

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**

FACULTY OF APPLIED SCIENCES

BACHELOR OF SCIENCE HONOURS DEGREE EXAMINATIONS

DEPARTMENT OF APPLIED BIOLOGY AND BIOCHEMISTRY

**THEORY: FOOD CHEMISTRY SBB 2107**

JANUARY 2004

2 ½ HOURS (100 marks)

**INSTRUCTIONS**

Answer Five (5) Questions. Each question carries 20 marks. Where a question contains subdivisions, the mark value for each subdivision is given in brackets. Illustrate your answer where appropriate with large, clearly labelled diagrams.

1. Write short notes on (a) starch retrogradation (b) pectin gels (c) gums (d) alginates. (5 marks each)
2. Discuss the loss of the amino acid, lysine in processed foods.
3. Write an essay on the composition and utilisation of the components of cow's milk.
4. a) Describe the nature of the stroma proteins found in meat. (10 marks)  
b) Discuss changes that can occur in muscle after slaughter. (10 marks)
5. Explain the fairly unique value of wheat flour for bread production.
6. Discuss the deterioration of lipids in food products.
7. a) Outline the process of non-enzymatic browning in fresh foods. (10 marks)  
b) Outline the nature of the changes that take place in the production of black tea. (10marks)
8. Give a survey of the natural food pigments and discuss their importance in processing.

**END OF EXAMINATION**