

**Ahmednagar Jilha Maratha Vidya Prasarak Samaj's
New Arts, Commerce, and Science College, Ahmednagar
(Autonomous)
(Affiliated to Savitribai Phule Pune University, Pune)**



**National Education Policy (NEP)
Choice Based Credit System (CBCS)**

**Programme Skeleton and Syllabus of
M.Sc. Chemistry**

Implemented from

Academic Year 2023-24

9.2 Distribution of credits

Type of Courses	Total Credits	Credits/ Semester
Discipline-Specific Core Courses (DSC)	54	14 /12
Discipline Specific Elective Courses (DSE)	16	04
Research Methodology (RM)	04	Semester I only
On-Job Training/ Internship (OJT/I)	04	Semester II only
Project (PR)	10	Semesters III and IV only
Total	88	22

9.3 Master of Science (M.Sc.) Course Distribution

Class	Semester	Subjects	Courses	DSC		DSE		RM/OJT / Internship etc.		Project *	Total Credits
				T	P	T	P	T	P		
M. Sc. I	I	01	09	03	03	01	01	01*		00	22
M. Sc. I	II	01	09	03	03	01	01	00	01	00	22
M. Sc. II	III	01	07	02	02	01	01	00	00	01	22
M. Sc. II	IV	01	07	02	02	01	01	00	00	01	22

* RM: Theory and Practical credits in RM paper shall be decided by the Department. The final marks/grade point shall be calculated by considering theory and practical marks.

9.4 Master of Science (M. Sc.) Credit Distribution

Class	Semester	Subjects	Courses	DSC		DSE		RM/OJT / Internship etc.		Project *	Total Credits
				T	P	T	P	T	P		
M. Sc. I	I	01	09	08	06	02	02	04*		00	22
M. Sc. I	II	01	09	08	06	02	02	00	04	00	22
Exit Option: PG Diploma											
M. Sc. II	III	01	07	08	06	02	02	00	00	04	22
M. Sc. II	IV	01	07	08	04	02	02	00	00	06	22
				32	20	08	08	02	06	12	88

9.5 Master of Science (M. Sc.) Distribution of Courses

Class	Semester	Course and their credits in the bracket			
		DSC	DSE	RM/OJT/ Internship etc.	Project *
M. Sc. I	I	DSC -01 (03)	DSE -01 (02)	RM-01(04)	NA
M. Sc. I	I	DSC -02 (03)	DSE -02 (02)		
M. Sc. I	I	DSC -03 (02)			
M. Sc. I	I	DSC -04 (02)			
M. Sc. I	I	DSC -05 (02)			
M. Sc. I	I	DSC -06 (02)			
M. Sc. I	II	DSC -07 (03)	DSE -03 (02)	OJT-01 (04)	NA
M. Sc. I	II	DSC -08 (03)	DSE -04 (02)		
M. Sc. I	II	DSC -09 (02)			
M. Sc. I	II	DSC -10 (02)			
M. Sc. I	II	DSC -11 (02)			
M. Sc. I	II	DSC -12 (02)			
M. Sc. II	III	DSC -13 (04)	DSE -05 (02)	NA	PR-01(04)
M. Sc. II	III	DSC -14 (04)	DSE -06 (02)		
M. Sc. II	III	DSC -15 (03)			
M. Sc. II	III	DSC -16 (03)			
M. Sc. II	IV	DSC -17 (04)	DSE -05 (02)	NA	PR-02(06)
M. Sc. II	IV	DSC -18(04)	DSE -06 (02)		
M. Sc. II	IV	DSC -19 (02)			
M. Sc. II	IV	DSC -20 (02)			

Programme Framework (Courses and Credits): M. Sc. Chemistry

Programme Framework (Courses and Credits): M. Sc. Medicinal Chemistry

Sr. No.	Year	Semester	Level	Course Type	Course Code	Title	Credits
1.	I	I	6.0	DSC-01	MS-MC111T	Organic Chemistry I	03
2.	I	I	6.0	DSC-02	MS-MC112T	Biochemical Basis of Medicinal Chemistry	03
3.	I	I	6.0	DSC-03	MS-MC113T	Chemical Mathematics and Quantum Mechanics	02
4.	I	I	6.0	DSC-04	MS-MC114P	Organic Chemistry Practical I	02
5.	I	I	6.0	DSC-05	MS-MC115P	Biochemistry Practical I	02
6.	I	I	6.0	DSC-06	MS-MC116P	Physical Chemistry Practical	02
7.	I	I	6.0	DSE-01	MS-MC117T	Introduction to Coordination Chemistry and Nanotechnology OR Organometallic and Inorganic Reaction Mechanism	02
8.	I	I	6.0	DSE-02	MS-MC118P	Inorganic Chemistry Practical I OR Pharmaceutical Analysis	02

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9.	I	I	6.0	RM-01	MS-MC119T/P	Research Methodology	04
10.	I	II	6.0	DSC-07	MS-MC121T	Organic Chemistry II	03
11.	I	II	6.0	DSC-08	MS-MC122T	Medical Biochemistry and Immunology	03
12.	I	II	6.0	DSC-09	MS-MC123T	Drug Discovery and Development	02
13.	I	II	6.0	DSC-10	MS-MC124P	Organic Chemistry Practical II	02
15	I	II	6.0	DSC-11	MS-MC125P	Biochemistry Practical II	02
16	I	II	6.0	DSC-12	MS-MC126P	Analysis of Medicinal Compounds	02
17	I	II	6.0	DSE-03	MS-MC127T	Biological and Medicinal Inorganic Chemistry OR Point Group Theory of Elements	02
18	I	II	6.0	DSE-04	MS-MC128P	Inorganic Chemistry Practical II OR	02

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						Analysis and Interpretation of Spectra	
19	I	II	6.0	OJT-01	MS-MC129P	On Job Training	04
20	II	III	6.5	DSC-13	MS-MC131T	Spectroscopic Methods in Structure Determination	04
21	II	III	6.5	DSC-14	MS-MC132T	Medicinal Chemistry	04
22	II	III	6.5	DSC-15	MS-MC133P	Drug Intermediate Synthesis	03
23	II	III	6.5	DSC-16	MS-MC134P	Bioinformatics Practical	03
24	II	III	6.5	DSE-05	MS-MC135T	Stereochemistry OR Carbohydrate Chemistry	02
25	II	III	6.5	DSE-06	MS-MC136T	Bioinformatics OR Computer Aided Drug Development	02
26	II	III	6.5	PR-01	MS-MC137P	Project	04
27	II	IV	6.5	DSC-17	MS-MC141T	Drug Design	04
28	II	I V	6.5	DSC-18	MS-MC142T	Advanced Synthetic Methods	04
29	II	I V	6.5	DSC-19	MS-MC143P	Drug Intermediate Synthesis	0 2
30	II	I V	6.5	DSC-20	MS-MC144P	Isolation and	02

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						Characterizations of Secondary Metabolites	
31	II	I V	6.5	DSE-07	MS- MC145T	Origin of Secondary Metabolic Drugs in Plants and Pharmacokinetics OR Biophysical Techniques	0 2
32	II	I V	6.5	DSE-08	MS- MC146T	Fundamentals of Chiral Drug Synthesis OR Pharmaceutical Analytical Techniques	02
33	II	I V	6.5	PR-02	MS- MC147P	Project	06