

# NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

SSC2216

FACULTY OF APPLIED SCIENCES

BACHELOR OF SCIENCE HONOURS DEGREE EXAMINATIONS

DEPARTMENT OF SPORTS SCIENCE AND COACHING

## THEORY: SSC2216 TESTING AND MEASUREMENT IN SPORTS

MAY 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) Explain any three attributes of a good fitness test (15 marks)
- b) With examples from one sport, explain the concept of a test battery and justify the order of tests that constitute it. (5 marks)
- c) Zimbabwean schools are overwhelmed with shortages of equipment and materials for conducting fitness tests. What recommendations could you give so that fitness testing is not abandoned? (5 marks)
2. a) Justify the need for muscular strength by both general fitness enthusiasts and sports persons. (5 marks)
- b) Relate a test you would use to measure muscular endurance of the upper limbs. (10 marks)
- c) Propose 2 exercises that could be used to develop the trunk muscles and justify benefits of the development of balanced trunk muscles. *Note: - All exercises should be adequately graded.* (10 marks)
3. With relevant examples and reference to testing and measurement in sports, explain the following terms:
  - a) Testing (5 marks)
  - b) Measurement (5 marks)
  - c) Test reliability (5 marks)
  - d) Test Objectivity (5 marks)
  - e) Test Validity (5 marks)

4. The National director of sports has tasked you to raise the awareness on testing and measurement to the schools in your district.
- Draw up the guest list of your targeted audience. (5 marks)
  - Draft five points for your keynote address. (5 marks)
  - Propose a programme that would facilitate the presentation of relevant testing and measurement talks and the exchange of ideas between the presenters and the audience. (10 marks)
  - With reference to your experiences of Zimbabwe, what are the likely challenges to the administration of testing and measurement to athletes? (5 marks)
5. The Department of Sports Science and Coaching examined the scores of different top athletes on selected test results at the National University of Science and Technology (NUST);

Sport	Height- (m)	Body Mass (Kg)	Flexibility (m)	Anaerobic Power (Kg/m)	Aerobic Capacity ml/kg/min
Volleyball	1.95	90	0,45	145	55
Table-tennis	1.58	60	0,67	83	50
Basketball	1,89	84	0,50	137	65
Karate	1,68	68	0.72	112	61
Marathon	1.62	58	0,58	80	71

- Using your knowledge of functional testing and measurement and the characteristics of different sports, how would you compare the results on volleyball and basketball? (10 marks)
  - List any five factors that influence that could have contributed to higher flexibility scores in karate. (5 marks)
  - Relate the scores in table tennis and the marathon highlighting their characteristic differences in the demands for training. (10 marks)
6. A 19 year old national tennis player with some weight training experience, regular cycling and treadmill workouts, has the goal of becoming a professional player on tour soon after concluding the London 2012 Olympics. After conducting the relevant tests, the Department of Sports Science obtained the following results:

<b>Test</b>	<b>Fitness area</b>	<b>Current</b>	<b>Ideal</b>
Multistage Shuttle Run	Aerobic	11.8, $VO_{2\max} = 52$	55
30 m sprint	Linear speed	4.2 s	3.9 s
Standing broad jump	Leg power	2.3 m	2.8 m
Overhead medicine ball throw	Arm power	16.1 m	16 m
20 m Shuttle run	Agility	4.7 s	< 4.5

- a) Give a summary report on the performance of the tennis player giving recommendations on the areas that require improvement. (5 marks)
- b) Propose an alternative test that could be used to assess leg power on the same athlete. (10 marks)
- c) Propose two exercises that could be prescribed to this tennis player to improve his agility. (10 marks)

**END OF EXAMINATION**