



University of Fort Hare
Together in Excellence

HUS - 218

DEGREE EXAMINATION PAPER

June 2023

TIME: 3 HRS

SUBJECT: HUMAN MOVEMENT SCIENCE

MARKS: 100

PAPER: HUS 218 – Sports Nutrition

INTERNAL EXAMINERS

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INSTRUCTIONS:

Answer All Questions

Exercise and Sports is highly dependent on nutrition and athletes depend much on nutrition in many ways. It can be nutrition to supplement their deficiencies for injury prevention and rehabilitation or to boost their performance.

Question 1

1.1. Metabolism of nutritional substrates that are consumed by athletes takes place in different metabolic processes which depends on the type of nutrient. Discuss role of the following nutritional substrates in relation to exercise with examples:

- a) Carbohydrates (10 marks)
 - b) Fats (10 marks)
- [20 Marks]

Question 2

2.1. Discuss the concept of energy balance in sports and exercise in detail.

[10 Marks]

2.2. Explain the factors affecting metabolic rate.

[10 Marks]

Question 3

3.1. What are the determinants of athletic performance requirements.

(6 marks)

3.2. What is the importance and recommendations for pre-exercise meal for athletes

(9 marks)

3.3. Answer

Explain the concept of carbo-loading and its benefits to athletic performance

(5 marks)

QUESTION 4

Each cell contains chemical pathways that convert these substrates to usable energy, a process called *bioenergetics*. Explain (3) *THREE* chemical pathways for breaking down carbohydrates to generate energy which is stored in the form of adenosine triphosphate. [20 Marks]

4.1. ATP-PC System

(6 marks)

4.2. Glycolytic system

(7 marks)

4.3. Oxidative system

(7 marks)

Question 5

5.1. Define the difference between ergogenic aids and ergolytic agent

(6 marks)

5.2. *Explain in detail with examples the concept and use of placebo in the athletic performance research.*

(4 marks)

5.3. *What are sympathomimetic amines (amphetamines) used by athletes and the proposed benefits and how they act on an athlete's body in order to enhance performance.*

(5 marks)

5.4. *Explain the proven risks of diuretics used as ergogenic aids.*

(5 marks)

[20 Marks]

-----100 Marks-----