

UNIVERSITY OF KERALA
POST GRADUATE PROGRAMMES IN CHEMISTRY

(Under semester system with effect from 2013 admission)

PREAMBLE

There are three independent PG programmes in Chemistry, namely M.Sc. programme in Branch III Chemistry, M.Sc. programmes in Branch IV Analytical Chemistry and M.Sc. programme in Branch V Applied Chemistry. All these three PG programmes are equivalent in all respect for employment and higher studies. Each of these three PG programmes shall extend over a period of two academic years comprising of four semesters, each of 450 hours in 18 weeks duration. The syllabi and scheme of examinations of these three programmes are detailed below. The theory of courses of three Semesters and practical courses of first two semesters of the three programmes are common, since all these three programmes are equated. Therefore, the Examinations of these three PG programmes are to be conducted by a common board of Examiners, and questions for the first three semesters will be common for all these M.Sc. programmes. These syllabi are effective from 2013 admission in affiliated colleges of the university.

M.Sc. PROGRAMMES IN BRANCH III CHEMISTRY

(Under semester system with effect from 2013 admission)

SYLLABUS AND SCHEME OF EXAMINATION

SEMESTER I*

Course No. and Title	Hours per week		Duration of ESA in hours	Marks for CA	Marks for ESA	Total marks
	L	P				
CH 211 Inorganic Chemistry I	5		3	25	75	100
CH 212 Organic Chemistry I	5		3	25	75	100
CH 213 Physical Chemistry I	5		3	25	75	100
CH 214 Inorganic Practicals I		3		(To be continued in Semester II)		
CH 215 Organic Practicals I		3		(To be continued in Semester II)		
CH 216 Physical Practicals I		4		(To be continued in Semester II)		
Total marks for Semester I						300

*Distribution of teaching hours/week: Theory 15 hours, Practicals 10 hours (1 hour for Seminar)

SEMESTER II*

Course No. and Title	Hours per week		Duration of ESA in hours	Marks for CA	Marks for ESA	Total marks
	L	P				
CH 221 Inorganic Chemistry I	5		3	25	75	100
CH 222 Organic Chemistry I	5		3	25	75	100
CH 223 Physical Chemistry I	5		3	25	75	100
CH 214 Inorganic Practicals I		3	6	25	75	100
CH 215 Organic Practicals I		3	6	25	75	100
CH 216 Physical Practicals I		4	6	25	75	100
Total marks for Semester II						600

*Distribution of teaching hours/week: Theory 15 hours, Practicals 10 hours (1 hour for Seminar)

SEMESTER III*

Course No. and Title	Hours per week		Duration of ESA in hours	Marks for CA	Marks for ESA	Total marks
	L	P				
CH 231 Inorganic Chemistry III	5		3	25	75	100
CH 232 Organic Chemistry III	5		3	25	75	100
CH 233 Physical Chemistry III	5		3	25	75	100
CH 234 Inorganic Practicals II		3	(To be continued in Semester IV)			
CH 235 Organic Practicals II		3	(To be continued in Semester IV)			
CH 236 Physical Practicals II		4	(To be continued in Semester IV)			
Total Marks for Semester III						300

*Distribution of teaching hours/week: Theory 15 hours, Practicals 10 hours (1 hour for Seminar)

SEMESTER IV*

Course No. and Title	Hours per week		Duration of ESA in hours	Marks for CA	Marks for ESA	Total marks
	L	P				
CH 241(a) Advanced Inorganic Chemistry	15		3	25	75	100
CH 241(b) Advanced Organic Chemistry						
CH 241(c) Advanced Physical Chemistry						
CH 234 Inorganic Practicals II		3	6	25	75	100
CH 235 Organic Practicals II		3	6	25	75	100
CH 236 Physical Practicals II		4	6	25	75	100
CH 242 Dissertation					100	100
Comprehensive viva voice					100	100
Total Marks for Semester IV						600
Grand Total Marks (for Semester I to IV)						1800

*Distribution of teaching hours/week: Theory 15 hours (10 hours for Discussion on Project)

Practicals 20 hours (1 hour for Seminar)

