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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

Bachelor of Science (Honours) Chemistry

(Implemented from Academic Session 2018-19 and also for students admitted in Ist year since 2016-17)

Sem	I	II	III	IV	V	VI	Total
Credits	21	23	24	24	24	24	140

SESSION: 2018-19

Bachelor of Science (Honours) Chemistry

Index

S.No	Topic	Page No.
1	Scheme	3-6
2	List of Skill enhancement course	7
3	List of Generic Electives	8-9
4	List of Department Specific Electives	10
5	Semester I detail syllabus	11-25
6	Semester II detail syllabus	26-42
7	Semester III detail syllabus	43-53
8	Semester IV detail syllabus	54-64
9	Semester V detail syllabus	65-77
10	Semester VI detail syllabus	78-91

B.SC. HONOURS CHEMISTRY SCHEME EFFECTIVE FROM 2018-19						
SEMESTER I						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
CHY 138	Core Theory	Inorganic Chemistry-I	4	0	0	4
CHY 139	Core Theory	Physical Chemistry-I	4	0	0	4
CHY 140	Core Practical	Inorganic Chemistry-I Lab	0	0	4	2
CHY 141	Core Practical	Physical Chemistry-I Lab	0	0	4	2
CHY 103	Ability Enhancement Course	Environmental Science	2	0	0	2
PHY 109/ BOT 101	Generic Elective-1	Mechanics/ Biomolecules and Cell Biology	4	0	0	4
PHY 110/ BOT 102		Mechanics Lab/ Biomolecules and Cell Biology Lab	0	0	4	2
CHY 119	Skill Enhancement Course (SEC)	Basic Analytical Chemistry	0	0	2	1
CHY 128		Green Methods in Chemistry				
CHY 110		Pharmaceutical Chemistry				
			14	0	14	21
B.SC. HONOURS CHEMISTRY SCHEME EFFECTIVE FROM 2018-19						
SEMESTER II						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
CHY 142	Core Theory	Organic Chemistry-I	4	0	0	4
CHY 143	Core Theory	Physical Chemistry-II	4	0	0	4
CHY 144	Core Practical	Organic Chemistry-I Lab	0	0	4	2
CHY 145	Core Practical	Physical Chemistry-II Lab	0	0	4	2
ENG 106	Ability Enhancement Course	Professional Communication	2	0	0	2
ENG 107		Communication Technique Lab	0	0	2	1
PHY 111/ BOT105	Generic Elective -2	Electricity and Magnetism/ Biodiversity I -Algae, Fungi & Lichens	4	0	0	4
PHY112/ BOT 106		Electricity and Magnetism Lab/ Biodiversity I -Algae, Fungi & Lichens & Taxonomy Lab	0	0	4	2
CHY 113	Skill Enhancement Course	Chemistry of Cosmetics & Perfumes	0	0	2	1
CHY 137		Pesticide Chemistry				
CHY 116		Fuel Chemistry				
SEP 200	Skill Enhancement Practical	Extra Curricular Activity (NSS/NCC/Scouting/ Club activity)	0	0	2	1
Total			14	0	18	23

B.SC. HONOURS CHEMISTRY SCHEME EFFECTIVE FROM 2018-19						
SEMESTER III						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
CHY 146	Core Theory	Inorganic Chemistry-II	4	0	0	4
CHY 147	Core Theory	Organic Chemistry-II	4	0	0	4
CHY 148	Core Theory	Physical Chemistry-III	4	0	0	4
CHY 149	Core Practical	Inorganic Chemistry-II Lab	0	0	4	2
CHY 150	Core Practical	Organic Chemistry-II Lab	0	0	4	2
CHY 151	Core Practical	Physical Chemistry-III Lab	0	0	4	2
PHY 113/ BOT 113	Generic Elective -3	Thermal Physics and Statistical Mechanics /Microbiology	4	0	0	4
PHY114/ BOT 114		Thermal Physics & Statistical Mechanics Lab /Microbiology Lab	0	0	4	2
Total			16	0	16	24

B.SC. HONOURS CHEMISTRY SCHEME EFFECTIVE FROM 2018-19						
SEMESTER IV						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
CHY 152	Core Theory	Inorganic Chemistry-III	4	0	0	4
CHY 153	Core Theory	Organic Chemistry-III	4	0	0	4
CHY 154	Core Theory	Physical Chemistry-IV	4	0	0	4
CHY 155	Core Practical	Inorganic Chemistry-III Lab	0	0	4	2
CHY 156	Core Practical	Organic Chemistry-III Lab	0	0	4	2
CHY 157	Core Practical	Physical Chemistry-IV Lab	0	0	4	2
PHY 115/ BOT 119	Generic Elective -4	Wave and Optics/ Economic Botany	4	0	0	4
PHY 116/ BOT 120		Wave and Optics Lab/ Economic Botany Lab	0	0	4	2
Total			16	0	16	24

