



## **MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

P.O. Box 972-60200 - Meru-Kenya.  
Tel: +254(0) 799 529 958, +254(0) 799 529 959, +254 (0)712 524 293  
Website: [www.must.ac.ke](http://www.must.ac.ke) Email: [info@mucst.ac.ke](mailto:info@mucst.ac.ke)

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### **UNIVERSITY EXAMINATIONS 2023/2024**

**SECOND YEAR, SECOND SEMESTER EXAMINATION FOR THE DEGREE OF  
BACHELOR OF EDUCATION ARTS**

#### **EPH 3251: EXERCISE PHYSIOLOGY AND SPORTS NUTRITION**

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**DATE: APRIL 2024**

**TIME: 2 HOURS**

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**INSTRUCTIONS: Answer Question ONE and any other TWO questions.**

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#### **QUESTION ONE (30 MARKS)**

a) Explain the following concepts as used in Exercise Physiology and Sports Nutrition

- i. Exercise (2 Marks)
- ii. Training (2 Marks)
- iii. Conditioning (2 Marks)
- iv. Metabolism (2 Marks)
- v. Body Composition (2 Marks)

b) Discuss the effects of the following on Cardiovascular Endurance

- i. Isotonic Contractions (4 Marks)
- ii. Isometric Contractions (4 Marks)

c) Explain the increase in body mass as a result of weight lifting (4 Marks)

d) Discuss the impact of weight training on sprints and endurance events (4 Marks)

e) Discuss the impact of exercise on the aging process (4 Marks)



**MUST is ISO 9001:2015 and**



**ISO/IEC 27001:2013 CERTIFIED**

## **QUESTION TWO (20 MARKS)**

- a) Discuss the Cardiovascular responses to Exercise (10 Marks)
- b) Discuss how the cardiovascular system adapts itself to Physical Training (10 Marks)

## **QUESTION THREE (20 MARKS)**

- a) Explain the following concepts
  - i. Ergogenic aids (4 Marks)
  - ii. Drug abuse (4 Marks)
  - iii. Substance abuse (4 Marks)
- b) Discuss the impact of alcohol on the performance of an elite athlete in sports (8 Marks)

## **QUESTION FOUR (20 MARKS)**

- a) Discuss the impact of high altitude on the performance of track and field Events (10 Marks)
- b) Explain the principles of high altitude training and sports performance (10 Marks)

## **QUESTION FIVE (20 MARKS)**

- a) Explain the role of Acetyl Co Enzyme A in the production of ATP Energy (6 Marks)
- b) Discuss the following blood sugar conditions
  - i. Hypoglycemic shock (4 Marks)
  - ii. Hyperglycemic spike (4 Marks)
- c) How would you prescribe exercises to correct the conditions in b) (i) and (ii) above (6 Marks)

