



Progressive Education Society's Modern College of Arts, Science and Commerce, Ganeshkhind, Pune-411016  
(Autonomous)

**Progressive Education Society's**  
**Modern College of Arts, Science and Commerce,**  
**Ganeshkhind, Pune-411016 India**  
**(Autonomous)**  
**(Affiliated to Savitribai Phule Pune University)**

**DBT STAR Status**

**NAAC accredited A Grade**



**M.Sc. Organic Chemistry**

**A Two Year Degree Program in Chemistry**

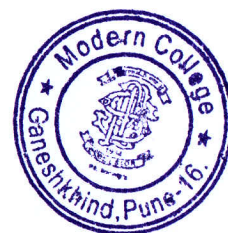
**Choice Based Credit System (CBCS)**

**from**

**Academic Year 2022-23**

**Board of Studies Chemistry**

**Department of Chemistry**





## Preamble

The syllabus of Chemistry for First year has been redesigned for Choice based Credit System (CBCS) to be implemented from 2022-2023. In CBCS pattern, semester system has been adopted for M.Sc. which includes Core Compulsory Theory Paper (CCTP), Choice Based Optional Paper (CBOP) and Core Compulsory Practical Paper (CCPP). CCTP is core courses 4 credits each. CBOP means elective course. For the award of degree, the students need to earn the compulsory subject credits and mandatory extra credits.

Syllabus for M. Sc.-1 is to be implemented from the year 2022-2023.

Syllabus for M.Sc.-2 will be implemented from the year 2023-24.

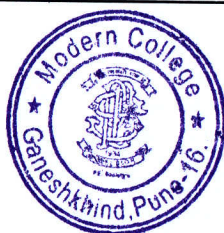




## M.Sc. Organic Chemistry Programme Structure 2022 Pattern

### M.Sc.-1 Organic Chemistry

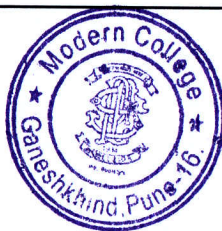
M.Sc. Organic Chemistry, Semester I		
Course Code	Course Name	Credit
22-CCTP-1	<b>Physical Chemistry-I</b> (Thermodynamics, Quantum Chemistry and Chemical Kinetics)	4
22-CCTP-2	<b>Inorganic Chemistry-I</b> (Molecular Symmetry and Chemistry of Main Group Elements)	4
22-CCTP-3	<b>Organic Chemistry-I</b> (Basic Organic Chemistry)	4
22-CBOP-1	<b>General Chemistry-I</b> <b>Section-I:, Theory Course (Any one option)</b> <b>Option A:</b> Mathematics for Chemists <b>Option B:</b> Chemical Biology-1	2
	<b>Section –II:</b> Inorganic Chemistry Practical-1	2
22-CCPP-1	<b>Section - I :</b> Physical Chemistry Practical-1	2
	<b>Section - II</b> Organic Chemistry Practical-1	2
<b>Mandatory Extra Credit Courses</b>		
22-HRE-1	Human Rights Education-I	1
22-CS-1	Cyber Security-Module I	1







<b>M.Sc. Organic Chemistry ,Semester II</b>		
<b>Course Code</b>	<b>Course Name</b>	<b>Credit</b>
22-CCTP-4	<b>Physical Chemistry-II</b> (Molecular Spectroscopy, Nuclear and Radiation Chemistry)	4
22-CCTP-5	<b>Inorganic Chemistry-II</b> (Coordination and Bioinorganic Chemistry)	4
22-CCTP-6	<b>Organic Chemistry-II</b> (Photochemistry, Pericyclic and Organic Chemistry)	4
22-CBOP-2	<b>General Chemistry-II</b> <b>Section-I:, Theory Course (Any one option)</b> <b>Option A:</b> Advanced Analytical Techniques <b>Option B:</b> Chemical Biology-2	2
	<b>Section –II:</b> Physical Chemistry Practical-2	2
22-CCPP-2	<b>Section - I:</b> Inorganic Chemistry Practical-2	2
	<b>Section – II:</b> Organic Chemistry Practical-2	2
<b>Mandatory Extra Credit Courses</b>		
22-HRE-2	Human Rights Education-II	1
22-CS-2	Cyber Security-Module II	1
<b>Total Subject Course Credits for the M.Sc. -I</b>		<b>40</b>





## M.Sc. II Organic Chemistry

Semester III		
Course Code	Course Name	Credit
23-CCTP-7	Organic Reaction Mechanism and Pericyclic reactions	4
23-CCTP-8	Spectroscopic Methods of Structure Determination	4
23-CCTP-9	Organic Stereochemistry and Asymmetric Synthesis	4
23-CBOP-3	<b>Section-I: Theory Course (Any one option)</b> <b>Option A:</b> Protection - De-protection, Chiron approach and Carbohydrate Chemistry <b>Option B:</b> Designing Organic Syntheses and Heterocyclic Chemistry	4
23-CCPP-3	<b>Practical Course –I:</b> Ternary Mixture Separation and Isolation of Natural products	4
Mandatory Extra Credit Courses		
23-CONST-1	Introduction to Constitution	2
23-CS-3	Cyber security- Module III	1
23-SKILL-1	Compulsory Credit Skill Based Course	2
Semester IV		
Course Code	Course Name	Credit
23-CCTP-10	Chemistry of Natural Products	4
23-CCTP-11	Organometallic Reagents in Organic Synthesis	4
23-CBOP-4	<b>Any one option</b> <b>Option-A:</b> Medicinal Chemistry <b>Option-B:</b> Applied Organic Chemistry	4
23-CBOP-5	<b>Practical Course –II: (Any two options)</b> <b>Option-A:</b> Solvent Free Organic synthesis <b>Option B:</b> Multistep Synthesis <b>Option C:</b> Project / Industrial Training/ Internships/ Summer Project	4
23-CCPP-4	<b>Practical Course –III:</b> Convergent and Divergent Organic Syntheses	4
Mandatory Extra Credit Courses		
23-CS-4	Cyber Security Module IV	1
23-SKILL-2	Compulsory Credit Skill Based Course	2
<b>Total Subject Course credits for the M.Sc. -II</b>		<b>40</b>







## Evaluation Pattern (As per 2019 Pattern CBCS rules of SPPU)

1. One credit is equivalent to 15 hours and evaluated for 25 marks.
2. Each course will be evaluated with Continuous Internal Assessment (CIA) and External Assessment (EX) mechanism.
3. Continuous Internal Assessment shall be of 30% while External Evaluation shall be of 70%.
4. To pass each course, a student has to secure minimum 40% separately in continuous assessment as well as in External Assessment.
5. Method of assessment for CIA will be based on the combination of any of the following written tests, seminars, surprise tests, open book tests, Multiple Choice Questions, Viva-Voce, Project, survey, field visits, assignments, group discussion, etc. (on approval of the Head of the Centre).
6. External Assessment Question Paper is based on the entire syllabus.

Chairman  
BoS Chemistry