B.SC. HONOURS CHEMISTRY SCHEME EFFECTIVE FROM 2018-19						
SEMESTER V						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
CHY 158	Core Theory	Organic Chemistry-IV	4	0	0	4
CHY 159	Core Theory	Physical Chemistry-V	4	0	0	4
CHY 160	Core Practical	Organic Chemistry-IV Lab	0	0	4	2
CHY 161	Core Practical	Physical Chemistry-V Lab	0	0	4	2
CHY 120	Discipline Specific Elective -1	Analytical Methods in Chemistry	4	0	0	4
CHY 122		Quantum & Photo chemistry				
CHY 124	Discipline Specific Elective -1 Practical	Analytical Methods in Chemistry Lab	0	0	4	2
CHY 126		Quantum & Photo chemistry lab				
CHY 121	Discipline Specific Elective -2	Chemistry of Representative Elements	4	0	0	4
CHY 123		Polymer Chemistry				
CHY 125	Discipline Specific Elective -2 Practical	Chemistry of Representative Elements Lab	0	0	4	2
CHY 127		Polymer Chemistry Lab				
Total			16	0	16	24

B.SC. HONOURS CHEMISTRY SCHEME EFFECTIVE FROM 2018-19						
SEMESTER VI						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
CHY 162	Core Theory	Inorganic Chemistry-IV	4	0	0	4
CHY 163	Core Theory	Organic Chemistry-V	4	0	0	4
CHY 164	Core Practical	Inorganic Chemistry-IV Lab	0	0	4	2
CHY 165	Core Practical	Organic Chemistry-V Lab	0	0	4	2
CHY 131	Discipline Specific Elective -3	Green Chemistry	4	0	0	4
CHY 130		Bioinorganic Chemistry				
CHY 135	Discipline Specific Elective -3 Practical	Green Chemistry Lab	0	0	4	2
CHY 134		Bioinorganic Chemistry Lab				
CHY 129	Discipline Specific Elective-4	Physical and Organic Spectroscopy	4	0	0	4
CHY 132		Inorganic Materials of Industrial Importance				
CHY 133	Discipline Specific Elective -4 Practical	Physical and Organic Spectroscopy Lab	0	0	4	2
CHY 136		Inorganic Materials of Industrial Importance Lab				
Total			16	0	16	24

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 Book.

LIST OF SKILL ENHANCEMENT COURSES

Course Code	Skill Enhancement Courses
I Semester	
CHY 119	Basic Analytical Chemistry
CHY 128	Green Methods in Chemistry
CHY 110	Pharmaceutical Chemistry
II Semester	
CHY 113	Chemistry of Cosmetics & Perfumes
CHY 137	Pesticide Chemistry
CHY 116	Fuel Chemistry
SEP 200	Extra Curricular Activity (NSS/NCC/Scouting/ club activity)

**LIST OF GENERIC ELECTIVE COURSES
(TO BE OFFERED AS MINOR SUBJECTS)**

Course Code	Generic Elective Courses
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DEPARTMENT OF PHYSICS

I Semester	
PHY 109	Mechanics
PHY 110	Mechanics Lab
II Semester	
PHY 111	Electricity & Magnetism
PHY 112	Electricity & Magnetism Lab
III Semester	
PHY 113	Thermal Physics & Statistical Mechanics
PHY 114	Thermal Physics & Statistical Mechanics Lab
IV Semester	
PHY 115	Waves & optics
PHY 116	Waves & optics Lab

DEPARTMENT OF MATHEMATICS

I Semester	
MAT 111	Differential Calculus
II Semester	
MAT 112	Differential Equation
III Semester	
MAT 113	Real Analysis
IV Semester	
MAT 114	Algebra

DEPARTMENT OF BOTANY

I Semester	
BOT 101	Biomolecules and Cell biology
BOT 102	Biomolecules and Cell biology Lab

II Semester	
BOT 105	Biodiversity I- Algae , Fungi & Lichens
BOT 106	Biodiversity I- Algae , Fungi & Lichens Lab
III Semester	
BOT 113	Microbiology
BOT 114	Microbiology Lab
IV Semester	
BOT 119	Economic Botany
BOT 120	Economic Botany Lab

LIST OF DISCIPLINE SPECIFIC ELECTIVE COURSES

Course Code	Discipline Specific Elective Courses
CHY 120	Analytical Methods in Chemistry
CHY 121	Chemistry of Representative Elements
CHY 122	Quantum & Photochemistry
CHY 123	Polymer Chemistry
CHY 124	Analytical Methods in Chemistry Lab
CHY 125	Chemistry of Representative Elements Lab
CHY 126	Quantum & Photochemistry Lab
CHY 127	Polymer Chemistry Lab
CHY 129	Physical and Organic Spectroscopy
CHY 130	Bioinorganic chemistry
CHY 131	Green Chemistry
CHY 132	Inorganic Materials of Industrial Importance
CHY 133	Physical and Organic Spectroscopy Lab
CHY 134	Bioinorganic Chemistry Lab
CHY 135	Green Chemistry Lab
CHY 136	Inorganic Materials of Industrial Importance Lab