NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

SSC5115

FACULTY OF APPLIED SCIENCES

DEPARTMENT OF SPORTS SCIENCE AND COACHING

MASTER OF SCIENCE SPORTS SCIENCE

SSC5115: LABORATORY AND FIELD TECHNIQUES IN SPORTS SCIENCE

EXAMINATION QUESTION PAPER

DECEMBER 2024

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) Physical fitness assessment is a cornerstone of effective exercise prescription and program design." Discuss the rationale for this statement, providing specific examples to illustrate your points **(13 marks)**

   b) Elaborate on the specific role of physical fitness assessment in:

   (i) Elite athletes **(6 marks)**

   (ii) Children **(6 marks)**

2. Critically analyse the potential health, safety, and ethical implications of laboratory and experimental methods commonly employed in sport and exercise science. **(25 marks)**

3. A 67-year-old female client approaches you to enrol in your supervised exercise program. Outline the comprehensive pre-participation screening process you would implement to ensure her safety and optimize her training program. **(25 marks)**

4. Critically evaluate the factors influencing the selection of appropriate exercise testing modalities (e.g., treadmill, cycle ergometer, step test, field test) for assessing cardiorespiratory fitness. Discuss the strengths and limitations of each modality and provide specific examples of their application in research and clinical settings. **(25 marks)**

6. Discuss the factors that the trainer should consider when assessing the fitness levels of clients to ensure the reliability and validity of the test results, and provide recommendations for minimising potential errors. **(25 marks)**

7. Analyse the components of a typical training programme. **(25 marks)**

END OF EXAMINATION