Institute of Zoology Faculty of Life Sciences University of the Punjab, Lahore Course Outline



Programme		S Zoology	Course Code	ZOOL-108	Credit Hours	1			
Course Titl	le L	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									
 Implement experimental protocols, and adapt them to plan and carry out simple investigations 									
Course Con	ntent				Lecture/Practical				
Week 1	1. Pro To	eparation of standard cur sluidine method.	by ortho-	Lecture/Practical					
Week 2	2. Es flu	timation of glucose from id using <i>ortho</i> -Toluidine tec	any other	Lecture/Practical					
Week 3	3. Te	ests for detection of carbohyd	edium.	Lecture/Practical					
Week 4	4. Te	ests for detection of carbohyd	lium.	Lecture/Practical					
Week 5	Continue				Lecture/Practical				
Week 6	5. Te	5. Tests for detection of Disaccharides.			Lecture/Practical				
Week 7	6. Tests to demonstrate relative instability of glycosidic linkage in Disacchaide (Sucrose) & polysaccharide (Stanch).			glycosidic lysaccharide	Lecture/Practical				
Week 8	Co	ontinue		Lecture/Practical					
Week 9	9 7. Detection of Non-Reducing sugars in the presence		presence of	Lecture/Practical					
	100	lucing sugars.		Lecture/Practical					
Week 10	8. Demonstration of Acid Hydrolysis of Polysaccharide				Lecture/Fractical				
Week 11	Continue Lecture/Practical								
Week 12	9. De	etermination of pKa valu	es of an amino	o acid by	Lecture/Practical				

Week 13	Continue	Continue							
Week 14 10. Preparation		of standard curve of proteins by Biuret method.		Lecture/Practical					
Week 15 Continue				Lecture/Practical					
Week 15	11. Estimation of Biuret technique	of any unknown	concentration of protein using	Lecture/Practical					
Week 16	Continue	Lecture/Practical							
Textbooks and Reading Material									
 Plummer, David T., 1990. An Introduction to Practical Biochemistry, 4th Ed. McGraw-Hill Book Company, London. Wilson, K and Walker, J., 1994. Practical Biochemistry: Principles and Techniques, 4th Ed., Cambridge University Press. Sawhney, S.K and Singh, R., 2008. Introductory Practical Biochemistry, Narosa Publishing House, New Delhi, India. 									
Teaching Learning Strategies									
 Reading and observation Practical Performance Presentation 									
Assignments: Types and Number with Calendar									
1. 1 st Assignment in Mid-term 2. 2 nd Assignment in Final-term									
Assessment									
Sr. No.	Elements	Weightage	Details						
1.	Midterm Assessment	35%	Written and Practical Assessment at the mid-point of the semester.						
2.	Formative Assessment	25%	Continuous assessment includes: Classroom participation, assignments, presentations, viva voce, attitude and behavior, hands-on-activities, short tests, projects, practical, reflections, readings, quizzes etc.						
3.	Final Assessment	40%	Written and practical examination at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.						