NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

SSC2221

FACULTY OF APPLIED SCIENCES

DEPARTMENT OF SPORTS SCIENCE AND COACHING

CONVENTIONAL/BLOCK RELEASE PROGRAMME

SSC2221 STRENGTH AND CONDITIONING

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: MR M BANDA

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. Define and explain the following key terms (intensity, volume, repetitions sets and recovery) in the context of strength and conditioning programs. Include their practical application and significance when designing effective training plans. **[13 marks]**

   b. Define the terms "abduction" and "adduction" and provide an example of each in the human body. **[6 marks]**

   c. Explain the difference between flexion and extension, and provide an example of each at the knee joint. **[6 marks]**

2. a. Describe the key characteristics of Type I, Type IIa, and Type IIb muscle fibers in terms of contraction speed, fatigue resistance, and primary energy system. **[12 marks]**

   b. Compare and contrast concentric, eccentric, and isometric muscle contractions. Discuss their roles in everyday movements and athletic performance. **[13 marks]**

3. Examine the concept of individual training goals in strength and conditioning and their role in optimizing athletic performance and how coaches can tailor training goals to address the unique individual needs, abilities, and objectives of athletes. **[25 marks]**

4. a. Discuss the importance of recovery when designing a training programme.

   [10 marks]

   b. Analyze the key components of recovery and evaluate the effectiveness of various recovery strategies in enhancing athletic performance and reducing the risk of injury. **[15 marks]**

5. Explain the principles of training (specificity, overload, progression, and individuality) and their critical role in designing effective strength and conditioning programs and how these principles interact to ensure optimal athletic performance and adaptation. **[25 marks]**

6. Design a one-week resistance training programme (preparatory phase) for junior male soccer players (ages 14–16) in a gym setting. Your programme should focus on improving strength, power, and injury prevention while considering the unique physiological and developmental needs of adolescent athletes. **[25 marks]**

END OF EXAMINATION