

# NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

SSC1104

FACULTY OF APPLIED SCIENCES

BACHELOR OF SCIENCE HONOURS DEGREE EXAMINATIONS

DEPARTMENT OF SPORTS SCIENCE AND COACHING

**THEORY: SSC1104: SPORTS MODULE (FUNDAMENTALS OF ATHLETICS)**

DECEMBER 2004

3 HOURS (100 MARKS)

## **INSTRUCTIONS**

Answer any 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) How can a coach improve the starting reaction of beginning sprinters? (9 marks)
- b) Why are high-knee and heel kickup drills used in sprint training? (4 marks)
- c) Why is it necessary to make a marked flexion of the knee of the support leg in the recovery phase during sprinting. (2 marks)
- d) How can a coach develop the drive phase and specific strength of a sprinter? (4 marks)
- e) Reaction speed, acceleration and maximum speed are important to sprints. Prescribe activities to develop these elements. (6 marks)
  
2. a) How are starting blocks for either the 200m sprint or the start for the 4 x 100m relay race set? (6 marks)
- b) Explain a 6 step teaching progression for the crouch start. (12 marks)
- c) How can a coach ensure a legal and efficient baton exchange in the 4 x 100m relay race? (7 marks)
  
3. a) Give a detailed exposition of the technical characteristics which will ensure that the hurdler will maximize forward lean and minimize (i) time in the air, (ii) loss of speed, and (iii) time over the hurdle. (8 marks)
- b) Outline a 6 step teaching progression for race walking. (12 marks)
- c) What are the characteristics of a good approach and an effective takeoff for all jumping events? (6 marks)

4. a) Bounding, hopping and hurdle jumps are exercises which can be used for the conditioning of jumpers. Using tables show loading of a variety of exercises for each of the three. (15 marks)
- b) Write short notes on the following methods of training for middle and long distance runners.
- (i) The continuous method (3 marks)
  - (ii) The interval method (4 marks)
  - (iii) Fartlek (3 marks)
5. a) Discuss the safety elements to be observed when coaching throws. (10 marks)
- b) With the aid of diagrams show three different organizational forms of a group of athletes or a class for throwing practice. (9 marks)
- c) What are the technical characteristics of the power position in the delivery phase of the javelin throw? (6 marks)
6. a) Why is it necessary to include the recovery phase in the throws? (2 marks)
- b) Describe the technical characteristics for holding the pole correctly for the approach run and plant by a right-handed pole vaulter. (4 marks)
- c) How can a coach develop the takeoff skills of a novice long jumper? (10 marks)
- d) Discuss the safety and organizational points to be observed when teaching jumps. (9 marks)

**END OF EXAMINATION QUESTION PAPER**