

QP CODE: 24900025



Reg No:.....

Name:.....

**MAHATMA GANDHI UNIVERSITY, KOTTAYAM**

**FIRST SEMESTER MGU-UGP (HONOURS)**

**REGULAR EXAMINATION NOVEMBER 2024**

**First Semester**

**Multi-Disciplinary Course - MG1MDCBCH100**

**SPORTS BIOCHEMISTRY: THE SCIENCE OF EXERCISE AND HUMAN  
PERFORMANCE**

(2024 ADMISSION ONWARDS)

Duration: 1 Hours

Maximum Marks: 35

**Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Interest (I),  
Appreciation (Ap), and Skill (S)**

*Students should attempt atleast one question from each course outcome to enhance their overall  
outcome attainability.*

[Learning Domain][CO No(s)]

**Part A**

Multiple Choice Questions

Answer all questions.

Each question carries 1 mark

- 1      What is the primary purpose of carbohydrate replenishment after exercise      [U]    [5]  

a) To rebuild muscle tissue

b) To replenish glycogen stores

c) To rehydrate the body

d) To enhance performance
  
- 2      Find the similarity between cardiac muscles and skeletal muscles      [E]    [3]  

a) Both are non-striated

b) Both have striations

c) Both are located in the heart

d) Both contracts involuntarily
  
- 3      Which of the following mineral promote the building of strong bones ?      [U]    [2]  

a) Calcium

b) Potassium

c) Iron

d) Iodine

- |   |  |   |     |
|---|--|---|-----|
| 4 | Which of the following is an example of a pharmacological ergogenic aid? | [U]   | [4] |
|   | a) Protein powder  | b) Anabolic steroids                                |     |
|   | c) Hydration supplements   | d) Massage therapy                                  |     |
| 5 | How does sports biochemistry contribute to injury prevention?            | [K]   | [1] |
|   | a) Through better training   | b) By analysing biochemical markers for injury risk |     |
|   | c) By focusing on mental preparation techniques                          | d) By providing counseling for athletes             |     |

- |    |   |     |     |
|----|---|-----|-----|
| 6  | The main byproduct of anaerobic glycolysis that leads to muscle fatigue is _____  | [U] | [3] |
| 7  | One common side effect of beta-alanine supplementation, especially at higher doses, is a tingling sensation on the _____. | [K] | [4] |
| 8  | Mineral which promote the building of strong bones is _____   | [K] | [2] |
| 9  | Cryotherapy involves the use of.....to reduce pain and inflammation   | [K] | [5] |
| 10 | The enzyme _____ is released into the bloodstream when there is damage to skeletal or cardiac muscle.                     | [U] | [5] |

- 15 What is the difference between a sprain and a strain? [E] [5]
- 16 What technologies are commonly used in biomechanical assessments to capture movement data? [U] [4]
- 17 How does cellular adaptation affect the number of mitochondria in muscle cells? [U] [3]

(5 × 3 = 15)

**Part D**

Short Essay Type Questions

Answer any one question.

Each question carries 5 marks

- 18 Explain the significance of biomarker monitoring in assessing the progression of injuries. [A] [5]
- 19 Appreciate the functions of ergogenic aids in enhancing athletic performance. [Ap] [4]

(1 × 5 = 5)

**END OF THE QUESTION PAPER**

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