**Each student has to choose either (a), (b), (c) as selective in accordance with the Dissertation chosen.

UNIVERSITY OF KERALA

POST GRADUATE PROGRAMMES IN CHEMISTRY

(Revised Syllabi under Semester System with effect from 2016 Admission)

PREAMBLE

The syllabi of M.Sc programmes in Chemistry offered in the affiliated colleges of the University under Semester system have been revised and the revised syllabi are to be effective from 2016 admission. There are four independent PG programmes in Chemistry, namely **M.Sc. Programme in Branch III - Chemistry, M.Sc. Programme in Branch IV - Analytical Chemistry and M.Sc. Programme in Branch V - Applied Chemistry and Branch VI Medicinal Chemistry**. All these four PG programmes are equivalent in all respect for employment and higher studies. Each of these four PG programmes shall extend over a period of two academic years comprising of four semesters, each of 450 hours in 18 weeks duration. The syllabi and scheme of examinations of these four programmes are detailed below. The theory courses of the first three Semesters and the practical courses of the first two semesters of the four programmes are common, and therefore, the examinations of these four PG programmes are to be conducted with common question papers for the first three semesters by a common Board of Examiners. These syllabi are effective from 2016 admission in affiliated colleges of the university.

M.Sc. PROGRAMME IN BRANCH III - CHEMISTRY

(Revised syllabus under semester system with effect from 2016 admission)

SYLLABUS AND SCHEME OF EXAMINATION

Course No. and Title	Hours per week		Duration of ESA in hours	Marks for CA	Marks for ESA	Total marks
	L	P				
SEMESTER I*						
CH 211 Inorganic Chemistry I	5		3	25	75	100
CH 212 Organic Chemistry I	5		3	25	75	100
CH 213 Physical Chemistry I	5		3	25	75	100
CH 214 Inorganic Practicals I		3	(To be continued in Semester II)			
CH 215 Organic Practicals I		3	(To be continued in Semester II)			
CH 216 Physical Practicals I		4	(To be continued in Semester II)			
			Total marks for semester 1			300
*Distribution of teaching hours/week: Theory- 15 hours, Practicals- 10 hours (1 hour for Seminar)						
SEMESTER II*						
CH 221 Inorganic Chemistry II	5		3	25	75	100
CH 222 Organic Chemistry II	5		3	25	75	100
CH 223 Physical Chemistry II	5		3	25	75	100
CH 214 Inorganic Practicals I		3	6	25	75	100
CH 215 Organic Practicals I		3	6	25	75	100
CH 216 Physical Practicals I		4	6	25	75	100
			Total marks for Semester II			600
*Distribution of teaching hours/week: Theory- 15 hours, Practicals- 10 hours (1 hour for Seminar)						

SEMESTER III*

CH 231 Inorganic Chemistry III	5		3	25	75	100
CH 232 Organic Chemistry III	5		3	25	75	100
CH 233 Physical Chemistry III	5		3	25	75	100
CH 234 Inorganic Practicals II		3	(To be continued in Semester IV)			
CH 235 Organic Practicals II		3	(To be continued in Semester IV)			
CH 236 Physical Practicals II		4	(To be continued in Semester IV)			
			Total marks for semester III			300

*Distribution of teaching hours/week: Theory- 15 hours, Practicals- 10 hours (1 hour for Seminar)

SEMESTER IV*

CH 241 Chemistry of Advanced Materials	5			25	75	100
CH 242(a) Inorganic Chemistry IV**						
CH 242(b) Organic Chemistry IV **	5		3	25	75	100
CH 242(c) Physical Chemistry IV **						
CH 234 Inorganic Practicals II		3	6	25	75	100
CH 235 Organic Practicals II		3	6	25	75	100
CH 236 Physical Practicals II		4	6	25	75	100
CH 243(a) Dissertation	5				70	70
CH 243(b) Visit to R & D Centre					5	5
Comprehensive viva-voce					25	25
	Total marks for Semester IV					600
	Grand total (for semesters I-IV)					1800

*Distribution of teaching hours/week: Theory- 10 hours, 5 hours for discussion on project (1 hour for Seminar) **Each student has to choose either (a), (b), (c) as elective in accordance with the Dissertation chosen.



