

Chemistry (Organic Chemistry - By Paper)

Degree Duration: 2 Years (4 Semesters)

Intake Capacity:

<i>Degree</i>	<i>Programme</i>	<i>No. of Seats</i>
<i>Master of Science (M.Sc.) (Organic Chemistry) By Paper</i>	<i>M.Sc. Part - I</i>	20
	<i>M.Sc. Part - II</i>	20

The student post graduating with the Degree M.Sc. Chemistry will acquire core and advanced competency in the subject. Students will be able to understand the basic principle of equipment, instruments used in the organic chemistry laboratory. They will be able to demonstrate the experimental techniques and methods of their area of specialization in Organic Chemistry. The course curriculum also includes components that can be helpful to graduate students to develop critical thinking ability by way of solving problems/numerical using basic and advanced chemistry knowledge and concepts. Appreciate the central role of chemistry in our society and use this as a basis for ethical behaviour in issues facing chemists including an understanding of safe handling of chemicals, environmental issues and key issues facing our society in terms of energy, health, and medicine. The course curriculum is designed to inculcate a habit of learning continuously through use of advanced ICT technique and other available techniques/books/journals for personal academic growth as well as for increasing employability opportunity.

Eligibility:

A Candidate for being eligible for admission to the M.Sc. degree programme must have passed the B.Sc. (Three years integrated Programme) degree Examination in Chemistry of the University of Mumbai with at least six units (i.e., the minimum required for majoring in a subject) or an Examination of another University recognized as equivalent thereto.

(Ref. Circular of University of Mumbai, UG/343 of 2011, Dated October 10, 2011)

Admission will be on merit, based on order of preference as follows:

- 1. Aggregate Marks in B.Sc. Chemistry Semester V (Excluding Applied component)*
- 2. Aggregate Marks in B.Sc. Chemistry Semester VI (Excluding Applied Component)*

(Ref. Circular of University of Mumbai, UG/343 of 2011, Dated October 10, 2011)

M.Sc. Part I (Semester I & II)

Subjects:

Semester I	Semester II		
PSCH 101	Physical Chemistry (Paper I)	PSCH 201	Physical Chemistry (Paper I)
PSCH 102	Inorganic Chemistry (Paper II)	PSCH 202	Inorganic Chemistry (Paper II)
PSCH 103	Organic Chemistry (Paper III)	PSCH 203	Organic Chemistry (Paper III)
PSCH 104	Analytical Chemistry (Paper IV)	PSCH 204	Analytical Chemistry (Paper IV)
Practical		Practical	
PSCHP 101	Physical Chemistry Practical (Paper I)	PSCHP 201	Physical Chemistry Practical (Paper I)
PSCHP 102	Inorganic Chemistry Practical (Paper II)	PSCHP 202	Inorganic Chemistry Practical (Paper II)
PSCHP 103	Organic Chemistry Practical (Paper III)	PSCHP 203	Organic Chemistry Practical (Paper III)
PSCHP 104	Analytical Chemistry Practical (Paper IV)	PSCHP 204	Analytical Chemistry Practical (Paper IV)

M.Sc. Part II (Semester III and IV)**Eligibility**

A learner shall be allowed to keep term for Semester III and IV notwithstanding that he/she may not have appeared for Semester I and/or Semester II Examination/s or failed

in one or more courses at Semester, I and/or Semester II.

Semester III		Semester IV	
Common Course		Common Course	
PSCHO301	Theoretical organic chemistry-I (Paper I)	PSCHO401	Theoretical organic chemistry-II (Paper I)
PSCHO302	Synthetic Organic Chemistry-I (Paper II)	PSCHO402	Synthetic organic chemistry-II (Paper II)
PSCHO303	Natural products and Spectroscopy (Paper III)	PSCHO403	Natural products and heterocyclic chemistry (Paper III)
<i>Elective Course (Any One)</i>		<i>Elective Course (Any One)</i>	
PSCHOEC-I 304	Medicinal, Biogenesis and green chemistry (Paper IV)	PSCHOOC-II 404	Research Methodology (Paper IV)
Practical		Practical	
PSCHO3P1	Separation of a ternary mixture of organic compounds and identification including derivative preparations using micro-scale technique	PSCHO4P1	Two steps preparations (Paper I)
PSCHO3P2	Single step organic preparation (1.0 g scale) involving purification by Steam distillation / Vacuum distillation or Column chromatography	PSCHO4P2	I – Combined spectral Identification II – Project Evaluation

Chemistry (Organic/Analytical Chemistry - By Research)

Intake Capacity :

<i>Degree</i>	<i>Programme</i>	<i>No. of Seats</i>
<i>Master of Science (M.Sc.) (Chemistry) By Research</i>	<i>Organic Chemistry</i>	03
	<i>Analytical Chemistry</i>	03

Eligibility

A Candidate for being eligible for admission to the M.Sc. degree programme must have passed the B.Sc. (Three years integrated programme) degree Examination in Chemistry of the University of Mumbai with at least seven units (i.e. the minimum required for majoring in a subject) or an Examination of another University recognized as equivalent thereto.

(Ref. Circular of University of Mumbai, UG/343 of 2011, Dated October 10, 2011)

Career Options After MSc Chemistry

Almost all industries use chemicals in everything directly or indirectly, like in pharmaceuticals, electronic products, construction, textiles and even in food products. This creates an excellent career opportunity for chemical science postgraduates as they have vast and in-depth knowledge about the different types of chemicals, their compositions after pursuing M.Sc. Chemistry Course.

The learners deeply understand the manufacturing processes, mechanism for synthesis & structural determination of chemical compounds. The research laboratories, industries (mainly chemical & pharmaceutical), colleges as well as universities are the three major sectors where they recruit chemical postgraduates.

A sea of career options, starting from industry, government to academic, are available for Chemistry postgraduates. -

1. Research Associate
2. Research Analyst
3. Research scientist
4. Research Scholar
5. Project Associate
6. Material Scientist
7. Pharmaceutical Sales Executive
8. Pharmacologist
9. Forensic Scientist
10. Analytical Chemist
11. Assistant Professor

HAPPY LEARNING

P.G. CO-ORDINATOR