



GCE A LEVEL

A550U20-1



FRIDAY, 10 JUNE 2022 – MORNING

PHYSICAL EDUCATION – A level component 2

Evaluating Physical Education

2 hours

A550U201
01

ADDITIONAL MATERIALS

A WJEC pink 16-page answer booklet.

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.

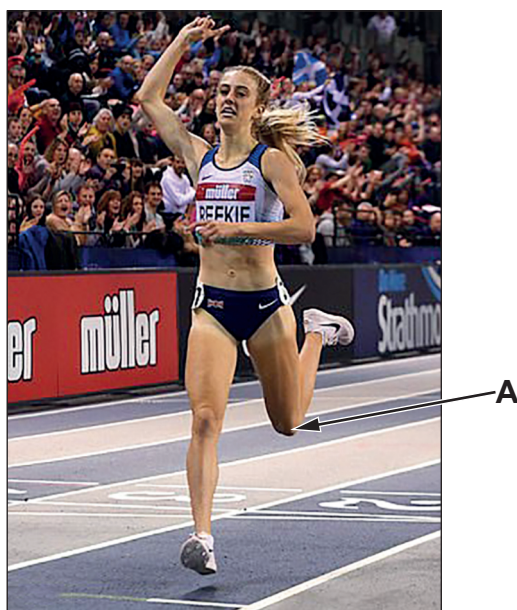
You are reminded of the necessity for good English and orderly presentation in your answers.

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

Answer **all** questions.

1. During the Millrose Games held in New York in 2020, British athlete Jemma Reekie set a new British women's record for 1500 m indoors, with a time of 4 minutes 0.56 seconds.

Figure 1 – Jemma Reekie



- (a) Identify the type of joint labelled **A** in **Figure 1** and the type of movement occurring at this joint. [2]

High-intensity activities lasting several minutes, such as the 1500 m, will require athletes to have a high percentage of fast oxidative glycolytic fibres (Type IIa).

- (b)
 - (i) Describe the main characteristics of fast oxidative glycolytic (Type IIa) muscle fibres which make them suitable for prolonged high-intensity activity. [4]
 - (ii) Explain the effects of **three** long-term physiological aerobic adaptations on sporting performance as a result of aerobic training. [3]

Motivation is essential for any individual athlete or team determined to develop their sporting performance and it is generally suggested that we have differing needs that motivate us to participate.

- (c) Outline **two** potential problems associated with using tangible rewards as a way of motivating a sportsperson. [2]

During a post-race analysis, former Olympic champion Michael Johnson described Usain Bolt's performance in the 100m heats of the 2015 World Championships in Beijing, China, as 'clunky' compared to the performances the Jamaican sprinter had previously produced.

- (d) Explain, using practical examples, the advantages of using video analysis to improve the technical aspects of sporting performance. [4]

Reaction time is a critical component of an athlete's perceptual ability and the time it takes for a sportsperson to react to a stimulus can greatly affect the resultant performance.

- (e) Explain, using practical examples, the factors that could affect reaction time. [4]

In October 2019 in Vienna, Eliud Kipchoge became the first athlete to run a marathon in under two hours with an unofficial time of 1:59:40, wearing Nike's 'Alphafly' prototype shoes. This reignited the 'technological doping' debate. The World Athletics governing body stated that 'such technological advances are giving athletes an unfair advantage.' (BBC, 2020)

- (f) Evaluate the use of modern technology in sport from the perspective of the performer. [7]

2. The 2019 Sport and Exercise Scientist study, *Occupational Sitting Time*, suggests that ‘today’s office workers typically spend over 70% of their time sat down, with those most sedentary at work also being the most sedentary outside working hours.’

(a) Discuss the effects of lifestyle choices on health and well-being. [11]

