Birla Institute of Technology & Science, Pilani
Hyderabad Campus

SECOND SEMESTER 2021-2022

Course Handout Part II

Date: 07/05/2022

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	Himanshu Aggarwal
Team of Instructors	Jayanty Subbalakshmi, KVG Chandra Sekhar, Manab Chakravarty, Chanchal Chakravarty, and Arijit Mukerjee.

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

2. Scope and Objective: The main objective of this course is to educate the students with different aspects of experiments in chemistry. The students will carry out a set of experiments that will expose them to various experimental techniques like preparation of standard solution, chemical synthesis, filtrations, recrystallization, and operating of different scientific equipment for collecting data and analysis. 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: Students will perform selected experiments in Organic, Inorganic & Physical chemistry

List of Experiments:

1st Cycle

Lab 1	Synthesis and recrystallization of dibenzalacetone
Lab 2	Determination of the concentration equilibrium constant (K_c) of the reaction
Lab 3	Dissociation constant of a weak electrolyte by conductometry

Lab 4	(i) Preparation of potassium oxalate complex and (ii) iron acetyl acetonate complex
Lab 5	Synthesis of glucosazone
2nd Cycle	
Lab 6	Determination of the activation energy of hydrogen peroxide - potassium iodide clock Reaction
Lab 7	Determination of pH curve of an acid-base titration
Lab 8	Estimation of copper by Iodometry
Lab 9	Determination of the unknown strengths of a strong and a weak acid solution by conductometric titration
Lab 10	Make up for experiments

6. Evaluation:

Component	Duration	Weightage (%)	Date & Time	Nature
Lab performance and Calculation and Data interpretation* Continuous**		70		OB
Quiz Open book	90 min	30		04/08AN

***Attendance and Punctuality, Laboratory Conduct, Record maintenance** will be given due importance in the evaluation.

** All the experiments are evaluated in the lab and are considered open book

7. Make-up policy: Please ensure that you do not miss any experiment. Only 1 make-up will be given for the entire course as per the following

Make up would be considered for very **genuine reasons** (***such as institute deputation outside for sports/cultural fest, hospitalization (with suitable***

documentary proof), and any other **extreme emergency situations only with prior permission** which would be decided by the team of instructors.

<u>Please note for medical reasons</u>: Chief Warden's approval and campus doctor's certificate/prescription is necessary.

8. **Notice**: All notices concerning the course will be displayed on Chemistry Department Notice Board and/or CMS. **Lab manual, White Lab Coat with proper shoes are compulsory.**

9. **Academic Honesty and Integrity Policy:** Academic honesty and integrity are to be maintained by all the students throughout the semester and no type of academic dishonesty is acceptable.

10. **Final grading** will be done on the basis of the overall performance of a student in each of the components as listed in item no. 6. For **mid-semester grading**, progress made by a student up to that point of time will be evaluated.

Instructor-in-Charge
Chemistry Laboratory