



arise. awake. achieve

VIVEKANANDA GLOBAL UNIVERSITY

(Established by Rajasthan State Legislature and covered u/s 2(f) of the UGC Act, 1956)

FACULTY OF BASIC AND APPLIED SCIENCES

SCHEME & SYLLABUS

FOR

**Master of Science
(Chemistry)**

(Implemented from Academic Session 2016-17)

Sem	I	II	III	IV	Total
Credits	24	22	22	22	90

SESSION: 2018-19

Master of Science (Chemistry)

Index

S.No	Topic	Page No.
1	Scheme	3-5
2	List of Skill enhancement course	6
3	List of Department Specific Electives	7
4	Semester I detail syllabus	8-17
5	Semester II detail syllabus	18-27
6	Semester III detail syllabus	28-41
7	Semester IV detail syllabus	42-57

M.SC. CHEMISTRY SCHEME EFFECTIVE FROM 2018-19						
SEMESTER I						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
CHY 166	Core Theory	Advanced Inorganic Chemistry-I	3	1	0	4
CHY 167	Core Theory	Advanced Organic Chemistry -I	3	1	0	4
CHY 168	Core Theory	Advanced Physical Chemistry -I	3	1	0	4
CHY 169	Core Theory	Spectroscopy	3	1	0	4
CHY 205	Core Practical	Computer for Chemist	0	0	6	3
CHY 170	Core Practical	Chemistry Practical-I	0	0	6	3
ENG 109	Skill Enhancement Course	Communicative English	2	0	0	2
Total			14	4	12	24

M.SC. CHEMISTRY SCHEME EFFECTIVE FROM 2018-19						
SEMESTER II						
Course Code	University Course Type	Course Name	Teaching Load			
			L	T	P	C
CHY 171	Core Theory	Advanced Inorganic Chemistry-II	3	1	0	4
CHY 172	Core Theory	Advanced Organic Chemistry -II	3	1	0	4
CHY 173	Core Theory	Advanced Physical Chemistry -II	3	1	0	4
CHY 174	Core Practical	Applied Chemistry Lab	0	0	6	3
CHY 175	Core Practical	Chemistry Practical-II	0	0	6	3
CHY 176	Department Specific Elective-1	Biology for Chemist (for students with PCM in B.Sc)	3	1	0	4
CHY 177		Mathematics for Chemist (for students with CBZ in B.Sc)				
Total			12	4	12	22

M.SC. CHEMISTRY SCHEME EFFECTIVE FROM 2018-19						
SEMESTER III						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
CHY 178	Core Theory	Advanced Inorganic Chemistry-III	3	1	0	4
CHY 179	Core Theory	Advanced Organic Chemistry -III	3	1	0	4
CHY 180	Core Theory	Advanced Physical Chemistry -III	3	1	0	4
CHY 181	Core Practical	Advanced Chemistry Lab-I	0	0	6	3
CHY 182	Core Practical	Chemistry Practical-III	0	0	6	3
CHY 183	Department Specific Elective-2	Natural Product Chemistry	3	1	0	4
CHY 184		Group Theory				
CHY 195		Thermal & photochemistry				
CHY 186		Analytical Chemistry				
CHY 187		Biochemistry				
Total			12	4	12	22

M.SC. CHEMISTRY SCHEME EFFECTIVE FROM 2018-19						
SEMESTER IV						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
CHY 188	Department Specific Elective -3	Organic Synthesis	3	1	0	4
CHY 190		Organotransition Metallic Chemistry				
CHY 192		Biophysical & Surface Chemistry				
CHY 194		Nuclear & Radiation Chemistry				
CHY 196		Mineral Based Industrial Chemistry				
CHY 189	Department Specific Elective -4	Heterocyclic Chemistry	3	1	0	4
CHY 191		Bioinorganic Chemistry				
CHY 193		Chemical Dynamics				
CHY 185		Pharmaceutical chemistry				
CHY 197		Green Chemistry				
CHY 198	Core Practical	Advanced Chemistry Lab-II	0	0	8	4
CHY 199	Core Course	Seminar	0	0	4	2
CHY 200	Core Course	Project	0	0	16	8
Total			6	2	28	22

Theory – 2 Midterm Exams and Course Work* (40%) End Term Exam (60%)

Practical- 2 Midterm Exams and Course Work* (60%) End Term Exam (40%)

*Class work shall include: Quiz, Assignment, Seminars, Presentations, Attendance, Case study, Surprise class test, Lab. record, Viva, Projects, and Observation

LIST OF SKILL ENHANCEMENT COURSES

Course Code	Skill Enhancement Courses
ENG 109	Communicative English

LIST OF DISCIPLINE SPECIFIC ELECTIVE COURSES

Course Code	Discipline Specific Elective Courses
CHY 176	Biology for Chemist (for students with PCM in B.Sc)
CHY 177	Mathematics for Chemist (for students with CBZ in B.Sc)
CHY 183	Natural Product Chemistry
CHY 184	Group Theory
CHY 195	Thermal & photochemistry
CHY 186	Analytical Chemistry
CHY 187	Biochemistry
CHY 188	Organic Synthesis
CHY 190	Organotransition Metallic Chemistry
CHY 192	Biophysical & Surface Chemistry
CHY 194	Nuclear & Radiation Chemistry
CHY 196	Mineral Based Industrial Chemistry
CHY 189	Heterocyclic Chemistry
CHY 191	Bioinorganic Chemistry
CHY 193	Chemical Dynamics
CHY 185	Pharmaceutical chemistry
CHY 197	Green Chemistry