



NATIONAL SENIOR CERTIFICATE EXAMINATION  
NOVEMBER 2015

**SPORT AND EXERCISE SCIENCE: PAPER I**

**EXAMINATION NUMBER**

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Time: 2 hours

150 marks

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**PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY**

1. This question paper consists of 23 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 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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<b>Question</b>	1	2	3	4	5	6	7	8	<b>Total</b>
<b>Marks</b>									

**QUESTION 1**

From 1980 to 1988, newspaper coverage of women's sport rose from only 2% of total sports reporting space to 2,5%.

There were 12 times more photographs of male sport and male athletes than of female sport and female athletes.

1,3% of total sports time aired on TV was devoted to female sport, compared to 57% devoted to male sport.

1.1 Suggest **THREE** reasons for the gender imbalance in sports reporting.

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1.2 What messages, both positive **AND** negative, are being sent to different sexes as a result of this type of imbalance?

1.2.1 Positive messages:

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(1)

1.2.2 Negative messages:

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(1)  
[5]

**QUESTION 2**

**Physical activity and sport to improve health and development**

The lack of physical activity is an underlying cause of death, disease and even disability. Data indicates that inactivity is one of the 10 leading global causes of death. In fact, more than 2 million deaths every year result from physical inactivity. In many countries, 60% – 85% of adults are not active enough to benefit their health.

2.1 2.1.1 List **THREE** factors that make physical activity difficult for some people.

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2.1.2 Explain why the factors mentioned in 2.1.1 make physical activity difficult.

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2.2 Provide a solution to overcome each difficulty listed above.

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2.3 Suggest **TWO** solutions that a government could implement to improve the level of physical activity of its citizens.

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2.4 Explain how a high school management team could ensure that learners are more physically active.

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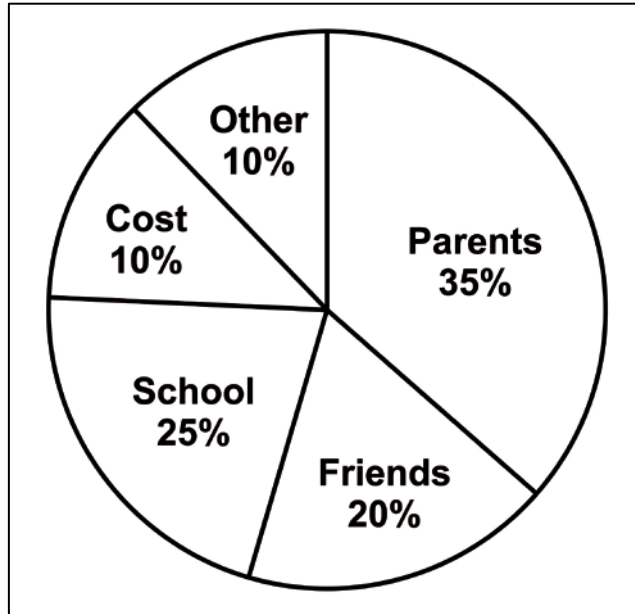
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(2)

2.5 A survey was conducted on a group of 40 golfers who played golf every Saturday morning at a local golf club. The purpose of the study was to investigate what factors influence initial and continued participation in the sport.

The pie chart below shows the results of the survey with regard to the reason for initial participation in golf.



2.5.1 Provide **TWO** strategies the golf club's marketing manager could introduce to encourage more people to participate in the game of golf and ultimately then join the golf club.

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2.5.2 Apart from improving access, make **THREE** suggestions on how a tennis sports club could encourage participation for players with physical disabilities.

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(3)  
**[18]**

**QUESTION 3**

3.1 In relation to the sporting examples below, name the predominant energy system that is being used **AND** comment on why that particular energy system is being used.

3.1.1 A 100-m sprinter in the first 30 m of the race.

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(2)

3.1.2 A tennis player executing a smash hit.

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3.1.3 A social jogger running slowly around an athletic track.

