B. Sc+M.Sc Integrated Chemistry- 5 year {Session: 2024-2029}

Semester-Wise Programme structure

Sr. No.	Year 1		Year 2		Year 3		Year 4			Year 5			
								Without Research	With Research	Without Research	With Research	Without Research	With Research
	Sem 1	**Sem 2**	**Sem 3**	**Sem 4**	**Sem 5**	**Sem 6**	**Sem 7**	**Sem 8 (Hons.)**	**Sem 8 (Hons. With Research)**	**Sem 9 (Hons.)**	**Sem 9 (Hons. With Research)**	**Sem 10 (Hons.)**	**Sem 10 (Hons. With Research)**
1	Organic Chemistry-I (Introduction to organic chemistry) [CU:4, L-4, P-0] {MCC}	Physical chemistry-I (States of Matter and Ionic equilibrium) [CU:4, L-4, P-0] {MCC}	Organic Chemistry-II (Funtional groups-I) [CU:4, L-4, P-0] {MCC}	Physical chemistry-II (Thermodynamics and Chemical Equilibrium) [CU:6, L-4, P-2] {MCC}	Physical chemistry-III (Phase Equilibria and Chemical Kinetcis) [CU:6, L-4, P-2] {MCC}	Inorganic Chemistry-IV (d- and f-block elements) [CU:6, L-4, P-2] {MCC} {MCC}	Physical chemistry-V (Quantum Chemistry and Photochemistry) [CU:4, L-3, P-1] {MCC}	Computational Chemistry-III [CU:4, L-3, P-1] {MCC}	Computational Chemistry-III [CU:4, L-3, P-1] {MCC}	Computational Chemistry-IV [CU:4, L-3, P-1] {MCC}	Computational Chemistry-IV [CU:4, L-3, P-1] {MCC}	Computational Tools in CHemistry [CU:4, L-3, P-1] {MCC}	Biomolecular Learning and Data Science [CU:4, L-3, P-1] {MCC}
2	Inorganic Chemistry-I (Atomic structure and chemical bonding) [CU:4, L-3, P-1] {MCC}	Computational Chemistry-I (Basics of Computational Chemistry) [CU:4, L-3, P-1] {MCC}	Computational Chemistry-II (Computational methods in Chemistry) [CU:4, L-3, P-1] {MCC}	Inorganic Chemistry-II (s- and p-block elements) [CU:6, L-4, P-2] {MCC}	Organic Chemistry-III (Funtional groups-II) [CU:6, L-4, P-2] {MCC}	Physical chemistry-IV Electrochemistry) [CU:4, L-4, P-0] {MCC}	Organic Chemistry-V (Advanced Organic Synthesis [CU:4, L-3, P-1] {MCC}	Introduction to Heterocyclic Chemistry [CU:4, L-3, P-1] {MCC}	Introduction to Heterocyclic Chemistry [CU:4, L-3, P-1] {MCC}	Instrumental Analysis [CU:6, L-4, P-2] {MCC}		Sustainable Chemistry [CU:4, L-3, P-1] {MC}	Sustainable Chemistry [CU:4, L-3, P-1] {MC}
3	Chemical foundations of cosmetology [CU:4, L-3, P-1] {MC}	Green Chemistry-I [CU:4, L-3, P-1] {MC}	Green Chemistry-II [CU:4, L-3, P-1] {MC}	Green Chemistry-III [CU:4, L-3, P-1] {MC}	Inorganic Chemistry-III (Nuclear Chemistry) [CU:4 L-4, P-0] {MCC}	Organic Chemistry-IV (Funtional groups-III) [CU:6, L-4, P-2] {MCC}	Inorganic Chemistry-V (Organometallic Chemistry) [CU:4 L-3, P-1] {MCC}	Organo-Photochemistry [CU:4, L-3, P-1] {MCC}		Co-ordination Chemistry/ Novel Inorganic Solids [CU:6, L-4, P-2] {DSE}		Material Chemistry/Computational Chemistry/Phytochemistry [CU:12, L-8, P-10] {DSE}	
4	Physics for chemists [CU:3, L-2, P-1] {MDC}	Mathematics for chemists [CU:3, L-3, P-0] {MDC}	MOOC [CU:3, L-3, P-0] {MDC}	Professional etiquette and presentation [CU:2, L-2, P-0] {AEC}	Water Chemistry and Remediation [CU:2, L-2, P-0] {MC}	Green Chemistry-IV [CU:4, L-3, P-1] {MC}	Green Chemistry-V [CU:4, L-3, P-1] {MC}	Cages and Clusters [CU:4, L-4, P-0] {MC}	Foundations of Research and Ethics [CU:2, L-2, P-0] {CCH}	Introduction to Research and Academic Integrity [CU:4; L-4, P-0] {CCH}	Introduction to Research and Academic Integrity [CU:4; L-4, P-0] {CCH}		
5	Introduction to french culture and language/Introduction to german culture and language [CU:1, L-1, P-0] {AEC}	Introduction to french culture and language/Introduction to german culture and language [CU:1, L-1, P-0] {AEC}	Introduction to Communication skills [CU:2, L-2, P-0] {AEC}	Introduction to Intellectual Property Rights [CU:3, L-3, P-0] {SEC}	Foundations of Industrial Chemistry: From Theory to Applications [CU:4, L3, P-1] {MC}	Chemistry of Biomolecules [CU:2, L-2, P-0] {MC}	Fundamentals of Polymer Chemistry/ Natural Products/Inorganic Materials for Industrial Significance [CU:8 L-6, P-2] {DSE}	Solid State Chemistry/ Medicinal Chemistry [CU:4, L-3, P-1] {DSE}	Research Project/ Dissertation {CU: 6, L-6} {IL}		Research Project/ Dissertation {CU: 12, L-12} {IL}		Research Project/ Dissertation {CU: 12, L-12} {IL}
5	Punjabi/ History and culture of Punjab [CU:1, L-1, P-0] {AEC}	Punjabi/ History and culture of Punjab [CU:1, L-1, P-0] {AEC}	Chemistry Lab Skills-III [CU3, L-0, P-3] {SEC}						Cages and Clusters [CU:4, L-4, P-0] {MC}				
6	Chemistry Lab Skills-I [CU3, L-0, P-3] {SEC}	Chemistry Lab Skills-II [CU3, L-0, P-3] {SEC}							-				
7	Behavioural Studies [CU:1, L-1, P-0] {VAC}	Behavioural Studies [CU:1, L-1, P-0] {VAC}	-	-	*Summer Internship (4 Cr)	-	-	-	-				
8	Environmental Studies [CU:1, L-1, P-0] {VAC}	Environmental Studies [CU:1, L-1, P-0] {VAC}	-	-		-	-	-	-				
Credi	**23**	**23**	**20**	**21**	**22 + 4**	**22**	**24**	**20**		20	20	20	20