

DEPARTMENT OF BIOCHEMISTRY
St. Edmund's College Shillong

SCHEDULED FOR PRACTICAL CLASS

Day	Time	Semester	Faculty	Experiments
Mon & Wed	10.00 AM	Fifth	Dr. H.S.Ranhotra	1. Estimation of Serum GOT & GPT 2. Estimation of Urea in blood 3. Estimation of bilirubin 4. Estimation of Creatinine
Fri & Sat	10.00 AM	Fifth	Dr. J. Wahlang	1. Estimation of blood haemoglobin 2. Estimation of blood glucose
Tue & Thu	10.00 AM	First	Dr. B.Kharwanlang	1.Preparation of Buffer 2.Verification of Beer-Lambert Law
			Dr. P.Dkhar	1. Estimation of Protein by Lowry's method 2. Estimation of Protein by Bradford's method 3. Estimation of DNA using diphenylamine 4. Estimation of RNA using Orcinol
To be notified	10.00 AM	Third	<u>Dr. J.Wahlang</u>	1. Separation of protein by SDS-PAGE 2. Gel filtration chromatography
		Third	<u>Dr. Omarlin Kyndiah</u>	1. Assay of amylase activity 2. determination of Km and Vmax 3. Effect of temperature on enzymes activity 4. Effect of substrate concentration on enzymes activity.

- Please note: 1. Third Semester will continue Online Classes till further notice.
2. Practical Class for 5th Semester commence from 5th February 2021.
3. Practical Class for 1st Semester commence from 8th February 2021.

Dr. Omarlin Kyndiah
Associate Professor & HoD

Course Level Learning Outcomes

Course-level learning outcomes that a student of **FIRST SEMESTER** is required to demonstrate are:

- Understanding Good laboratory practices in a chemistry/biochemistry laboratory.
- Learn safety and precautionary measures for working in a laboratory.
- Develop skill and proficiency in preparation of laboratory reagents
- Use of handling of glass wares, minor equipment for conducting experiments
- Develop skills to prepare standard chemical solutions and secondary standards.
- Demonstration of basic oxidation and reduction reactions.

Good Laboratory Practices (largely Practical based)

Learning outcomes

After completing this course, the learner will be able to:

Apply practical skills in science courses with the understanding of general laboratory practices

- Use various micro techniques used in chemistry
- Apply various techniques to study chemical compounds, salts
- Explore various research issues and their solutions

Keywords: Laboratory calculations, calibration procedures, use of glasswares, safety aspects in preparation

Unit I: General Laboratory Practices

Common calculations in chemistry laboratories. Understanding the details on the label of reagent bottles. Preparation of solutions. Molarity and normality of common acids and bases. Dilutions. Percentage solutions. Molar, molal and normal solutions. Technique of handling micropipettes; Knowledge about common toxic chemicals and safety measures in their handling.

Unit II: Instrument-Techniques and laboratory preparation procedure.

Use of pipette, micropipette, analytical balances, pH meter, spectrophotometer, Use of purified water in lab experiments, Cleaning and drying of glasswares.

Suggested Readings

1. Seiler, J.P. (2005). Good Laboratory Practices: the why and how. Springer-Verlag Berlin and Heidelberg GmbH & Co. K; 2nd ed.
2. Garner, W.Y., Barge M.S., Ussary. P.J. (1992). Good Laboratory Practice Standards: Application for field and Laboratory studies. Wiley VCH