

BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF SCIENCE AND ENGINEERING

DEPARTMENT: SPORTS SCIENCE

NOV 2023

BACHELOR OF SCIENCE HONOURS DEGREE IN SPORTS SCIENCE AND MANAGEMENT

SSM 123: BIOCHEMISTRY OF PHYSICAL ACTIVITY

DURATION: 3 HOURS

TOTAL MARKS: 100

INSTRUCTIONS TO CANDIDATES

Answer **FOUR** questions.

1. Elaborate on biochemical changes that happen due to physical activity on:

- a) Muscles of a long-distance runner. [13 marks]
- b) Urine of a long-distance runner. [12 marks]

2. As a coach, justify why it is important to study the Biochemistry of Physical Activity. [25 marks]

3. Discuss functions of any five (5) hormones before and during physical activity. [25marks]

- 4a) Explain how the body regulates temperature during physical activity. [12 marks]
- b) Describe the process of hydrolysis of ATP during physical activity. [13 marks]

5. Describe the properties and functions of lipids in relation to physical activity. [25 marks]

6a). Outline the following terms:

- i) Glycogenesis. [6 marks]
- ii) Gluconeogenesis. [6 marks]

b) Analyse the ATP-PC system, giving examples of sports that utilise this pathway. [13 marks].

The End

