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 2004

2 1/2 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. Describe the physical and functional properties of starches.

2. Discuss how high temperature processing, the action of lipases and metal contaminants may contribute to "off" flavour and odour development in fatty foods. Your answer should include the mechanisms of reactions involved.

3. Write an essay on the mechanism and the implication of the Maillard reaction in food processing.

4. Describe:
   (a) Vitamin C (5 marks)
   (b) the chlorophylls (10 marks)
   (c) Myoglobin (10 marks)

5. Describe enzymatic browning and discuss the means employed in the prevention of enzymatic browning in foods.

6. Write notes on:
   (a) flavouring extracts (13 marks)
   (b) artificial food colourants (12 marks)

END OF EXAMINATION

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