

BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF SCIENCE AND ENGINEERING

DEPARTMENT: SPORTS SCIENCE

BACHELOR OF SCIENCE HONOURS DEGREE IN SPORTS SCIENCE AND MANAGEMENT

SSM123: BIOCHEMISTRY OF PHYSICAL ACTIVITY

DURATION: 3 HOURS

TOTAL MARKS: 100

INSTRUCTIONS TO CANDIDATES

MAR 2024

Answer any FOUR questions.

1. Explain the following terms:

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| a) ATP re-synthesis | [7 marks] |
| b) Glycogenesis | [6 marks] |
| c) Gluconeogenesis | [6 marks] |
| d) Glycogenolysis | [6 marks] |

2. Discuss biochemical changes that happen due to physical activity on:

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| a) Muscles of a sprinter | [13 marks] |
| b) Blood of a sprinter | [12 marks] |

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| 3 a). Give any five advantages of hydration by an athlete before a competition. | [5 marks] |
| b) Describe how the body regulates temperature during physical activity. | [20 marks] |

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| 4a) Identify sporting activities that utilise the phosphagen pathway. | [5 marks] |
| b) Explain the phosphagen pathway. | [20 marks] |

5a) Describe the characteristics of any three (3) classes of carbohydrates. [10 marks].

b) Discuss any five (5) functions of carbohydrates in relation to physical activity. [15 marks]

6. Analyse the Krebs cycle with the aid of a diagram. [25 marks]