



**THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN (AUTONOMOUS),
Sivakasi**

(Affiliated to Madurai Kamaraj University, Reaccredited with "A" Grade by NAAC,
College with Potential for Excellence by UGC & Mentor Institution under UGC PARAMARSH)

NAAC SSR Cycle IV (2015-2020)

**7.1 Institutional Values and Social
Responsibilities**

7.1.3. Management of Wastes

Hazardous Chemicals Management



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Syllabus for Micro scale experiments to minimize usage of Chemicals

**THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN,
SIVAKASI.
DEPARTMENT OF CHEMISTRY
B.Sc. CHEMISTRY
SEMESTER V
MAJOR PRACTICALS
GLCH5L1 – PHYSICAL CHEMISTRY PRACTICAL**

(For those admitted in June 2017 and later)

Contact hours per week : 06
Total number of hours per semester : 90
No. of Credits : 05

Course Outcomes:

On successful completion of the course, the learners should be able to

- CO1: retrieve the procedures and instrumental operation applied in the practical tasks of Physical Chemistry
- CO2: adapt the micro scale handling in the laboratory in order to reduce the usage of chemicals.
- CO3: utilize their skills in carrying out physical chemistry laboratory techniques.
- CO4: record, review and analyse the observed experimental data.
- CO5: interpret the observed data following the laboratory ethics.

CO-PO Mapping Table (Course Articulation Matrix)

POS \ COs	POs						
	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	1	-	-	1	-	-	-
CO2	3	-	9	3	-	9	-
CO3	3	-	9	3	-	-	-
CO4	3	9	9	3	-	-	-
CO5	1	-	-	1	-	9	-
Weightage of the Course	11	9	27	11	-	18	-
Weighted percentage of Course contribution to POs	1.31	1.42	9.78	2.74	0	21.18	0

I Experiments:

1. Determination partition coefficient of iodine and carbon tetrachloride and the stability constant for KI₃ formation. (microscale method)
2. Phase diagram of a simple eutectic system.
3. Phase diagram of a compound formation system.

Approved in the Academic Council meeting held on 13.06.2019

UGCHEM 61



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Syllabus for Micro scale experiments to minimize usage of Chemicals

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SIVAKASI.
DEPARTMENT OF CHEMISTRY
B. Sc. CHEMISTRY
SEMESTER I & II
MAJOR COURSE
BDCH2L – INORGANIC QUALITATIVE ANALYSIS
(For those who have joined in June 2020 and later)

Contact hours per week : 03
Total number of hours per semester : 45
No. of credits : 04

Course Outcomes:

On successful completion of the course, the learners should be able to

CO1[K2]: recall the principles behind micro qualitative analysis and adulteration of food materials.

CO2[K3]: identify the anions and cations present in the mixture.

CO3[K3]: apply the methods to eliminate various interfering radical

CO4K3]: apply the intergroup separation to categorize the metal ions into different groups.

CO5[K4]: analyse the cations and anions present in pyrotechnic chemicals.

CO-PO Mapping Table (Course Articulation Matrix)

POs Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	9	9	-	-	-	-	-
CO2	9	-	3	3	-	-	-
CO3	1	9	-	-	-	-	-
CO4	-	-	9	9	-	-	-
CO5	9	-	3	-	-	-	3
Weightage of the Course	28	18	15	12	-	-	3
Weighted percentage of Course contribution to POs	2.59	2.64	4.6	3.27	0	0	2.75

Based on the level of contribution (9-High, 3-Medium, 1-Low)

I. Analysis of a mixture containing two cations and two anions of which one is an interfering ion – Micro methods

Anions: Carbonate, Chloride, Bromide, Nitrate, Sulphate, Borate, Fluoride, Oxalate, Chromate, Phosphate.

Cations: Lead, Bismuth, Copper, Cadmium, Iron, Aluminum, Zinc, Manganese, Cobalt, Nickel, Barium, Strontium, Calcium, Magnesium, Ammonium.

II. Micro qualitative analysis of cations and anions used in Pyrotechnic industry*

Submitted to Academic Council

UGCHEM36



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Fume Hoods -to get rid of Toxic Fumes in Laboratories



Exhaust Fans -to get rid of Toxic Fumes in Laboratories

