

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

17 APR 2025

Answer **FOUR** questions.

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1. Explain biochemical changes that happen due to endurance training on:
 - a) Blood of a long-distance runner. [13 marks]
 - b) skeletal muscles of a long-distance runner. [12 marks]
 2. Analyse any two (2) energy sources highlighting how they are utilised during a marathon competition. [25 marks]
 3. Explain the functions of any five (5) hormones before and during physical activity. [25marks]
 4. Explain how the body regulates temperature during physical activity. [25 marks]
 5. Describe the aerobic energy system citing examples of sports that rely on this pathway. [25 marks]
- 6a). Explain the following terms:
- i) Glycogenolysis. [5 marks]
 - ii) Gluconeogenesis. [5 marks]
 - iii) Glycolysis. [5 marks]
- b) Describe the ATP-PC system, giving examples of sports that depend on this pathway as a source of energy. [10 marks].

END OF PAPER