



SPORT AND EXERCISE SCIENCE: PAPER II

EXAMINATION NUMBER

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Time: 2 hours

150 marks

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This question paper consists of 14 pages. Please check that your question paper is complete.
 2. All the questions must be answered on the question paper.
 3. Read the questions carefully.
 4. Use the total marks that can be awarded for each question as an indication of the detail required.
 5. It is in your own interest to write legibly and to present your work neatly.
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- 1.2 Coaches apply different leadership styles when necessary. Compare task-centred leadership with people-centred leadership and indicate how these styles have an impact on the group dynamics of a team.

Impact on Team Dynamics	Task-Centred Style		People-Centred Style	Impact on Team Dynamics

(8)

- 1.3 The following attributes of a coach contribute to team success. Provide examples.

Speaking Tone: _____

Posture: _____

Encouragement: _____

(3)

- 1.4 Complete the following table. Tick the appropriate column/s that apply/ies to the quality of the feedback given by the coach to an athlete.

Types of feedback	Positive	Negative		General	Specific
1. <i>You were useless, I want more effort.</i>					
2. <i>Well done, now execute the skill faster.</i>					
3. <i>That was a poor effort. You can do better than that.</i>					
4. <i>You did really well last time, think about what made you successful that time.</i>					
5. <i>Excellent, now try move one foot slightly more forward.</i>					

(7)

[26]

QUESTION 2

In the United States, about 30 million children and teenagers participate in some form of organised sport. More than 3.5 million injuries occur in the context of these organised activities each year. Of these reported injuries, lower-limb injuries are most common. The net outcome of these injuries is loss of participation time and high drop-out rates.

South African statistics follow a similar trend.

There is a possibility of sustaining an ankle injury during a field hockey match. Such common inversion-type ankle sprains are classified as **soft tissue injuries**, and should be managed efficiently and effectively.

- 2.1 List **TWO** field-side First Aid procedures that should be employed as soon as possible.

(2)

- 2.2 What advice should be given to the player regarding the management of the ankle injury in the following two days?

(3)

- 2.3 Which **FOUR** strategies, other than time spent diligently warming up, decreases the reported high incidence of injuries sustained by children and teenagers in organised sports?

(4)

- 2.4 Why do male athletes suffer from more sport-related injuries than female athletes?

(2)

2.5 List **TWO** symptoms that become evident when heat exhaustion is experienced.

(2)

2.6 Dispensing salt tablets to an athlete suffering from heat exhaustion is contra-indicated. Explain.

(3)

2.7 Coaching a junior team is challenging and complex. The coach, at this level, assumes responsibility for many issues, including injury prevention.

List some of the many other responsibilities of a coach at this level:

(4)
[20]

QUESTION 3

3.1 Two rugby players are running towards each other. Player **A** weighs 80 kg and is running at a speed of 8 m/sec. Player **B** weighs 90 kg and is running at 4 m/sec.

3.1.1 Calculate the momentum of each player.

(2)

3.1.2 If they were to collide, which player has the greater momentum?

(1)

3.1.3 What implications does momentum have in contact sports like rugby or ice hockey?

(3)

3.2 Young school boys (age 10 – 12 years) are about to participate in an organised school rugby practice.

3.2.1 When preparing for each rugby practice, what specifically should the coach consider for these contact sport training sessions?

(2)

3.2.2 Provide **TWO** appropriate adaptations to the game that the coach could apply to ensure that the contest is safe and equal for the players.

(2)

[10]

QUESTION 4

Bongi Dlamini is a 16 year old female, weighs 82 kgs and has been diagnosed with diabetes. The doctor asked questions about her interest in physical activity. She replied as follows: *"I do very little physically as I feel uncomfortable exercising with my friends because we don't like sport. Anyway, the boys in my class make fun of me."*

When the doctor asked about her eating habits, Bongi advised that both her parents worked late and neither had time to cook meals. Bongi ate mostly from street vendors and fast food take-aways.

The doctor referred Bongi to a personal trainer. Assume Bongi is your client. Compile a case-specific exercise programme for Bongi using the following table:

Client's Name:	BONGI DLAMINI		
Physical activity needs:	(1)		
Physical activity barriers:	(1)		
Suitable physical activity. Choice 1:	Frequency:	Intensity:	Time:
(1)	(1)	(1)	(1)
Suitable physical activity. Choice 2:	Frequency:	Intensity:	Time:
(1)	(1)	(1)	(1)

[10]

QUESTION 5

Former Olympic sprinter, Marion Jones says the following in her book: *My Olympic Medals and World Records were taken away from me, due to my illicit use of performance enhancing drugs.*

Her advice to readers, following her embarrassment was as follows:

Courage is not a feeling, it is an action. Real courage is pushing forward even when we experience a setback or a failure.

[From: *On the Right Track*, Marion Jones. Howard Books, 2010]

5.1 Explain how Marion Jones has learnt to deal with public embarrassment of this magnitude.

(3)

5.2 One way of coping with failure is to set goals. List and briefly describe the goals Marion Jones may have set for herself after she was found guilty of substance abuse and her medals and records stripped from her.

(4)

5.3 Many sporting codes have developed a *Code of Behaviour* for spectators and players, e.g. show respect for your opponents.

