

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI.



Scheme of Teaching and Examinations and Syllabus
M.Sc. in Chemistry
(**Specialisation:** Analytical Chemistry / Organic Chemistry)(MSC)
(Effective from the Academic year 2024-25)

M.Sc. in Chemistry

(Specialization: Analytical Chemistry / Organic Chemistry)

Choice Based Credit System (CBCS) and Outcome-Based Education(OBE)

I SEMESTER

Sl. No	Course	Course Code	Course Title	Teaching Hours per Week			Examination				Credits
				Theory	Practical/ Seminar	Tutorial/ Skill Development Activities	Duration in hours	CIE Marks	SEE Marks	Total Marks	
				L	P	T/SDA					
1	HCC	MSC101	Fundamental Concepts of Analytical Chemistry	02	00	02	03	50	50	100	3
2	HCC	MSC102	Concepts of Inorganic Chemistry	02	00	02	03	50	50	100	3
3	HCC	MSC103	Stereochemistry and Organic Reaction Mechanisms	02	00	02	03	50	50	100	3
4	HCC	MSC104	Thermodynamics, Kinetics, Photo and Quantum chemistry	02	00	02	03	50	50	100	3
5	SCP	MSCL105	Inorganic Chemistry Practical	01	06	00	03	50	50	100	4
6	SCP	MSCL106	Physical Chemistry Practical	01	06	00	03	50	50	100	4
7	AUD/AEC	MSC157x	Online Course	Classes and evaluation procedures are as per the policy of the online course providers.							PP
TOTAL				10	12	08	18	300	300	600	20

Note: HCC-Hard Core Courses, SCC: Soft Core Courses. SCP-Soft Core Practical, MCC- Mandatory Credit Course, AUD/AEC –Audit Course / Ability Enhancement Course(A pass in AUD/AEC is mandatory for the award of the degree),

L-Lecture, P-Practical, T/SDA-Tutorial / Skill Development Activities(Hours are for Interaction between faculty and students)

II SEMESTER

Sl. No	Course	Course Code	Course Title	Teaching Hours per Week			Examination				Credits
				Theory	Practical/ Seminar	Tutorial/ Skill Development Activities	Duration in hours	CIE Marks	SEE Marks	Total Marks	
				L	P	T/SDA					
1	HCC	MSC201	Titrimetric and Applied Analysis	02	00	02	03	50	50	100	3
2	HCC	MSC202	Coordination and Organometallic Chemistry	02	00	02	03	50	50	100	3
3	HCC	MSC203	Synthetic Organic and Bioorganic Chemistry	02	00	02	03	50	50	100	3
4	HCC	MSC204	Principles of Physical and Surface Chemistry	02	00	02	03	50	50	100	3
5	SCP	MSCL205	Analytical Chemistry Practical	01	06	00	03	50	50	100	4
6	SCP	MSCL206	Organic Chemistry Practical	01	06	00	03	50	50	100	4
7	AUD/AEC	MSC257	Research Methodology and IPR	Classes and evaluation procedures are as per the policy of the online course providers.							PP
TOTAL				10	12	08	18	300	300	600	20

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III SEMESTER												
Sl. No	Course	Course Code	Course Title	Teaching Hours per Week			Examination				Credits	
				Theory	Practical/Seminar	Tutorial/Skill Development Activities	Duration in hours	CIE Marks	SEE Marks	Total Marks		
												L
1	HCC	MSC301	Molecular Symmetry and Spectroscopy	02	00	02	03	50	50	100	3	
2	HCC	MSC302	NMR and Mass spectroscopy	02	00	02	03	50	50	100	3	
3	HCC	MSC303	Solid State and Electrochemistry	02	00	02	03	50	50	100	3	
4	MCC	MSC304	Nanoscience and Applications	02	00	02	03	50	50	100	3	
5	SCC	MSCL315x	Specialisation Practical - I	01	06	00	03	50	50	100	4	
6	SCP	MSC316x	Specialisation Practical - II	01	06	00	03	50	50	100	4	
8	Industry Visit	MSC387	Industrial/Study/Technical Tour and Report	Students have to undergo mandatory Industrial/Study/Technical Tour and report to be submitted to the Department during III or IV semester							PP	
TOTAL				13	12	08	18	350	350	700	20	

Student has to opt for one specialisation (Analytical/Organic) during III Semester and continue the same in IV semester

Analytical Chemistry Specialisation		Organic Chemistry Specialisation	
MSC315A	Analytical Chemistry Practical - I	MSC315B	Organic Chemistry Practical - I
MSC316A	Analytical Chemistry Practical - II	MSC316B	Organic Chemistry Practical - II

IV SEMESTER

Sl. No	Course	Course Code	Course Title	Teaching Hours per Week			Examination				Credits
				Theory	Practical/ Seminar	Tutorial/ Skill Development Activities	Duration in hours	CIE Marks	SEE Marks	Total Marks	
				L	P	T/SDA					
1	SCC	MSC411	Specialisation Core Paper - I	03	00	00	03	50	50	100	3
2	SCC	MSC412	Specialisation Core Paper - II	03	00	00	03	50	50	100	3
3	SCC	MSC413	Specialisation Core Paper - III	03	00	00	03	50	50	100	3
4	SCP	MSC414	Specialisation Practical - III	01	06	00	03	50	50	100	4
5	Project	MSC485	Project	00	14	00	03	100	100	200	7
TOTAL				10	20	00	12	250	250	500	20

Student has to choose all courses in one specialisation chosen in III Semester

Analytical Chemistry Specialisation		Organic Chemistry Specialisation	
MSC411A	Advanced Analytical Chemistry	MSC411O	Advanced Organic Chemistry
MSC412A	Environmental and Pharmaceutical Analytical Chemistry	MSC412O	Advanced Medicinal and Bioorganic Chemistry
MSC413A	Industrial Analytical Chemistry	MSC413O	Chemistry of Natural Products
MSC414A	Analytical Chemistry Practical - III	MSC414O	Organic Chemistry Practical - III

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