BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF SCIENCE AND ENGINEERING

DEPARTMENT: SPORTS SCIENCE

BACHELOR OF SCIENCE HONOURS DEGREE IN SPORT SCIENCE AND MANAGEMENT

SSM 412: PHYSIOLOGY OF EXERCISE

DURATION: 3 HOURS   **TOTAL MARKS: 100**

INSTRUCTIONS TO CANDIDATES

OCT 2024

Answer **two** questions from Section A and **two** questions from Section B.

Section A

1. (a). Discuss the fitness and rehabilitation functions of an exercise physiologist.   (10 marks)

   (b). Explain the general exercise recommendations for the normal adult population according to the American College of Sports Medicine standards.   (10 marks)

2. (a). Describe the ethical and legal issues an exercise physiologist has to observe as part of laboratory skills.   (10 marks)

   (b). Outline how blood doping enhances VO_2 Max giving its associated risks to an athlete.   (10 marks)

3. (a). How can the body transfer heat to the environment use 4 physiological mechanisms? (10 marks)

   (b). Illustrate the ways athletes can get altitude exposure.   (10 marks)

Section B.

4. Analyse why a trained performer can work at a higher intensity before reaching their VO_2 Max concerning the physiological adaptations that occur in the cardiovascular and respiratory systems.   (30 marks)

5. A coach led a Junior Football team on a ten-week training program before a major competition. At the end of each training session, the players were fatigued. The coach conducted a cool-down activity.

Task:

Explain the specific actions or interventions, other than a cool-down, the players could undertake to ensure they recover as rapidly as possible after each session. (30 marks)

6. (a). Marathon athletes can endure activities running for hours and require energy systems that produce a lot of ATPs.

Task:

Account for the aerobic energy systems that are responsible for powering marathon athletes given the amount of ATPs each produces. (20 marks)

(b). Design a one-week sample training programme to develop the energy systems used by a marathon athlete during the preseason. (10 marks)

END OF PAPER