Programme	BS Zoology	Course Code	ZOOL-214	Credit Hours	1
Course Title	**Lab. Biochemistry-I**				

Course Introduction

- To provide knowledge about macro molecules of eukaryotic cells and organelles, including membrane structure and dynamics;
- To provide in-depth knowledge about the polymerized organic compounds of life.
- To provide knowledge of the principles of bioenergetics and enzyme catalysis
- To provide knowledge of the chemical nature of biological macromolecules, their three-dimensional structure, and the principles of molecular recognition

Learning Outcomes

- Use basic laboratory skills and apparatus to obtain reproducible data from biochemical experiments;
- Implement experimental protocols, and adapt them to plan and carry out simple investigations

Course Content		Lecture/Practical
Week 1	1. Preparation of standard curve for glucose by *ortho*-Toluidine method.	Lecture/Practical
Week 2	2. Estimation of glucose from blood serum or any other fluid using *ortho*-Toluidine technique.	Lecture/Practical
Week 3	3. Tests for detection of carbohydrates in alkaline medium.	Lecture/Practical
Week 4	4. Tests for detection of carbohydrates in acidic medium.	Lecture/Practical
Week 5	Continue	Lecture/Practical
Week 6	5. Tests for detection of Disaccharides.	Lecture/Practical
Week 7	6. Tests to demonstrate relative instability of glycosidic linkage in Disacchaide (Sucrose) & polysaccharide (Stanch).	Lecture/Practical
Week 8	Continue	Lecture/Practical
Week 9	7. Detection of Non-Reducing sugars in the presence of reducing sugars.	Lecture/Practical Lecture/Practical
Week 10	8. Demonstration of Acid Hydrolysis of Polysaccharide	Lecture/Practical
Week 11	Continue	Lecture/Practical
Week 12	9. Determination of pKa values of an amino acid by preparation of titration curves.	Lecture/Practical
Week 13	Continue	Lecture/Practical
Week 14	10. Preparation of standard curve of proteins by Biuret method.	Lecture/Practical
Week 15	Continue	Lecture/Practical
Week 15	11. Estimation of any unknown concentration of protein using Biuret technique.	Lecture/Practical
Week 16	Continue	Lecture/Practical

Textbooks and Reading Material
1. Plummer, David T., 1990. An Introduction to Practical Biochemistry, 4th Ed. McGraw-Hill Book Company, London. 2. Wilson, K and Walker, J., 1994. Practical Biochemistry: Principles and Techniques, 4th Ed., Cambridge University Press. 3. Sawhney, S.K and Singh, R., 2008. Introductory Practical Biochemistry, Narosa Publishing House, New Delhi, India.
Teaching Learning Strategies
1. Reading and observation 2. Practical Performance 3. Presentation
Assignments: Types and Number with Calendar
1. 1st Assignment in Mid-term 2. 2nd Assignment in Final-term