

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI.



Scheme of Teaching and Examinations and Syllabus
M.Sc. in Chemistry
(**Specialisation:** Forensics / Nano / Pharmaceutical Chemistry)
(Effective from the Academic year 2023-24)

@#02112023

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

Scheme of Teaching and Examinations – 2023

M.Sc. in Chemistry

(Specialization: Forensics / Nano / Pharmaceutical 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	22MSC11	Concepts of Organic Chemistry	03	00	02	03	50	50	100	4
2	HCC	22MSC12	Concepts of Inorganic Chemistry	03	00	02	03	50	50	100	4
3	HCC	22MSC13	Kinetics, Photochemistry and Catalysis	03	00	02	03	50	50	100	4
4	SCC	22MSC14	Principles of Quantum Mechanics	02	00	00	03	50	50	100	2
5	SCC	22MSC15	Solid State Chemistry	02	00	00	03	50	50	100	2
6	MCC	22MSC16	Research Methodology and IPR	02	00	00	03	50	50	100	2
7	SCP	22MSC17	Inorganic Chemistry Practicals	00	06	00	03	50	50	100	3
8	AUD/AEC	22MSC18	Online Course	Classes and evaluation procedures are as per the policy of the online course providers.							PP
TOTAL				15	06	06	21	350	350	700	21

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	22MSC21	Mechanism of Organic Reactions	03	00	02	03	50	50	100	4
2	HCC	22MSC22	Chemical Thermodynamics	03	00	02	03	50	50	100	4
3	HCC	22MSC23	Electrochemistry	03	00	02	03	50	50	100	4
4	SCC	22MSC24	Introduction to Nanoscience	02	00	00	03	50	50	100	2
5	SCC	22MSC25	Molecular Spectroscopy	02	00	00	03	50	50	100	2
6	SCP	22MSC27	Physical Chemistry Practical	00	06	00	03	50	50	100	3
7	AUD/AEC	22MSC28	Online Course	Classes and evaluation procedures are as per the policy of the online course providers.							PP
TOTAL				13	06	06	18	300	300	600	19

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	P	T/SDA					
1	HCC	22MSC31	Advanced Organic Chemistry	03	00	02	03	50	50	100	4
2	HCC	22MSC32	Advanced Analytical Techniques	03	00	02	03	50	50	100	4
3	HCC	22MSC33	Advanced Inorganic Techniques	03	00	02	03	50	50	100	4
4	MCC	22MSC34	Mini Project with Seminar	00	06	00	--	100	--	100	3
5	OEC	22MSC35	Open Elective	02	00	00	03	50	50	100	2
6	SCP	22MSC36	Organic Chemistry Practical	00	06	00	03	50	50	100	3
7	SCC	22MSCXY	Elective - I	03	00	00	03	50	50	100	3
TOTAL				14	12	06	18	400	300	700	23

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	22MSCXY	Elective - II	03	00	00	03	50	50	100	3
2	SCC	22MSCXY	Elective - III	03	00	00	03	50	50	100	3
3	SCC	22MSCXY	Elective - IV	03	00	00	03	50	50	100	3
4	Project	22MSC42	Project	00	16	00	03	100	100	200	8
TOTAL				09	16	00	12	250	250	500	17

Student has to choose all electives in one specialisation

ELECTIVES					
Forensics Chemistry		Nano Chemistry		Pharmaceutical Chemistry	
22MSCF1	Forensic Science and Law	22MSCN1	Synthesis and Properties of Nanomaterials	22MSCP1	Medical Biochemistry and Immunology
22MSCF2	Chemistry and Analysis of Natural Products	22MSCN2	Characterisation of Nanomaterials	22MSCP2	Pharmacological Screening Assays and Pharmacodynamics
22MSCF3	Forensic Drug Analysis	22MSCN3	Nanostructured Materials and Processing	22MSCP3	Medicinal Chemistry of Natural Products
22MSCF4	Analytical Forensic Toxicology	22MSCN4	Carbon Nanostructures & Functionalization	22MSCP4	Drug Design and Development
22MSCF5	Advanced Forensic Chemistry	22MSCN5	Organic and Inorganic Nanomaterials	22MSCP5	Chemistry of Drug Action
22MSCF6	Elements of Forensic Chemistry and Toxicology	22MSCN6	Application of Nanomaterials and technology	22MSCP6	Nanomaterials in Drug Discovery

Note: HCC-Hard Core Courses, SCC: Soft Core Courses. SCP-Soft Core Practicals, 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)