

University of Al-Anbar

College of Pharmacy

Department of Clinical Laboratory Sciences

Title of the course: ***Practical Biochemistry I***

Level: 3rd Class, 1st Semester

Credit hours: **Laboratory 1 credit 2 hours/week**

Tutors:

Reference text: ***Lab Manual for Practical Biochemistry Adopted by the Department***

Objectives: To integrate key concepts describing the traditional core topics of Biochemistry: structure and metabolism. At the end of the semester the students should be able to understand the chemical structure, and function of all biomolecules present in the living organisms.

| No. | Lab title | hours |
|-----|--|-------|
| 1. | Effects of acids on carbohydrates: Molish test; Bials test; Anthron test; Seliwanoffs test; Mucic acid test. | 2 |
| 2. | Classification of carbohydrates according to reducing properties: Benedicts test; Fehlings test; Barfoed test. | 2 |
| 3. | Classification of carbohydrates according to reducing properties: Iodine test; Ozasone test. | 2 |
| 4. | Determination of unknown carbohydrates sample. | 2 |
| 5. | Color reactions of proteins: Biuret test; Ninhydrin test. | 2 |
| 6. | Color reactions of proteins: Millons test; Hopkins-Cole test; unoxidized sulfur test. | 2 |
| 7. | Solubility of proteins (effects of acid, neutral salts, heavy metals, and alkaloidal reagents). | 2 |
| 8. | Determination of unknown sample of proteins. | 2 |
| 9. | Experiments on solubility of lipids. | 2 |
| 10. | Acrolin test for lipids; Soap; Studying properties of soap. | 2 |
| 11. | Determination of saponification number. | 2 |
| 12. | Properties of lipids: Iodine test for lipids. | 2 |
| 13. | Properties of enzymes: Effects of heat on enzymes. | 2 |
| 14. | Properties of enzymes: Effect of concentration of enzyme (salivary amylase) on reaction velocity. | 2 |
| 15. | Properties of enzymes: Effect of pH on enzymatic activity. | 2 |