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(2)

3.1.4 A 400-m sprinter towards the end of the race.

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(2)

3.1.5 A social jogger that reaches a steep 50-m long hill but who does not want to slow down.

(i) 10 m into the incline

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(2)

(ii) At the top of the hill

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(2)

3.2 Identify the energy system that is most predominant in each of the athletic events listed below.

Event	Predominant energy system
100 m sprint	
Long Jump	
800 m	
Javelin	
3 000 m	

(5)





**QUESTION 4**

4.1 List **TWO** advantages AND **TWO** disadvantages of a netball player eating a high fat diet.

Advantages of eating a high fat diet for a netball player	Disadvantages of eating a high fat diet for a netball player

(4)

4.2 Athletes should be following a suitably balanced diet for their sport. What do you understand by the term 'balanced diet'?

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(2)

4.3 Barry Jones is a world champion triathlete. His average event time is approximately 2 hours.

His wife suggested that Barry should eat something sweet in the hour prior to his event in order to provide him with extra energy during the race.

4.3.1 Discuss the likely effect of eating something sweet at this time **AND** how it may affect Barry's performance.

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**QUESTION 5**

5.1 Provide **TWO** factors, other than reduced maximum heart rate, associated with the ageing process that may contribute to lower performance levels achieved by athletes in the 60-to-65-year age group when compared to younger competitors.

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(2)

5.2 Provide **TWO** ways in which involvement in physical activity may lead to reduced risk of cardiovascular disease.

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(2)

5.3 List **THREE** sociocultural benefits to an older athlete competing in events such as the Masters Games.

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(3)







**QUESTION 6**

The game of football is one of the most popular sports in the world. The players need to be both mentally and physically fit.

6.1 List **TWO** fitness components that an athlete would require to excel in football.

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6.2 Explain how the two fitness components, mentioned above in Question 6.1, could improve the football player's performance.

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(2)

6.3 Explain why it is that an athlete will perform better in the '**sit-and-reach**' test **after** an appropriate warm up.

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6.4 The training programme for football will be separated into three phases. Explain **why** the training might differ between each of these phases.

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(6)

6.5 Why is it important to evaluate the effectiveness of a training programme?

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(3)

6.6 Describe why the factors listed below are regarded as unhealthy when a person is trying to improve on their fitness levels.

- Factor 1 – Excessive dieting
- Factor 2 – Overtraining
- Factor 3 – Using performance enhancing drugs
- Factor 4 – Using supplements

6.6.1 Factor 1 – Excessive dieting

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(1)

6.6.2 Factor 2 – Overtraining

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(1)

6.6.3 Factor 3 – Using performance enhancing drugs

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(1)

6.6.4 Factor 4 – Using supplements

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(1)

6.7 The table below provides data regarding variations in  $VO_{2max}$  between different sports and different sexes.

<b>SPORT</b>	<b><math>VO_{2max}</math></b>
Hockey (male athlete)	56,9 ml/kg/min
Tennis (female athlete)	55 ml/kg/min
Long distance runner (male)	76,9 ml/kg/min

6.7.1 Suggest **TWO** possible reasons for the variations in  $VO_{2max}$  between the three sports.

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6.7.2 Give a physiological advantage for an endurance athlete having a high  $VO_{2max}$ .

