

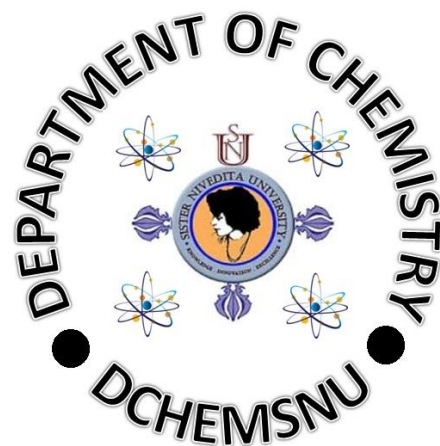


2020

SYLLABUS

School of Natural Sciences

**B.Sc. (H) in
Chemistry under
UGC – CBCS**



B.Sc. Chemistry (H) Course Structure

Category definition with credit breakup

Semester	Credit						Total/Sem
	CC	DSE	GE	AECC	SEC	USC	
First	12		4	2		2	20
Second	12	6	4	2	1	2	27
Third	12	6	4	2	1	2	27
Fourth	12	6	4	2	1	2	27
Fifth	18	6			1		25
Sixth	24						24
Total Credit/ Course	90	24	16	8	4	8	
Total Credit							150

CC: Core Courses; GE: General Elective; AECC: Ability Enhancement Compulsory Course;
SEC: Skill Enhancement Courses; DSE: Discipline Specific Elective; USC: University specified course

First Year

Category	Course Name	Credit	Teaching Scheme		
			L	T	P
Semester – I					
CC – 1	Fundamentals of Chemistry	4	4	0	0
	Fundamentals of Chemistry LAB	2	0	0	4
CC – 2	Inorganic Chemistry-I: Atomic structure & Periodicity, Redox, Acid-Base, Radioactivity	4	4	0	0
	Inorganic Chemistry-I LAB	2	0	0	4
GE – 1	Generic Elective	4	4	0	0
AECC – 1	Communicative English – I	2	2	0	0
USC – 1	Foreign Language I	2	2	0	0
Total Credit = 20			Teaching Hour = 24		
Semester – II					
CC – 3	Physical Chemistry-I: States of matter, Electrochemistry & Thermodynamics I	4	4	0	0
	Physical Chemistry-I LAB	2	0	0	4
CC – 4	Organic Chemistry-I: Hydrocarbons & Stereochemistry	4	4	0	0
	Organic Chemistry-I LAB	2	0	0	4
DSE – 1	Mathematics and Statistics	4	4	0	0
	Mathematics and Statistics Lab	2	0	0	4
GE – 2	Generic Elective	4	4	0	0
AECC – 2	Communicative English – II	2	2	0	0
SEC – 1	Mentored Seminar – I	1	1	0	0
USC – 2	Foreign Language II	2	2	0	0
Total Credit = 27			Teaching Hour = 33		

Second Year

Category	Course Name	Credit	Teaching Scheme		
			L	T	P
Semester – III					
CC – 5	Inorganic Chemistry-II: Chemical bonding and s & p- Block Elements	4	4	0	0
	Inorganic Chemistry-II LAB	2	0	0	4
CC – 6	Organic Chemistry-II: Halogenated Hydrocarbons & Functional Groups	4	4	0	0
	Organic Chemistry-II LAB	2	0	0	4
DSE – 2	Biochemistry	4	4	0	0
	Biochemistry LAB	2	0	0	4
GE – 3	Generic Elective	4	4	0	0
AECC – 3	Environmental Science – I	2	2	0	0
SEC – 2	Mentored Seminar – II	1	1	0	0
USC – 3	Foreign Language III	2	2	0	0
Total Credit = 27			Teaching Hour = 33		
Semester – IV					
CC – 7	Inorganic Chemistry-III: Coordination Chemistry & d- and f-Block Elements, noble gases, inorganic polymers	4	4	0	0
	Inorganic Chemistry-III LAB	2	0	0	4
CC – 8	Physical Chemistry-II: Thermodynamics II & Chemical Equilibrium, Phase diagram	4	4	0	0
	Physical Chemistry-II LAB	2	0	0	4
DSE – 3	Essential Physics	4	4	0	0
	Essential Physics Lab	2	0	0	4
GE – 4	Generic Elective	4	4	0	0
AECC – 3	Environmental Science – II	2	2	0	0
SEC – 3	Mentored Seminar – III	1	1	0	0
USC – 4	Foreign Language – IV	2	2	0	0
Total Credit = 27			Teaching Hour = 33		

Third Year

Category	Course Name	Credit	Teaching Scheme		
			L	T	P
Semester – V					
CC – 9	Inorganic Chemistry-IV: Reaction Mechanism, Bioinorganic Chemistry and Organometallic Chemistry	4	4	0	0
	Inorganic Chemistry-IV LAB	2	0	0	4
CC – 10	Organic Chemistry-III: Heterocyclic Compounds & Dyes	4	4	0	0
	Organic Chemistry-III LAB	2	0	0	4
CC – 11	Physical Chemistry-III: Chemical Kinetics; Quantum Mechanics & Quantum Chemistry	4	4	0	0
	Physical Chemistry-III-LAB	2	0	0	4
DSE – 4	Basics of Computer Science	4	4	0	0
	Basics of Computer Science Lab	2	0	0	4
SEC – 4	Mentored Seminar – IV	1	1	0	0
Total Credit = 25			Teaching Hour = 33		
Semester – VI					
CC – 12	Organic Chemistry-IV: Spectroscopy & Biomolecules	4	4	0	0
	Organic Chemistry-IV LAB	2	0	0	4
CC – 13	Physical Chemistry-IV: Statistical Thermodynamics, Molecular spectroscopy and Photochemistry	4	4	0	0
	Physical Chemistry-IV LAB	2	0	0	4
CC – 14	Analytical Chemistry	4	4	0	0
	Analytical Chemistry LAB	2	0	0	4
CC – 15	Chemistry Project	6	0	0	12
Total Credit = 24			Teaching Hour = 36		