

STRUCTURE OF THE SYLLABUS FOR 4 YEAR UG PROGRAMME

ROYAL SCHOOL OF APPLIED AND PURE SCIENCES

B.Sc. Chemistry ((Honours/Honours with Research))

1st SEMESTER			
COMPONENT	COURSE CODE	COURSE TITLE	CREDIT
Major (Core)	CHY012M101	General Chemistry-I	3
	CHY012M112	Chemistry Lab-I	3
Minor	CHY012N101	Fundamentals of Chemistry	3
Interdisciplinary (IDC)	IKS992K101	Introduction to Indian Knowledge System - I	3
Ability Enhancement course (AEC)	CEN982A101	Communicative English- I	2
	BSH982A102	Behavioural Science-I	
Skill Enhancement Course (SEC)	CHY012S111	Preparation and Estimation Techniques	3
Value Added Course (VAC)	VAC-1	Basket Course	3
		Swayam/MOOCs	4/5/6
TOTAL CREDIT FOR 1st SEMESTER			20 + 4/5/6
2nd SEMESTER			
COMPONENT	COURSE CODE	COURSE TITLE	CREDIT
Major (Core)	CHY012M201	General Chemistry-II	3
	CHY012M212	Chemistry Lab-II	3
Minor	CHY012N201	General Chemistry Lab-I	3
IDC	IDC-2	Introduction to Indian Knowledge System - II	3
AEC	AEC982A201	Communicative English and Behavioural Science- II	2
SEC	CHY012S211	Basic Preparative Techniques in Chemistry and Food Analysis	3
VAC	VAC-2	Basket Course	3

		Swayam/MOOCs	4/5/6
TOTAL CREDIT FOR 2nd SEMESTER			20 + 4/5/6
3rd SEMESTER			
COMPONENT	COURSE CODE	COURSE TITLE	CREDIT
Major (Core)	CHY012M301	Organic Chemistry-I	4
	CHY012M311	Chemistry Lab - III	4
Minor	CHY012N301	Physical & Organic Chemistry	4
IDC	IDC-3	Basket Course	3
AEC	AEC982A301	Communicative English and Behavioural Science- III	2
SEC	CHY012S311	Analytical Laboratory Methods	3
		Swayam/MOOCs	4/5/6
TOTAL CREDIT FOR 3rd SEMESTER			20 + 4/5/6
4th SEMESTER			
COMPONENT	COURSE CODE	COURSE TITLE	CREDIT
Major (Core)	CHY012M401	Inorganic Chemistry-I	4
	CHY012M402	Physical Chemistry-I	4
	CHY012M113	Chemistry Lab-IV	4
Minor	CHY012N401	Organic & Inorganic Chemistry	3
	CHY012N412	General Chemistry Lab-II	3
AEC	AEC982A401	Communicative English and Behavioral Science- IV	2
		Swayam/MOOCs	4/5/6
TOTAL CREDIT FOR 4th SEMESTER			20 + 4/5/6
5th SEMESTER			
COMPONENT	COURSE CODE	COURSE TITLE	CREDIT
Major (Core)	CHY012M501	Organic Chemistry-II	4
	CHY012M502	Inorganic chemistry II	4

	CHY012M503	Physical chemistry II	4
Minor	CHY012N501	Inorganic & Physical Chemistry	4
Internship			4
TOTAL CREDIT FOR 5th SEMESTER			20
6th SEMESTER			
COMPONENT	COURSE CODE	COURSE TITLE	CREDIT
Major (Core)	CHY012M601	Spectroscopy	4
	CHY012M602	Quantum Chemistry	4
	CHY012M603	Introduction to environmental and Green Chemistry	4
	CHY012M604	Analytical Chemistry	4
Minor	CHY012N601	Concepts of Analytical Chemistry	4
TOTAL CREDIT FOR 6th SEMESTER			20
7th SEMESTER			
COMPONENT	COURSE CODE	COURSE TITLE	CREDIT
Major (Core)	CHY012M701	Organic Chemistry III	4
	CHY012M702	Physical Chemistry III	4
	CHY012M703	Inorganic Chemistry-III	4
	CHY012M704	Name reactions & Reagents in Organic Chemistry	4
Minor	CHY012N701	Chemistry in Everyday Life	4
TOTAL CREDIT FOR 7th SEMESTER			20
8th SEMESTER			
COMPONENT	COURSE CODE	COURSE TITLE	CREDIT
Major (Core)	CHY012M801	Advanced Instrumental Techniques	4
Minor	CHY012N801	Research Methodology	4
Dissertation /Research Project	CHY012M821	Research Project	12
Or	CHY012M802	Industrial and Polymer Chemistry	4

400 level advanced course Core (in lieu of Dissertation/Research project)	CHY012M803	Material Chemistry	4
	CHY012M804	Biochemistry and Natural Products	4
TOTAL CREDIT FOR 8th SEMESTER			20

STRUCTURE OF THE SYLLABUS FOR 2 YEAR PG PROGRAMME

ROYAL SCHOOL OF APPLIED AND PURE SCIENCES

M.Sc. Chemistry

1st SEMESTER		
COURSE CODE	COURSE TITLE	CREDIT
CHY014C101	Physical Chemistry I	4
CHY014C102	Organic Chemistry I	4
CHY014C103	Quantum Chemistry	4
CHY014C104	Inorganic Chemistry I	4
CHY014C114	Inorganic Chemistry Lab	4
SWAYAM CODE 1	Swayam 1	3/4/5
TOTAL CREDIT FOR 1st SEMESTER		20 + 3/4/5
2nd SEMESTER		
COURSE CODE	COURSE TITLE	CREDIT
CHY014C201	Physical Chemistry II	4
CHY014C202	Inorganic Chemistry II	4
CHY014C203	Organic Chemistry II	4
CHY014C214	Organic Chemistry Lab	4
CHY014C215	Physical Chemistry Lab	4
SWAYAM CODE 2	Swayam 2	3/4/5
TOTAL CREDIT FOR 2nd SEMESTER		20 + 3/4/5
TOTAL CREDIT FOR 1st YEAR = 40 + 6/8/10		
3rd SEMESTER		
COURSE CODE	COURSE TITLE	CREDIT
CHY014C301	Analytical Chemistry	4
CHY014C302	Biochemistry & Bioinorganic Chemistry	4
CHY014C303	Spectroscopy I	4
CHY014C304	Environmental & Green Chemistry	4
CHY014C325	Project -I	8
SWAYAM CODE 3	Swayam 3	3/4/5
TOTAL CREDIT FOR 3rd SEMESTER		24 + 3/4/5
OR 3rd SEMESTER (For students with 3rd and 4th Semester Research)		

CHY014C321	RESEARCH PROJECT – PHASE I		24 + 3/4/5
4 th SEMESTER			
COURSE CODE	COURSE TITLE	LEVEL	CREDIT
	Dissertation (students with research in 4 th Sem)		
(for ‘Coursework only’ in lieu of Research)			
CHY014C401	Spectroscopy II		4
CHY014C402	Chemical Kinetics & Catalysis		4
CHY014C403	Heterocyclic Compounds & Medicinal Chemistry		4
CHY014C405	Organometallic Chemistry & Catalysis		4
CHY014C426	Project -II		12
SWAYAM CODE 4	Swayam 4		3/4/5
OR 4 th SEMESTER (For students with 3 rd and 4 th Semester Research)			
CHY014C421	RESEARCH PROJECT – PHASE 2		28 + 3/4/5
TOTAL CREDIT FOR 2 nd YEAR = 52+ 6/8/10			