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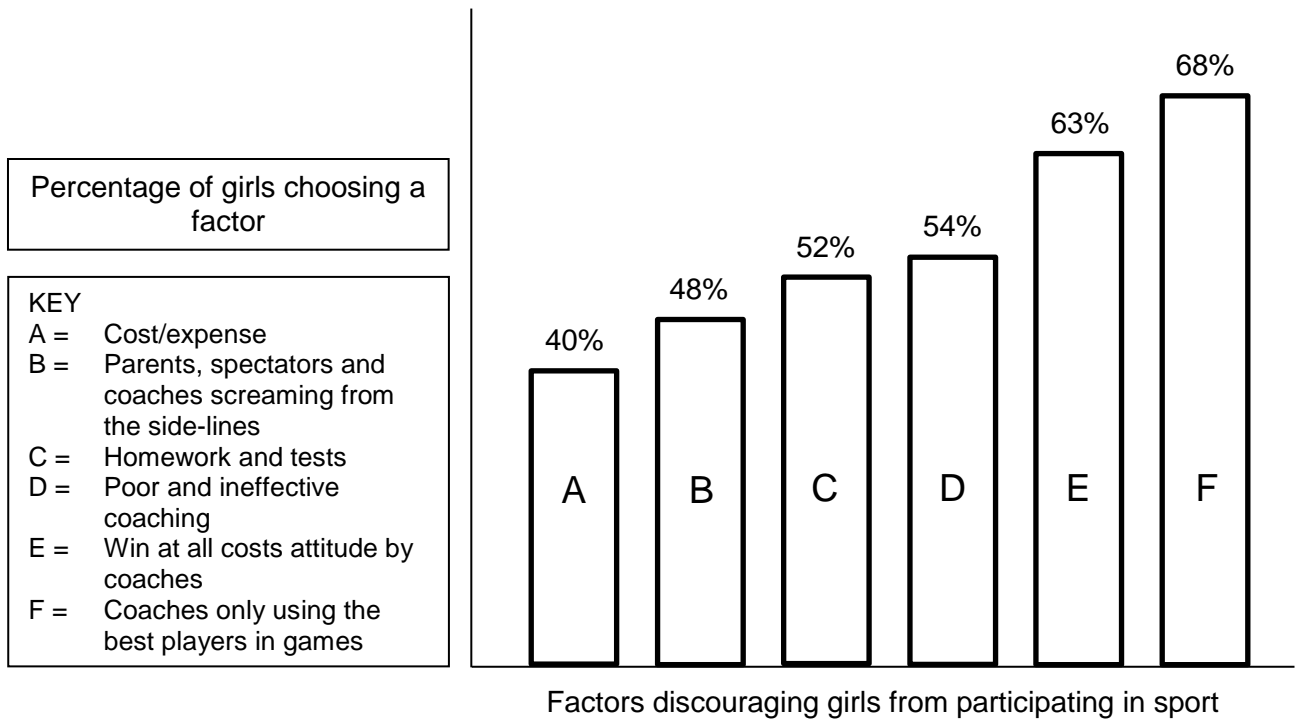
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[22]

**QUESTION 7**

A study was conducted with girls in which they were asked to list the factors that discouraged them from playing sport. They were allowed to select more than one factor. The bar graph below depicts the results of the study.



From this data, it is evident that coaches play a vital role in sport participation.

7.1 Using the data above, provide **FOUR** coaching characteristics that might encourage a girl to continue playing for a junior netball team.

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7.2 What strategy could a school put in place to assist their tennis players with expenses that are preventing more girls from participating?

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(3)

7.3 Effective communication is an essential part of a good coaching technique. Provide **THREE** tips to help a struggling coach improve his/her communication techniques.

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(3)

7.4 An effective coach will always make a training session interesting by providing challenges for the more talented athlete.

7.4.1 Provide **TWO** ways in which a coach can make each of the following three skills more challenging.

(a) A free shot at the goals in basketball

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(2)

(b) Dribbling a soccer ball

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(2)

(c) Swimming freestyle

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(2)  
[16]

**QUESTION 8**

**Mexico City, high altitude Olympic Games**

Bob Beamon set a new world record for Long Jump when he jumped 8,90 m. His record was held for 23 years before Mike Powell broke it.

Prior to the Games, Bob Beamon's personal best was 8,33 m.

At these Olympic Games, many new records were set, but no records were set in the marathon events.

8.1 Account for Bob Beamon's incredible improvement in his personal best at the Mexico City Olympics.

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8.2 Explain why an event like the marathon did not have any new records set at these Olympic Games.

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(4)

8.3 When competing in an event, an athlete's ventilation will change. This change will occur before, during and after exercise. Explain this statement.

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**Total: 150 marks**