

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**

FACULTY OF APPLIED SCIENCES

MASTER OF SCIENCE IN SPORT SCIENCE AND COACHING

DEPARTMENT OF APPLIED BIOLOGY AND BIOCHEMISTRY

**THEORY: NUTRITION AND HEALTH RELATED ASPECTS OF EXERCISE SSC 5105**

DECEMBER 2001

3 HOURS (100 marks)

**INSTRUCTIONS**

Answer Four (4) Questions. Each question carries 25 marks. Select two questions from Section A and two questions from Section B. The mark value of each subdivision is given in brackets. Illustrate your answer where appropriate with large, clearly labelled diagrams.

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**SECTION A**

- 1 Write an essay on protein quality and its relevance to dietary planning.  
Give some biochemical details of the metabolic relevance of iron and explain how it is absorbed, transported, stored and eliminated from the body.
3. A) Explain the role of the hexokinase group of enzymes in the regulation of glucose levels in the tissues of the body.  
Or  
B) Explain the metabolic basis to the concept of essential fatty acids and the concept of the n-9, n-6, n-3 groups of fatty acids.

**SECTION B**

- 1.a) Compare and contrast the terms Fat-free Body Mass (FFM) and Lean Body Mass (LBM) and methods of their assessment. (12 marks)
- b) What is meant by desirable body mass. (6 marks)
- c) What are the differences between reference man and reference woman. (7 marks)
- 2.a) Describe the criteria for obesity and health risks of obesity. (14 marks)
- b) Outline briefly the general guidelines for exercise weight loss programmes. (11 marks)
3. List and explain the diagnostic criteria and risk factors for development of anorexia nervosa and bulimia nervosa in sports men and sports women. (25 marks)

**END OF QUESTION PAPER**