5.3.1 Draw up a list of **EIGHT** points to be included in a code of behaviour that, in your opinion, should be encouraged in all school sport programmes.

(8)

QUESTION 7

Barry is a keen first team rugby player who did not like being around his team-mates before a match as some became very aggressive and this upset him. The coach applied a well-known arousal theory which states that the more fired-up the team is, the better they play. As a result, many of the players would pace around the change room screaming and banging into each other to get fully aroused before a match. Barry had tried this too but found that he repeatedly made ball handling errors during the game. He felt that he was too *hyped-up* and couldn't get into his game.

7.1 Explain what strategies Barry could use to get himself into an optimal state of arousal.

(4)

7.2 Explain how levels of arousal should differ taking into consideration the sport type and the person involved.

(4)

7.3 How would changes in levels of arousal affect an athlete's heart rate?

(2)

[10]

QUESTION 8

Explain how Newton's second and third laws can be applied in the illustration provided.

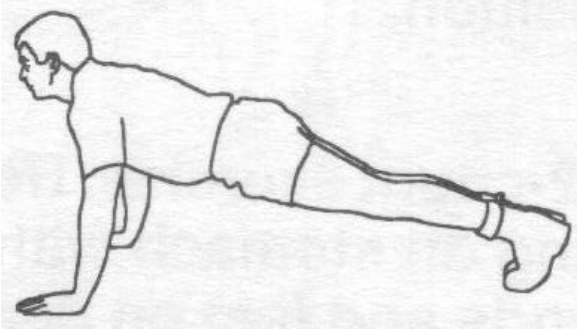


[<http://www.tracknfieldgear.com/images/volleyball>, Accessed 9 February]

[6]

QUESTION 9

Picture A



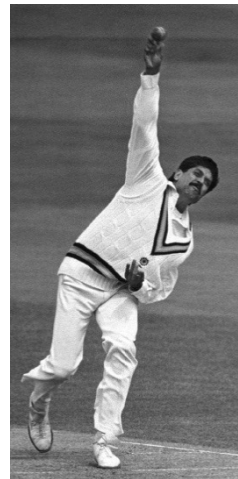
[<http://warriorfitness.org/wp-content/uploads/2011/03/pushup.jpg>. Accessed 13 February 2012]

Picture B



[Photograph by examiner]

Picture C



[<http://www.kapildev.asia/> Accessed 13 February 2012]

Study pictures A, B and C carefully, then:

- 9.1 Draw, onto each picture, the lever involved.
Use the following symbols:

↑ = force

▲ = fulcrum

↓ = resistance

(9)

9.2 State the purposeful mechanical advantage of the lever in each of the pictures.

Picture	Purpose of lever
A	
B	
C	

(3)

9.3 The kicking action for distance and accuracy has three stages. Explain how a player can maximise lever length to improve their kicking performance.

Kicking Action	Explanation
Backswing	
Forward swing	
Follow through	

(3)

9.4 Identify **TWO** activities or actions where it would be to the athlete's advantage to have a long resistance arm. Justify your answer.

Type of Activity	Reason

(4)

[19]

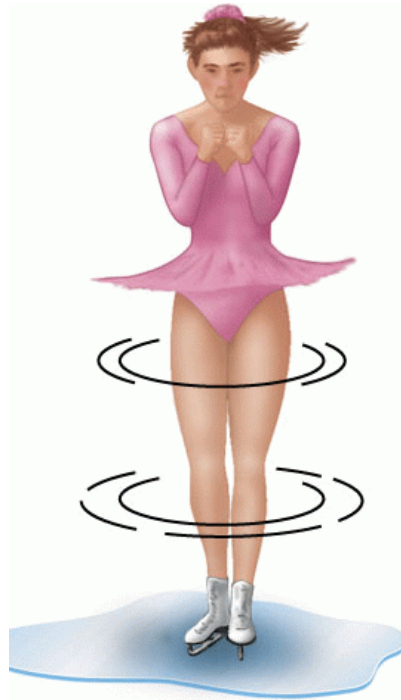
QUESTION 10

10.1 Insert the given labels on the diagram below.

10.1.1 Axis of rotation

10.1.2 Centre of gravity

(2)



[<http://www.physics.brocku.ca/courses>. Accessed 19 March 2012]

10.2 Explain the effects of the moment of inertia on angular velocity.

_____ (1)

10.3 How is angular velocity decreased?

_____ (1)

10.4 Order the letters **A – H** from the most important to the least important to demonstrate your understanding of the correct sequence of successive actions required to throw a ball.

- A – upper body turns in the direction of the throw
- B – run up
- C – falls forwards after the ball leaves the hand
- D – arm delivers ball with a whip-like action
- E – feet placed side on, with front foot planted
- F – arm follows through towards the target
- G – body leans forward
- H – throwing arm extended behind the body

(8)

10.5 What effect does the height of the release of a projectile (ball) have in sports like volleyball, cricket and tennis?

(3)

10.6 What biomechanical advantages are there when a ball is struck by a bat or racquet at its highest point?

(2)

10.7 Explain and illustrate how spin is imparted on a stationary soccer ball which curves in flight from a corner kick.

(7)

[24]

Total: 150 marks