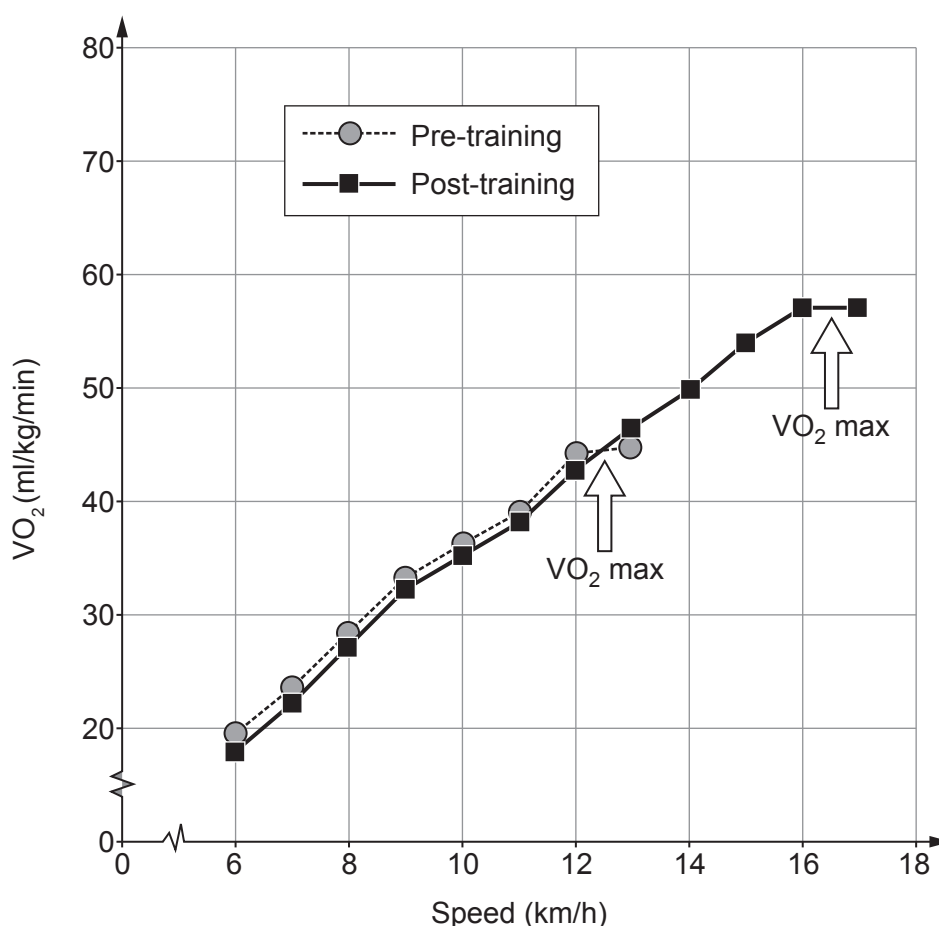
The structure of practice is crucial to the interaction between ability, skill, learning and development.

(b) Describe the difference between gross motor abilities and psychomotor abilities. [2]

(c) (i) Describe the part method of practice. [2]

(ii) Outline the advantages and disadvantages of using the part method of practice when learning a new movement skill. [3]

Figure 2 – Changes in VO_2 max with aerobic training



(d) Explain, using **Figure 2**, the effect of aerobic training on VO_2 max and the benefits of a higher VO_2 max on sports performance. [6]

The “Some is good, more is better” message evident in the *UK Chief Medical Officers’ Physical Activity Guidelines* (September 2019) referred to the health benefits of incorporating high-intensity interval training (HIIT) into everyday physical activity.

(e) Analyse, using practical examples, the use of high-intensity interval training (HIIT) to improve performance in sport. [8]

3. The 19-year-old Japanese figure skater Yuzuru Hanyu performing a multiple spin rotating through 8 radians in 0.5 seconds to become the youngest skater to take gold in the men's figure skating at Sochi 2014 and PyeongChang 2018, and has since gone on to claim every world record in his event.

Figure 3 – Japanese figure skater Yuzuru Hanyu



- (a) Using **Figure 3**, identify the axis of rotation through which the figure skater turns and using the data given above calculate the average angular velocity of the spin. [3]

The 2018 Olympic Winter Games in PyeongChang had a global cumulative audience of 1.92 billion with figure skating attracting the greatest percentage of viewers.

- (b) Explain, using appropriate theories, the positive and negative effects of an audience on performance. [6]

The learning of motor skills is critical to success in sport; psychologists have devised several theories of how we learn.

- (c) Assess how reinforcement can contribute to the learning of motor skills. [8]

'Self-efficacy reflects individuals' judgments in their capabilities to successfully execute specific courses of action which directly relates to their ability to respond confidently to a given stimuli.' (Bandura and Locke, 2003)

- (d) Evaluate, using practical examples, the impact of self-efficacy and self-confidence on performance in sport. [10]

4. 'Sport should be kept for sports men and women and their legions of adoring fans, and, external forces such as government and politics should stay out.' (Sport Law Bulletin, 2019)

Discuss, with reference to this statement, the impact of government and political involvement in sport. [20]

END OF PAPER

BLANK PAGE