GCE A LEVEL – NEW

S18-1550U30-1

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PHYSICAL EDUCATION – A2 unit 3
Evaluating Physical Education

MONDAY, 11 JUNE 2018 – MORNING

2 hours

1550U301
01

ADDITIONAL MATERIALS

A WJEC pink 16-page answer booklet.

In addition to this paper you may require a calculator and a ruler.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

Answer **all** questions.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.

You are reminded of the necessity for good English and orderly presentation in your answers.

Diagrams, charts and graphs can be used to support answers when they are appropriate.

Answer **all** *questions*.

1. The cardiovascular system plays an important role in the physical performance of a 5000 metre runner. The table below shows the response of the athlete's heart to an increase in exercise intensity.

Activity Level	Heart Rate Beats per minute (bpm)	Stroke Volume Millilitre (ml)	Cardiac Output Litres per minute (L/pm)
Rest	50	100	5.0
Maximal exercise	200	160	32.0

(a) Using the information provided, describe the relationship between Heart Rate, Stroke Volume and Cardiac Output. [3]

During exercise it is necessary to increase the supply of blood to the working muscles.

(b) Describe the mechanisms by which blood is re-distributed to the working muscles during a 5000 metre race. Explain why this re-distribution is necessary. [4]

(c) If an athlete completed a twelve week programme of intense aerobic training, identify **three** long-term physiological adaptations you would expect to take place within the cardiovascular and respiratory systems. Explain the effect of these adaptations on sporting performance. [6]

2. The New Zealand All Blacks are considered to be one of the best rugby teams in the world. Having won the World Cup three times it can be said they are an efficient team with a group of players, individuals and coach who share a common goal.

The New Zealand coach has stated that having a positive attitude is important for his team's success. The coach plays a vital role in Team Cohesion. High profile international rugby coaches have a wide range of leadership skills.

(a) (i) Identify the factors that have contributed to the development of cohesion within such a group. [3]

(ii) Outline the possible causes of social loafing and explain the strategies that a coach could use to overcome such problems. [5]

(b) Describe the characteristics of a positive attitude using the triadic model. [3]

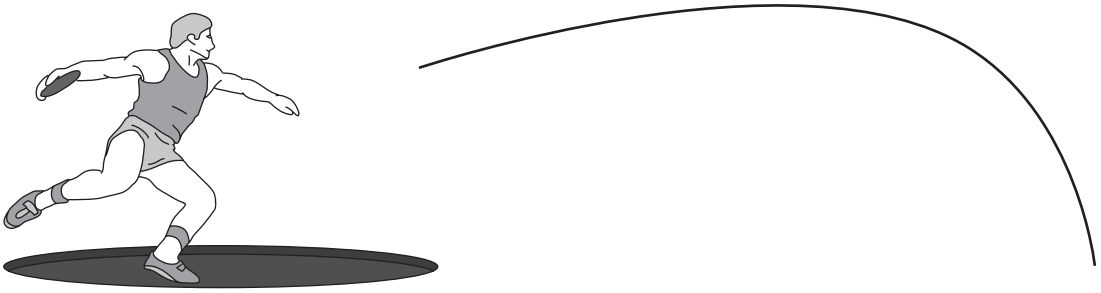
(c) With reference to appropriate theories, explain why a coach would employ a variety of leadership styles within different sporting situations. [8]

3. Athletics events are categorised as running, jumping and throwing.

Throwing events such as discus and javelin in athletics involve projectiles.

(a) Explain the factors that affect the flight path of a javelin. [3]

(b) Explain why the spin turn in the discus throw can produce a greater distance than a standing throw. [3]



(c) Explain the Bernoulli effect and analyse the factors that affect the flight path of the discus. [8]

The misuse of illegal aids is often associated with athletic events.

(d) Outline the possible long-term risks associated with these practices. [4]

4. Tennis is a sport where concentration and fast reactions are essential for effective performance.

In a study comparing the reaction time of tennis players, footballers and sedentary individuals, the data shown in **Figure 1** was gathered.

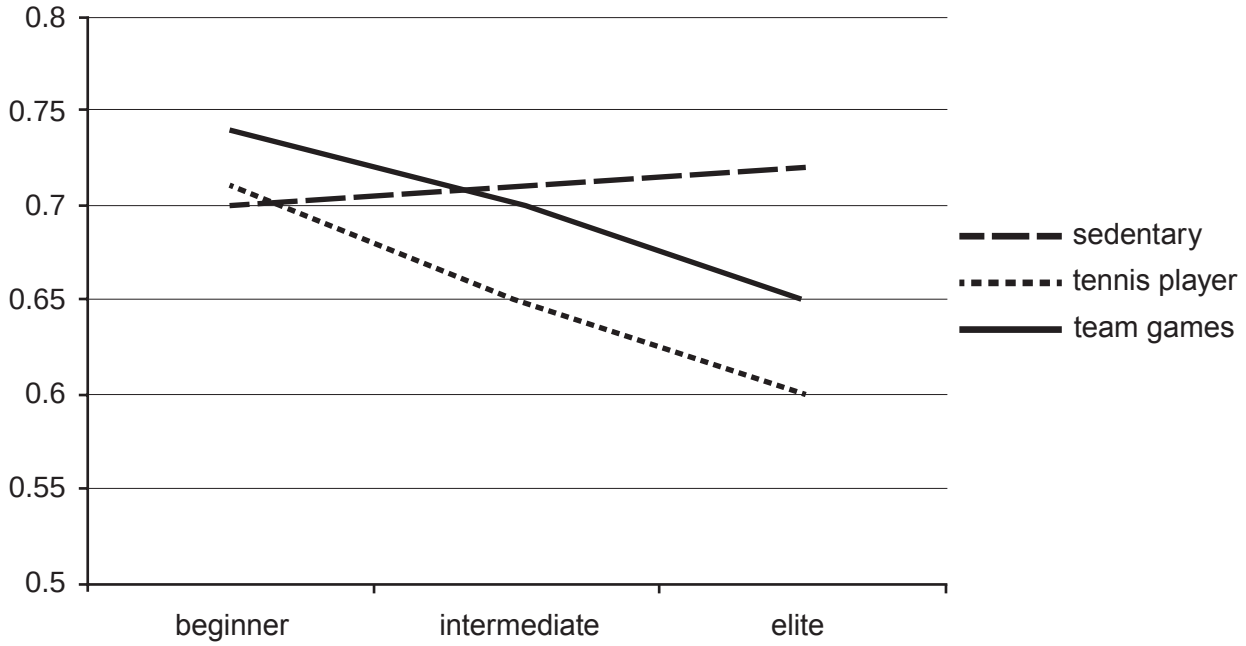


Figure 1: Comparison of reaction time of tennis players, footballers and sedentary individuals

(a) Use practical examples to explain the strategies that could be used to improve reaction time. [3]

(b) Diet and nutrition are important considerations in order to improve performance in tennis.

Describe how a tennis player would use the process of carbo loading prior to a match. [5]

(c) Information processing is an important part of improving sporting performance.

Discuss the role of feedback, selective attention and long-term memory within this process. [12]

5. It could be argued that significant investment from global companies has resulted in sport becoming over commercialised.

Discuss this statement using examples to illustrate your answer. [20]

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