

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

SSC4104

FACULTY OF APPLIED SCIENCES

BACHELOR OF SCIENCE HONOURS DEGREE EXAMINATIONS

DEPARTMENT OF SPORTS SCIENCE AND COACHING

THEORY: SSC4104: NUTRITION AND SPORTS NUTRITION

JANUARY 2011

3 HOURS (100 MARKS)

INSTRUCTIONS

Answer 4 questions only. 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 labeled diagrams.

1. A person's diet should contain relative balance of carbohydrate, fat and protein of total calories consumed.
 - a) What is the recommended balance for most people? [5 marks]
 - b) Discuss how the balance in (a) can change with physical activity [20 marks]
2. In an experiment to show relationship between muscle glycogen content and exercise time to exhaustion, the exercise time to exhaustion and muscle glycogen were nearly four times greater when the subjects ate a carbohydrate-rich diet than when the diet was composed of fat and protein.
 - a) Explain these results. [6 marks]
 - b) Describe how an athlete can increase his/her muscle and liver glycogen. [10 marks]
 - c) Discuss the ergogenic properties of carbohydrates. [9 marks]
3. Discuss recommendations for carbohydrate and fluid intake:-
 - a) Before exercise [8 marks]
 - b) During exercise [8 marks]
 - c) Post exercise [9 marks]
4. Discuss sports drinks under the following subheadings:-
 - a) Stomach emptying [3 marks]
 - b) Absorption [2 marks]
 - c) Isotonic drinks [6 marks]
 - d) Hypotonic drinks [6 marks]
 - e) Hypertonic drinks [8 marks]

5. Different sports disciplines have different nutritional requirements based on duration and intensity of activities. With reference to at least two sporting disciplines discuss athlete nutrition before, during and after competitions. [25 marks]

6. Write short notes on:

a) Making weight for weight class sports. [10 marks]

b) Athlete eating disorders. [10 marks]

c) Weight loss. [5 marks]

END OF EXAMINATION