

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

DECEMBER 2005

3 HOURS

100 marks

INSTRUCTIONS

Answer Four (4) Questions. Each question carries 25 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. Give an overview of the use of various pigments(natural and synthetic) and other colourants used in the food industry.
- 2.(a) Give an overview of lipid peroxidation in as it occurs in foods. (10 marks)
(b) Describe the role(s) of various antioxidants in food preservation (15 marks)
- 3.(a) Citing with specific examples, give an overview of the various types of flavours in foods. (10 marks)
(b) Give an account of the generation and significance of biogenic amines in meat and meat products. (15 marks)
4. Write an essay on the non enzymatic browning in foods and the importance of the "Maillard Reaction"
5. With the help of diagrams and chemical reactions, explain the importance of phenolases in food chemistry and processing.
6. Describe the various functional properties of proteins, showing where appropriate, their importance in food processing and manufacturing.

END OF EXAMINATION