Gyanmanjari Innovative University

Syllabus
Gyanmanjari Science College
Semester-2(M.Sc IC)

Subject: Practicals– MSCIN12512

Type of course: Major

Prerequisite: Students should have basic knowledge organic separation techniques.

Rationale: It teaches them the new methodology of a scientific experiment. It allows students to learn chemistry in different ways.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
				Theory Marks		Practical Marks		CA	
CI	T	P	C	ESE	MSE	V	P	ALA	
0	0	12	6	00	00	40	80	30	150

Legends: CI-Class Room Instructions; T – Tutorial; P - Practical; C – Credit; ESE - End Semester Examination; MSE- Mid Semester Examination; V – Viva; CA - Continuous Assessment; ALA- Active Learning Activities.

Continuous Assessment:

Sr. No	Active Learning Activities	Marks
1.	**JOURNAL** Unit wise practical will be given by faculty and students will prepare a journal for the practical.	30
	Total	**30**

List of Practicals:

Sr. No.	Descriptions	Unit No.	Hrs
I	**Organic Separation:** Separation of two components from the given binary or ternary mixture of organic compounds Qualitatively and identification of its components. Liquid-Liquid and Solid – Liquid (min-12)	1	80
II	**Organic Synthesis:** It is the art and science of constructing organic molecules, whose primary element is carbon, such as those found in living creatures and also some synthetic materials. 1. To prepare acetanilide from aniline by acetylation method. 2. Preparation of p-bromo acetanilide from acetanilide (Bromination reaction). 3. To prepare p-bromo aniline from p-bromo acetanilide. 4. To prepare p-nitro acetanilide from acetanilide. 5. To prepare p-nitro aniline from p-nitro acetanilide. 6. Preparation of m-nitro aniline from nitrobenzene. 7. To prepare hippuric acid from glycine. 8. To prepare phenol formaldehyde resin from phenol. 9. To prepare Urea formaldehyde resin. 10. To prepare methyl salicylate from salicylic acid.	2	50
III	**Estimations:** It helps in determining the quantity of a substance present in a given sample. 1. Determination of saponification value of an oil and fat. 2. Estimation of amino group by acetylation method. 3. To determine the percentage of tannin in tea leaves. 4. To determine the amount of aspirin in a given sample. 5. To determfine sugar content in given honey sample	3	50
	TOTAL		180

Suggested Specification table with Marks (Theory):60

Distribution of Theory Marks (Revised Bloom's Taxonomy)						
Level	Remembrance (R)	Understanding (U)	Application (A)	Analyze (N)	Evaluate (E)	Create (C)
Weightage	20%	40%	30%	10%	-	-

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

Instructional Method:

The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

From the content 10% topics are suggested for flipped mode instruction.

Students will use supplementary resources such as online videos, NPTEL/SWAYAM videos, e-courses, Virtual Laboratory

The internal evaluation will be done on the basis of Active Learning Assignment

Practical/Viva examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Reference Books:

1) Practical Chemistry by V.K. Ahluwalia.
2) Practical Organic Chemistry 1st edition by Hitesh G. Raval, Sunil L. Baldania and Dimal A. Shah – Nirav Prakashan.
3) Practical Organic Chemistry by Dr. M. Satish Kumar.