04	Spectroscopy–II	
III	18MSCH3H01	Inorganic Chemistry–III	**CO1 :** Describe various laws and concepts of inorganic, organic and applied chemistry **CO2 :** Distinguish various synthesis, separation and characterization processes of chemical compounds using laboratory techniques
	18MSCH3H02	Organic Chemistry –III	
IV	18MSCH4H01	Analytical Chemistry	**CO1 :** Prove the originality in recognizing, undertaking and solving scientific chemistry problems **CO2 :** Construct modern chemistry experiments using project centric learning
	18MSCH4H02	Chemistry of Biomolecules	