

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

SSC4102

FACULTY OF APPLIED SCIENCES

BACHELOR OF SCIENCE HONOURS DEGREE EXAMINATIONS

DEPARTMENT OF SPORTS SCIENCE AND COACHING

THEORY: SSC4102: SPORTS BIOKINETICS

JANUARY 2011

3 HOURS (100 MARKS)

INSTRUCTIONS

Answer 4 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. Briefly describe the scope of the work of a Biokineticist highlighting the different roles of one. [10 marks]

Explain the following terms as they relate to sports Injuries:

- a) Ruptures. [5 Marks]
 - b) Dislocation. [5 Marks]
 - c) Sprain. [5 Marks]
2. With examples explain the following terms as they relate to physical rehabilitation:
- a) Active mobilizations. [5 Marks]
 - b) Passive mobilizations. [5 Marks]
 - c) Resisted mobilizations. [5 Marks]
 - d) Isometric contractions. [5 Marks]
 - e) Isokinetic contractions. [5 Marks]
3. Contrast the healing stages of soft tissue injuries highlighting:-
- a) The duration, processes and indications in each stage. [10 Marks]
 - b) Propose and justify a five-day biokinetic intervention plan for a basketball Point-guard who is recovering from a knee arthroscopy. [15 marks]

4. “Physical Activities, coupled with adequate nutrition, are controllable factors that can be managed in order to reduce weight among sedentary populations...” After attending one of the Sports Science public lectures, your Community Health Worker has requested that you help her organize a two day workshop under the theme “*Your health is in your hands.*” The target population are women.

Discuss the value of regular Physical Activity for the population group highlighting the following:

- a) Five differences between Women and men. [5 marks]
 - b) Three Challenges faced by women who may want to engage in systematic Physical Activity. [6 marks]
 - c) Three physical activities that women could practise to improve their health status. [9 marks]
 - d) The risks involved in indulging in a high fat diet. [5 marks]
5. Draw up a rehabilitation programme for a sports person who had to withdraw from the Davis Cup after being diagnosed with lateral epicondylitis. [25 marks]
6. The following is a brief conversation between two different special population groups sharing the challenges they face in their days
- Subject A: These guys just don't respect me at all and I'm tired of it!*
- Subject B: I know what you mean.*
- Subject A: Sometimes I feel like nobody ever listens to me whenever I speak.*
- Subject B: Yes, I know what you mean.*
- Subject A: Whenever I try to do something all by myself my parents think I will hurt myself.*
- Subject B: I know what you mean.*
- Subject A: I just wish I were stronger and I'd show them I really can do anything just like them you know.*
- Subject B: I know what you mean.*
- Subject A: Why do you keep saying that...? I mean... I know what you mean?*
- Subject B: Because... I know what you mean. I've gone through the same ordeal as well in my time. So I really know what you mean.*
- a) Briefly discuss the commonality between the life of a child and that of an old person as contained in the conversation above. [5 marks]
 - b) Contrast the characteristics of children and geriatrics as special populations under the following headings:
 - i. Physiological change. [5 marks]
 - ii. Value of physical fitness. [5 marks]
 - iii. Psycho-social changes. [5 marks]
 - c) List three indications and two contra-indications for designing physical activity for geriatrics. [5 marks]

END OF EXAMINATION