



**SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR
OF SCIENCE (FOODS, NUTRITION AND DIETETICS)
HFN 300N: FOOD BIOCHEMISTRY**

TIME: 8.00 a.m. – 10.00 a.m.

1. a) Define an enzyme and a catalyst (2 marks)
 b) List the factors that influence enzyme activity in foods (3 marks)
2. List at least five enzyme classes and state their functions (5 marks)
3. Explain the term rancidity (5 marks)
4. Distinguish between malting and fermentation (5 marks)
5. Explain the functions of co-factors in metabolism (5 marks)
6. a) Differentiate between protein racemization and cross-linking (4 marks)
 b) How do the processes mentioned in 6 (a) affect protein quality (1 mark)

Section B:

Answer **TWO** questions only.

7.
 - a) State and differentiate the two categories of metabolism (6 marks)
 - b) Glycolysis occurs in two phases. Explain. (8 marks)
 - c) Explain the fate of pyruvate under anaerobic conditions in humans (6 marks)
8. Explain the terms starch gelatinization and retrogradation (20 marks)
9.
 - a) Differentiate between enzymatic and non-enzymatic browning in food (4 marks)
 - b) Outline the various methods used to control enzymatic and non-enzymatic browning in foods (8 marks)
 - c) How does the maillard reaction affect food quality? (8 marks)