

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

SSC4102

FACULTY OF APPLIED SCIENCES

BACHELOR OF SCIENCE HONOURS DEGREE SUPPLEMENTARY EXAMINATIONS

DEPARTMENT OF SPORTS SCIENCE AND COACHING

THEORY: SSC4102: SPORTS BIOKINETICS

AUGUST 2012

3 HOURS (100 MARKS)

INSTRUCTIONS

Answer **four** questions only. Each question carries 25 marks. Where a question contains subdivisions, the mark value for each subdivision is given in brackets. Illustrate your answer where appropriate with large, clearly labeled diagrams.

1. a) With one example in each case, explain the following terms which apply to types of rehabilitative exercises;
 - (i) Passive mobilizations (5 marks)
 - (ii) Active mobilizations (5 marks)
 - (iii) Resisted mobilizations. (5 marks)
- b. Draw up a 4 week activity programme for the return to sport after an uncomplicated lower limb stress fracture. (10 marks)
2. Training is seen as a preventative measure of sports injuries. Discuss the beneficial effects of training and exercise under the following headings.
 - a. skeleton/bone (5 marks)
 - b. cartilage (5 marks)
 - c. connective tissue (5 marks)
 - d. muscle (5 marks)
 - e. coordination (5 marks)
3. A twenty-four year old Premier Soccer League player ruptured his anterior cruciate ligament. He had surgical repair and is now looking forward to getting back to soccer. Detail your exercise programme for this player up to the point he returns to competitive soccer. (25 marks)
4. Discuss in detail the following factors which are considered important in relation to injury.
 - a. Athlete's qualifications (6 marks)
 - b. Sports equipment (6 marks)
 - c. Facilities (6 marks)
 - d. Characteristics of each Sport (7 marks)
5. a) A Mighty Warriors defender sustains an ankle injury during a tackle. In detail discuss your immediate management of the acute injury. (15 marks)

b) Give and explain five (5) circumstances in which there is need for urgent medical referral. (10 marks)

6. a) Briefly state the Morpho-functional, psychological and physiological characteristics of the geriatric population. (15 marks)

b) Give 5 precautions in each case that you would take when carrying out a physical activity programme with the children and geriatrics. (10 marks)

END OF EXAMINATION