



Birla Institute of Technology & Science, Pilani
Hyderabad Campus

ACADEMIC UNDERGRADUATE STUDIES DIVISION

FIRST SEMESTER 2021-2022

Course Handout Part II

Date: 28/09/2021

In addition to part -I (General handout for all courses appended to the time table) this portion gives further specific details regarding the course.

Course Number	CHEM F110
Course Title	CHEMISTRY LABORATORY
Instructor-in-Charge	TANMAY CHATTERJEE
Team of Instructors	Nilanjan Dey, J Subbalakshmi, Manab Chakravarty, KVG Chandrasekhar, R. Krishnan, Durba Roy, D. Ramaiah, Himanshu Aggarwal, N. Rajesh, Arijit Mukherjee, Nilanjana Mukherjee, Kaja Sravani, B Hima Bindu, Shouvik Bhui, Khetmalis Yogesh Mahadu, Saraswati Roy, Rituparna Hazra, Anamika Bandyopadhyay, T Leelasree, Jayapriya V, Reeshma Rameshan, Dyagala Shalini, Madduri Lalitha Sai Naga Vis, Mollah Rohan Ahsan, Paramita Pattanayak, Rikitha Sharyl Fernandes, Ronak Lazarus, Shivani Tripathi

1. Course Description: This course is based on laboratory experiments in different fields of chemistry. The course is available for first year students.

2. Scope and Objective: The main objective of this course is to educate the students with different aspects of chemistry experiments. The students will carry out a set of experiments that will expose them to various experimental techniques in Organic, Inorganic and Physical chemistry. They will learn operating different scientific equipments for collecting data. Experiments in organic and inorganic chemistry will include synthesis and analysis of different compounds. Experiments in physical chemistry will include pH metry, conductometry, spectrophotometry and chemical kinetics experiments.

3. Text Book(s): Chemistry Laboratory Manual

4. Reference Book: Reference sources for each experiment will be specified as necessary.

5. Course Plan: The students will perform selected experiments in organic, inorganic & physical chemistry.

List of Experiments:

1. SYNTHESIS AND RECRYSTALLIZATION OF DIBENZALACETONE.

2. DETERMINATION OF THE CONCENTRATION EQUILIBRIUM CONSTANT (K_c) OF THE REACTION.

**3. DISSOCIATION CONSTANT OF A WEAK ELECTROLYTE
BY CONDUCTOMETRY**

**4. i) PREPARATION OF POTASSIUM BIS(OXALATO)CUPRATE(II) DIHYDRATE
ii) PREPARATION OF TRIS(ACETYLACETONATO)IRON(III) COMPLEX.**

5. SYNTHESIS OF GLUCOSAZONE.

**6. DETERMINING ACTIVATION ENERGY OF THE HYDROGEN PEROXIDE -
POTASSIUM IODIDE CLOCK REACTION**

7. ACID-BASE TITRATION USING pH METER.

8. ESTIMATION OF COPPER BY IODOMETRY.

**9. DETERMINATION OF THE UNKNOWN STRENGTH OF AN ACID SOLUTION BY
CONDUCTOMETRIC TITRATIONS**

6. Evaluation:

Component	Duration	Weightage (%)	Date & Time
Lab discussion and quiz	TBA	70	Continuous/Open book
Quiz	90 min	30	TBA/Open book

7. Make-up policy: Make up will be granted for **genuine cases** only as decided by the team.

8. Notice: All notices concerning the course will be displayed on CMS.

**Instructor-in-Charge
Chemistry Laboratory**

