

## (2) MASTER OF SCIENCE IN CHEMISTRY. (M.SC. IN CHEMISTRY)

### Structure and Brief Syllabi

**Objective:** - Chemistry is truly the "central science". It is the science of the molecular scale, and it is at the molecular level where major advances are being made in many diverse areas such as medicine, drugs, nanotechnology, new materials, and the environment. A sound knowledge of chemistry is required to fully understand most other areas of science, and this is why the study of chemistry is so important.

Chemistry opens the door for many careers because training in chemistry is essential for many positions in industry, is highly desirable for science teaching, and is useful for careers in the public service and management. Both the public and the private sectors increasingly draw their higher management echelons from chemistry graduates or Post Graduates.

**Eligibility Criteria for Admission:** – Graduate in Chemistry.

**Scheme of Examination-** M.Sc. in Chemistry is of two years duration divided into Part-I and Part-II, each Part consisting of eight papers. Each paper carries 100 marks, divided into term end theoretical written examination and home assignment /practical work in a ratio of 80:20. Failure in one paper will mean failure in that Part of the examination. Hence, students must strive to pass in all the papers. It is necessary to pass Part-I of the examination before a student can be promoted to Part-II. In order to pass each part of the examination, it is, now, compulsory for every student, to secure atleast 33% of marks in each paper. To determine 33% of marks in each paper, the marks obtained by the candidate, both in the term end theoretical written examination and the practical examination/home assignment, as the case may be, will be clubbed and counted together and percentage determined accordingly. However, if a candidate has failed to appear or secured zero mark in term end theoretical examination or practical examination/home assignment, as the case may be, in any paper, he/she will be deemed to have failed in that paper and the part. The abstract of the syllabus of M.Sc. in Chemistry course is as below

Paper	Title of the paper	Distribution of Marks between Theory and Assignment/ Practical			Minimum Marks required to pass the examination(written exam.+ practical/ Assignment)
		Written exam	Assignment	Practical	
<b>PART-I</b>					
1.	Physical Chemistry	80		20	33
2	Inorganic Chemistry	80		20	33
3	Organic Chemistry	80		20	33
4	Solid State Chemistry & Quantum Chemistry	80	20		33
5	Co-ordination Chemistry	80		20	33
6	Chemistry of Biomolecules	80	20		33
7	Reaction Mechanism and Supramolecular Chemistry	80	20		33
8	Natural Product	80	20		33
<b>Total</b>		<b>640</b>	<b>80</b>	<b>80</b>	<b>264</b>
<b>PART-II</b>					
9	Spectroscopy	80	20	-	33
10	Advanced Chemical Dynamics	80	20	-	33
11	Molecular Thermodynamics	80	20	-	33
12	Ligand Field Theory	80	-	20	33
13	Organotransition Metal Chemistry and Metal Clusters	80	-	20	33
14	Photochemistry and Pericyclic reactions	80	20		33
15	Organic Synthesis	80	-	20	33
16	Environmental Chemistry and Analytical Chemistry	80	-	20	33
<b>Total</b>		<b>640</b>	<b>80</b>	<b>80</b>	<b>264</b>