Surname	Centre Number	Candidate Number
First name(s)		0

GCSE

3550U10-1

Z22-3550U10-1

TUESDAY, 24 MAY 2022 – AFTERNOON

PHYSICAL EDUCATION – FULL COURSE

Unit 1: Introduction to Physical Education

2 hours

For Examiner's use only		
Question	**Maximum Mark**	**Mark Awarded**
1	**20**	
2	**19**	
3	**17**	
4	**27**	
5	**17**	
Total	**100**	

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INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Write your answers in the spaces provided in this booklet. If you run out of space, use the additional page(s) at the back of the booklet, taking care to number the question(s) correctly.

INFORMATION FOR CANDIDATES

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

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

You will be shown two video clips.

The clips for Question 1 and Question 2 will each be shown three times, during which time you may answer the questions and make notes.

Firstly the two clips will be shown.

The clip for Question 1 will be shown a second time. There will be five minutes after the clip to answer the question.

The clip for Question 2 will be shown a second time. There will be five minutes after the clip to answer the question.

Both clips will then be shown for a third and final time.

You will then have the rest of the examination time to complete Questions 1 and 2 and the remaining questions.

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Answer **all** questions.

1. (a) Analyse clip 1 to provide an example of commercialisation in sport, technology and reaction time. [3]

	Example
Commercialisation in sport	
Technology	
Reaction time	

(b) Explain the importance of hydration during a long-distance race like the half marathon. [4]

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(c) (i) Identify **three** possible health screening methods an individual might undertake prior to starting a training programme for a half marathon. [3]

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(ii) Justify why clip 1 (Cardiff Half Marathon) is an accessible event for all target groups. [4]

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(iii) Crowd encouragement is an important form of motivation to the participants. [1]

Identify this type of motivation.

Tick (✓) the correct box.

	Tick (✓)
Intrinsic	
Cognitive	
Complex	
Extrinsic	

(d) Assess where power is demonstrated in the race. [2]

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(e) (i) Outline the difference in the anaerobic threshold of an elite athlete compared with a fun runner. [1]

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(ii) Identify **two** ways a marathon runner could overload their training programme to improve their anaerobic threshold. [2]

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2. (a) (i) Using clip 2, analyse how many people took part in sport in the last 4 weeks in Wales.
Tick (✓) the correct box. [1]

	Tick (✓)
1.5 million	
2 million	
3 million	
1 million	

(ii) Using clip 2, analyse what percentage of individuals with a disability or long-term illness participate in sports 3 times a week.
Tick (✓) the correct box. [1]

	Tick (✓)
21%	
22%	
24%	
20%	

(b) (i) Identify an example of a basic skill shown in the video clip. [1]

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(ii) As the performers become more skilled, describe what characteristics they would demonstrate whilst performing. [3]

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(c) (i) Identify an environmental factor that might affect the performance of the climber seen in the video clip. [1]

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(ii) Explain the importance of feedback to the climber seen in the video clip. [2]

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(d) Explain why exercise is important in maintaining the health and well-being of individuals. [6]

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(e) Explain **two** long term effects of exercise on health. [4]

Adaptation	Effect on health
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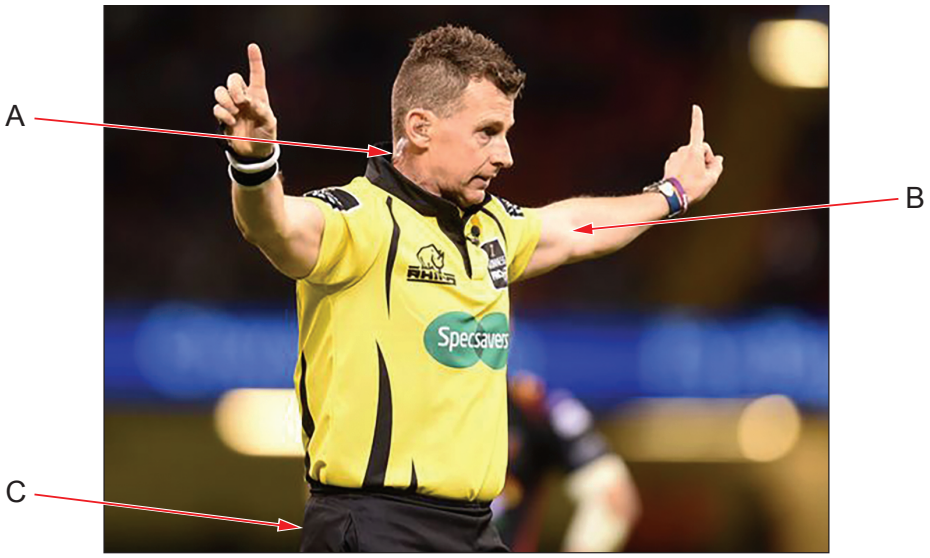
3. Nigel Owens is regarded as one of the best rugby referees in the world.

Figure 1



(a) Analyse **Figure 1** to provide the relevant examples to complete the table below. [3]

		Example
A. Neck	Classification of lever	
B. Elbow	Type of movement	
C. Hip	Type of joint	

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(b) Analyse the **muscular contraction** and **movement** at the shoulders in **Figure 1**. [4]

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(c) Tendons and ligaments play an important role in maintaining stability and allowing mobility in a joint.

Describe the functions of tendons and ligaments. [2]

Structure	Function
Tendon	
Ligament	

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(d) Discuss the positive and negative effects of technology on officiating in sport. [6]

(e) Describe how an official might use verbal and visual guidance during a sporting event. [2]

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4. In 2018, Bronwen Jenkinson became the first Welsh woman to win the 10-mile Snowdon mountain race since 1989.

Figure 2

(a) (i) Explain why cardiovascular endurance is one of the main components of fitness used during the race. [4]

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(ii) Identify an appropriate test to measure cardiovascular endurance. [1]

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(iii) Describe the protocol for the appropriate test in (a) (ii). [3]

(b) Explain the functions of the systemic circulatory system. [4]

(c) Assess the importance of vasodilation and vasoconstriction of the vascular system for an athlete. [6]

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(d) Using the data below, analyse why Cardiac Output has increased during exercise. [3]

Cardiac Output = Q ml = millilitres
Stroke Volume = SV l = litres
Heart Rate = HR

Q at rest = SV × HR	Q during exercise = SV × HR
Q at rest = 70 × 80	Q during exercise = 120 × 200
Q at rest = 5600 ml	Q during exercise = 24000 ml
Q at rest = 5.6 l	Q during exercise = 24 l

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(e) Evaluate the barriers that limit participation in sport. [6]

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5. Gareth Evans won gold in the men's 69 kg category at the 2018 Gold Coast Commonwealth Games.

Figure 3

(a) Using **Figure 3**, identify **two** components of fitness demonstrated by the athlete. [2]

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(b) Compare the body composition of a weightlifter and an obese individual. [2]

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(c) Identify **two** appropriate recovery methods that can be used by athletes. [2]

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(d) Identify why weightlifting is classified as predominantly internally paced. [1]

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(e) Justify why fixed practice is the most effective for a weightlifter. [2]

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(f) Identify **two** mental preparation techniques the weightlifter could use prior to performance. [2]

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Flexibility and mobility can be seen as important in allowing weightlifters to perform at the top level.

(g) (i) Explain why sedentary individuals are often prescribed mobility exercises for health reasons. [4]

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(ii) Identify **two** negative physical consequences of being a sedentary individual. [2]

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END OF PAPER

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Question number	Additional page, if required. Write the question number(s) in the left-hand margin.

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