



FACULTY OF BASIC AND APPLIED SCIENCES
DEPARTMENT OF PHYSICAL AND CHEMICAL SCIENCES
FIRST SEMESTER EXAMINATION (2017/2018 SESSION)

COURSE TITLE: PROTEIN STRUCTURE AND FUNCTION COURSE CODE: BCH 203 2 UNITS

TIME ALLOWED: 2 HOURS

Instruction: Answer any Four (4) questions.

TOTAL MARKS: 60

1. With the aid of a balanced chemical reaction describe:
 - a) The fate of ammonia during biodegradation of amino acid.
 - b) Reaction of α -NH₂ group of amino acid with Ninhydrin.
 - c) Esterification reaction of α -COOH group of amino acid.
 - d) Acylation reaction of α -NH₂ group of amino acid.
 - e) Reaction of α -COOH group of amino acid with primary amine.
2.
 - a) Briefly describe the different categories of protein classification.
 - b) Differentiate between Essential and Non-Essential amino acids and give 5 examples each.
 - c) What are the Lipoproteins? List the types of lipoprotein you know.
3. Extensively describe the metabolic fate of Carbon skeleton of any ketogenic amino acids during oxidative degradation.
4.
 - a) With the aid of an annotation, illustrate biosynthetic pathway of any named amino acid.
 - b) Mention 3 biological active molecules derived from amino acids.
5.
 - a) Briefly describe the stages involved in protein purification.
 - b) List 3 Analytical techniques used in protein purification.
6.
 - a) Extensively describe the levels of organization of Protein structure.
 - b) Mention 5 biological functions of Protein.