

Name of Faculty	:	Faculty of Science
Name of Program	:	Master of Science
Course Code	:	1MSO05
Course Title	:	Practical - I (Organic chemistry and Inorganic Chemistry)
Type of Course	:	Basic Science
Year of Introduction	:	2023-24

Prerequisite	:	Basic practical knowledge of Inorganic and organic chemistry.
Course Objective	:	Chemistry Practicals provide students to learn about synthesis, separation, purification and identification of organic compound. It develops the ability to correlate the chemical and physical properties of elements and their compounds with their positions in the periodic table.
Course Outcomes	:	At the end of this course, students will be able to:
	CO1	To understand good laboratory practices and safety
	CO2	To practically apply the concepts learnt in organic reaction
	CO3	To impart advanced knowledge on the semi-micro qualitative analysis of mixture of metal ions.
	CO4	To develop hands on experience on making various organic compounds by employing synthetic strategies.

Teaching and Examination Scheme

Teaching Scheme (Contact Hours)			Credits	Examination Marks				
L	T	P		Theory Marks		Practical Marks		Total Marks
SEE	CIA	SEE	CIA					
0	0	8	4	-	-	70	30	100

Legends: **L**-Lecture; **T**-Tutorial/Teacher Guided Theory Practice; **P** - Practical, **C** - Credit, **SEE** - Semester End Examination, **CIA** - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)

NOTE: This specification table shall be treated as a general guideline for the students and the teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Suggested List of Experiments / Tutorials

Sr. No.	Name of Experiment/Tutorial	Teaching Hours	Mapping With COs
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Part A: Organic Chemistry Practical One Step Preparation of organic compounds : (Minimum 15)			
1	Nitration	04	CO1 CO2 CO4
2	Bromination	04	
3	Acylation	04	
4	Reduction	04	
5	Oxidation	04	
6	Condensation reaction	04	
7	Diazotization reaction	04	
8	Friedl-Craft's reaction	04	
9	Cannizzaro's reaction	04	
10	Aldol condensation	04	
Part B: Inorganic Chemistry Practical Semi-microqualitative analysis of 15 mixtures, each having six radicals including less familiar elements (Mo, W, Li, Th, V, Zr, Ce, Be, Ti) and one insoluble compounds		04 x 15 =60	CO1 CO3

Suggested Distribution of Theory Marks Using Bloom's Taxonomy						
Level	Remembrance	Understanding	Application	Analyse	Evaluate	Create
Weightage	20	20	20	20	20	-

Major Equipment / Instruments and Software Required

Sr.No.	Name of Major Equipment / Instruments and Software
1	Kipp's Apparatus
2	Condenser
3	Distillation assembly
4	Weighing Balance
5	measuring cylinder
6	conical flask
7	glass rod
8	beaker
9	test tubes
10	funnel
11	test tube stand

Suggested Learning Websites

Sr. No.	Name of Website
1	https://onlinecourses.nptel.ac.in/noc23_cy36/preview
2	https://onlinecourses.nptel.ac.in/noc23_cy54/preview
3	https://onlinecourses.nptel.ac.in/noc23_cy58/preview

Reference Books

Sr. No.	Name of Reference Books
1	A text book of practical organic chemistry - A. I. Vogel

2	Practical organic Chemistry - Mann and Saunders
3	Comprehensive Practical Organic Chemistry: Preparations and Quantitative Analysis V K Ahluwalia & R. Aggarwal Universities Press.
4	Comprehensive Practical Organic Chemistry: Qualitative Analysis V K Ahluwalia & S. Dhingra.
5	A handbook of quantitative and qualitative analysis - H. T. Clarke.
6	An Advance Course in practical Chemistry, A K. Nad, B. Mahapatra and A. Ghoshal.
7	Vogel's Qualitative Inorganic Analysis, Revised by G Svehla, Sixth Edition, Longman, 1987.