

DEPARTMENT OF CHEMISTRY				CLASS: I M.Sc. Chemistry				
Sem	Course Type	Course Code	Course Title	Credits	Contact Hours/week	CIA	Ext	Total
II	Major Practical	21P2CMP3	Organic Estimation	2	4	40	60	100

Nature of Course			
Knowledge and skill	✓		Employability oriented
Skill oriented	✓		Entrepreneurship oriented

Course Objectives: To expose the students to experiments in organic estimations by employing volumetric skills.

List of experiments:

- Estimation of glucose by Lane & Eynon method
- Estimation of glucose by Bertrand's method
- Estimation of aniline
- Estimation of Phenol
- Estimation of ethylmethyl ketone
- Estimation of formaldehyde
- Estimation of glycine

Books for reference:

1. Jeffery G. H. J. Basset and others, Vogel's Text Book of Quantitative Chemical Analysis, ECBS, 5th Edition.
2. Ramanujam V.V., Inorganic Semi Micro Quantitative Analysis, The National Publishing Company, 1990.
3. O.P. Pandey, N. Bajpai, S. Giri, "Practical Chemistry" S. Chand and Co Ltd., ISBN: 9788121908122, 9788121908122, 2010.
4. Henry W. Schimpf "A text book of volumetric analysis", Biolife Publishers, ISBN: 978-1117262451, 1117262456, 2009.
5. Peter Mc Pherson, "Practical volumetric analysis" RSC publications, ISBN: 978-1849739146, 1849739145, 2014.
6. V. Venkateswaran, R. Veeraswamy, A.R. Kulandaivelu, Basic Principles of Practical Chemistry, S. Chand & Co., New Delhi, 1997.

Web resources:

1. <http://www.federica.unina.it/agraria/analytical-chemistry/volumetric-analysis/>
2. <https://byjus.com/chemistry/volumetric-analysis/>
3. <https://nptel.ac.in/noc/courses/noc20/SEM1/noc20-cy02/>
4. <https://chemistry.tcd.ie/assets/pdf/Preliminary%20Course/Titration%20Demonstration.pdf>

Pedagogy : Demonstration and practical session.

Rationale for Nature of the course

This course will enable the students to comprehend the basic knowledge of organic estimations through volumetric analysis methods. They will acquire skills through titrimetric methods by connecting the principles of organic synthesis.

Activities having direct bearing on Skill development/ Employability/Entrepreneurship

The knowledge of volumetric analysis and basic principles of organic synthesis develops the students approach towards the estimation of organic molecules. They can correlate the properties/reactivity of molecules quantitatively and the same will be tested.

Course learning outcome:

After successful completion of this course, the student will be able to

CLOs	CLO statement	Knowledge level
CLO 1	To get domain knowledge in estimation of organic compounds	Up to K2
CLO 2	To design the basic laboratory techniques of volumetric analysis	Up to K3
CLO 3	To develop the skills for doing any titrations and recording data	Up to K3
CLO 4	To make scientific claims that is supported by their data and other observations	Up to K4
CLO 5	To communicate the finding	Up to K2

Mapping of CLOs with PLOs

#	PLO-1	PLO-2	PLO-3	PLO-4	PLO-5
CLO-1	2	3	1	2	2
CLO-2	2	3	1	2	
CLO-3	3	3	1	3	1
CLO-4	2	2	1	2	1
CLO-5	2	1	1	1	1

Advance application- 3; Intermediate level-2;

Basic level-1

Evaluation:

Continuous Internal Assessment	:	40 Marks
External Assessment	:	60 Marks
Total	:	100 Marks

Formative Assessment:

CIA Components	Marks
Internal Test	20
Observation/Record	10
Continuous class assessment	10
Total Marks	40

Summative Assessment:

CLOs	CLO statement	Knowledge level	Marks
CLO 1	To get domain knowledge in estimation of organic compounds	Up to K2	10
CLO 2	To design the basic laboratory techniques of volumetric analysis	Up to K3	10
CLO 3	To develop the skills for doing any titrations and recording data	Up to K3	15
CLO 4	To make scientific claims that is supported by their data and other observations	Up to K4	20
CLO 5	To communicate the finding	Up to K2	5
Total Marks			60

Name of the course Designer

- Dr. S. V. Karthikeyan