UNIVERSITY OF KERALA

**Syllabus for
M. Sc. Programme in Branch III
CHEMISTRY**

**(Revised Syllabi under Semester System
with effect from 2020 Admissions)**

PREAMBLE

The syllabi of M.Sc programmes in Chemistry offered in the affiliated colleges of the University under Semester system have been revised and the revised syllabi are to be effective from 2020 admission. There are two independent PG programmes in Chemistry, namely **M.Sc. Programme in Branch III–Chemistry and M.Sc. Programme in Branch IV–Analytical Chemistry**. Both these PG programmes are equivalent in all respect for employment and higher studies. Each of these two PG programmes shall extend over a period of two academic years comprising of four semesters, each of 450 hours in 18 weeks duration. The syllabi and scheme of examinations of these two programmes are detailed below. The theory courses of the first three semesters and the practical courses of the first two semesters of the two programmes are common, and therefore, the examinations of these two PG programmes are to be conducted with common question papers for the first three semesters by a common Board of Examiners. These syllabi are effective from 2020 admission in affiliated colleges of the university.

M.Sc. PROGRAMME IN BRANCH III – CHEMISTRY

(Revised syllabus under semester system with effect from 2020 admission)

SYLLABUS AND SCHEME OF EXAMINATION

Course No and Title		Hours per week		Duration of ESA	Marks for CA	Marks for ESA	Total Marks
		L	P				
SEMESTER I*							
CH 211	Inorganic Chemistry I	5		3	25	75	100
CH 212	Organic Chemistry I	5		3	25	75	100
CH 213	Physical Chemistry I	5		3	25	75	100
CH 214	Inorganic Chemistry Practicals I		3	(To be continued in Semester II)			
CH 215	Organic Chemistry Practicals I		3	(To be continued in Semester II)			
CH 216	Physical Chemistry Practicals I		4	(To be continued in Semester II)			
Total marks for Semester I							300
*Distribution of teaching hours/week: Theory–15 hours, Practical's –10 hours							
SEMESTER II*							
CH 221	Inorganic Chemistry II	5		3	25	75	100
CH 222	Organic Chemistry II	5		3	25	75	100
CH 223	Physical Chemistry II	5		3	25	75	100

CH 214	Inorganic Chemistry Practicals II		3	6	25	75	100
CH 215	Organic Chemistry Practicals II		3	6	25	75	100
CH 216	Physical Chemistry Practicals II		4	6	25	75	100
Total marks for Semester II							600
*Distribution of teaching hours/week: Theory–15 hours, Practical’s –10 hours							
SEMESTER III*							
CH 231	Inorganic Chemistry III	5		3	25	75	100
CH 232	Organic Chemistry III	5		3	25	75	100
CH 233	Physical Chemistry III	5		3	25	75	100
CH 234	Inorganic Chemistry Practicals II		3	(To be continued in Semester IV)			
CH 235	Organic Chemistry Practicals II		3	(To be continued in Semester IV)			
CH 236	Physical Chemistry Practicals II		4	(To be continued in Semester IV)			
Total marks for Semester III							300
*Distribution of teaching hours/week: Theory–15 hours, Practical’s –10 hours							
SEMESTER IV*							
CH 241	Chemistry of Advanced Materials	5		3	25	75	100
CH 242 (a)	Inorganic Chemistry IV	5		3	25	75	100
CH 242 (b)	Organic Chemistry IV						
CH 242 (c)	Physical Chemistry IV						
CH 234	Inorganic Chemistry Practicals II		3	6	25	75	100
CH 235	Organic Chemistry Practicals II		3	6	25	75	100
CH 236	Physical Chemistry Practicals II		4	6	25	75	100
CH 243 (a)	Dissertation**					50	50
CH 243 (b)	Visit to R&D Centre					5	5
Comprehensive viva-voce						45	45
Total marks for Semester IV							600
Grand Total (for semesters I – IV)							1800
*Distribution of teaching hours/week: Theory–10 hours, Practical’s –10 hours , 5 hours for discussion on project							

** 10 marks out of the 50 marks for dissertation will be for dissertation viva-voce.

The remaining 40 marks is to be distributed as follows_

Introduction to the work/ Statement of the Problem – 5, Review of Literature – 5
Materials and Methods – 5, Results and Discussion – 15, Language and style of presentation – 2, References – 3, Quality and Innovation – 5.