NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

SSC4131

FACULTY OF APPLIED SCIENCES

DEPARTMENT OF SPORTS SCIENCE AND COACHING

BACHELOR OF SCIENCE HONOURS DEGREE IN SPORTS SCIENCE AND COACHING

CONVENTIONAL/BLOCK PROGRAMME

SSC4131: APPLIED EXERCISE PHYSIOLOGY AND BIOCHEMISTRY

SPECIAL EXAMINATION QUESTION PAPER

MARCH 2025

This examination question paper consists of 2 pages

TIME ALLOWED: 3 HOURS

TOTAL MARKS: 100

SPECIAL REQUIREMENTS: NIL

EXAMINER'S NAME: MISS K. DLAMINI

INSTRUCTIONS

1) Answer **any** 4 questions.
2) Each question carries 25 marks.
3) Where a question contains subdivisions, the mark value for each subdivision is given in brackets.

MARK ALLOCATION

QUESTION	MARKS
1.	25
2.	25
3.	25
4.	25
5.	25
6.	25
TOTAL	100

1. (a.) How does Cardiac output change during exercise? **[5 Marks]**

   (b.) How does ones Blood pressure respond to exercise? **[5 Marks]**

   (c.) What is Ejection fraction and how does it differ at rest and during exercise? **[5 Marks]**

   (d.) Describe the components of the Cardiovascular system. **[5 Marks]**

   (e.) Explain the mechanism of ventilation (i.e. inspiration and expiration). **[5 Marks]**

2. Which energy systems are used during exercise? Your response should include a description of the characteristics of each system. function and provide examples of activities that primarily rely on each bioenergetics system. **[25 Marks]**

3. For a chosen sporting code, detail how you would conduct a fitness testing battery. In your answer include the tests and their protocols. **[25 Marks]**

4. Discuss how hormones respond to acute exercise and what changes occur with exercise training. **[25 Marks]**

5. Describe the chronic cardiovascular and respiratory adaptions to exercise. **[25 Marks]**

6. Discuss cardiovascular diseases and the lifestyle modification strategies that patients with these conditions can adopt to reverse these conditions. **[25 Marks]**

END OF EXAMINATION