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**Edexcel GCSE**

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# Physical Education

## Unit 1: The Theory of Physical Education

Friday 19 May 2017 – Afternoon  
**Time: 1 hour 30 minutes**

Paper Reference

**5PE01/01**

**You do not need any other materials.**

Total Marks

### Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*

### Information

- The total mark for this paper is 80.
- The marks for **each** question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (\*) are ones where the quality of your written communication will be assessed  
– *you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.*

### Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

- 1 (a) Which one of the following initiatives is **most** likely to be effective in retaining people in sport? (1)
- A Increased cost of admission
  - B Taster sessions to try out new sports
  - C Increased links between schools and sports clubs
  - D Making sure there are opportunities for people new to the sport to replace those that give up

Questions 1(b) and 1(c) are about the components of fitness.

- (b) Identify the **most** relevant component of fitness required to complete the arm action shown in **Figure 1**. (1)



Figure 1

- A Balance
- B Flexibility
- C Body composition
- D Reaction time

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(c) Identify the component of fitness required to get the height needed to complete the action shown in **Figure 2**.

(1)



**Figure 2**

- A** Cardiovascular endurance
- B** Power
- C** Body composition
- D** Speed

Questions 1(d) and 1(e) are about fitness testing.

(d) Identify the fitness test being performed in **Figure 3**.

(1)



**Figure 3**

- A** Harvard step test
- B** Sergeant jump test
- C** Standing broad jump
- D** Standing stork test



(e) Identify the component of fitness being measured by the treadmill test shown in **Figure 4**.

(1)



**Figure 4**

- A** Body composition
- B** Cardiovascular fitness
- C** Muscular endurance
- D** Muscular strength

(f) Which one of the following lists **all** the required elements of a balanced diet?

(1)

- A** Fats, carbohydrates, proteins, micronutrients, water
- B** Macronutrients, fibre, water
- C** Macronutrients, water and micronutrients
- D** Vitamins, minerals, fibre, water, macronutrients

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(g) When participating in physical activity there is always the risk of injury.

Which one of the following is the performer in **Figure 5** using to reduce the risk of injury during their activity?

(1)



**Figure 5**

- A** PAR-Q
- B** Cool-down
- C** Correct clothing
- D** Balanced competition

(h) Which one of the following is a short-term response of the cardiovascular system to exercise?

(1)

- A** Drop in resting heart rate
- B** Increase in breathing rate
- C** Increase in heart rate
- D** Drop in breathing rate

(i) Which one of the following techniques involves an isometric muscle contraction?

(1)

- A** Holding a headstand in a yoga class
- B** Running action in a 100m sprint
- C** Movement of the arm during a serve in tennis
- D** Movement of the upper body during a sit-up



(j) Which one of the following statements is correct?

(1)

- A** Ball and socket joints allow rotation
- B** Flexion and extension are only possible at a ball and socket joint
- C** Hinge joints allow abduction and adduction
- D** All joint types allow the same range of movement

**(Total for Question 1 = 10 marks)**

**2** Describe how physical activity can be used to improve cooperation.

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**(Total for Question 2 = 2 marks)**

**3** Identify each key influence affecting participation in physical activity and sport.

(a) If a sport is shown on television it will encourage people to participate in that sport.

(1)

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(b) If a person is a wheelchair user they may have fewer opportunities to participate in physical activity.

(1)

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(c) If a sport is expensive it will limit the number of people that can afford to play that sport.

(1)

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**(Total for Question 3 = 3 marks)**



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4 Good balance is required when participating in physical activity and sport.

Describe, using an example, how each of the following performers would use balance in their activity.

Use a different description and example for each performer.

(a) Gymnast

(2)

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(b) Rugby player

(2)

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**(Total for Question 4 = 4 marks)**



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5 Explain two reasons why the Illinois agility run test would be **unsuitable** to assess the fitness of swimmers.

Reason 1

(2)

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Reason 2

(2)

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**(Total for Question 5 = 4 marks)**

6 Explain the principles of training being applied in the statements below.

(a) Binna and Jus are in the school swimming team. They attend swimming training sessions in the school pool.

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(b) Greg organises his training so that he trains on every other day of the week.

(2)

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**(Total for Question 6 = 4 marks)**



- 7 Yulia wants to increase her fitness to improve her judo performance. She has a competition in three months' time.

Fitness test	Rating
Sit and reach	Average
Hand grip test	Good
30m sprint	Average

**Table 1**

**Table 1** shows Yulia's ratings from some of her fitness tests.

- (a) Using the information in Table 1, give an example of a SMART target Yulia's coach could set her to improve her fitness.

(2)

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- (b) Explain how using SMART targets could improve Yulia's judo performance.

(2)

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**(Total for Question 7 = 4 marks)**



8 Explain why the following performers would use the stated methods of training to improve performance in their event.

(a) Marathon runner – continuous training

(3)

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(b) Sprinter – interval training

(3)

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**(Total for Question 8 = 6 marks)**

9 Complete the following statement that explains why sports performers should not eat a large meal immediately before exercising.

As a result of exercise there is increased blood flow to the

....., this means there is less blood available for



..... due to blood shunting.

**(Total for Question 9 = 2 marks)**



10 The table shows sports performers with different body types.

(a) Complete the table by identifying the somatotype of the performers.

Performer	Somatotype
 <p><b>Sumo wrestler</b></p>	<p>(i)</p> <p>(1)</p>
 <p><b>Steeplechase athlete</b></p>	<p>(ii)</p> <p>(1)</p>

(b) Explain why each somatotype is an advantage to the performers in their activity.

(i) Sumo wrestler

(2)

(ii) Steeplechase athlete

(2)

(Total for Question 10 = 6 marks)



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11 Some athletes, despite the risks, take performance-enhancing drugs. Identify the type of drug most likely to enhance performance in the following activities:

(a) 100m sprint

(1)

(b) long distance cycling event (Tour de France)

(1)

(c) archery.

(1)

(Total for Question 11 = 3 marks)

12 Participation in physical activity can result in injury.

State the name of the procedure that should be followed if a player suffers a soft tissue injury.

(Total for Question 12 = 1 mark)

13 Figure 6 shows the heart rate values of four different performers:

- at rest
- during the Harvard step test
- at 1-minute intervals during recovery.

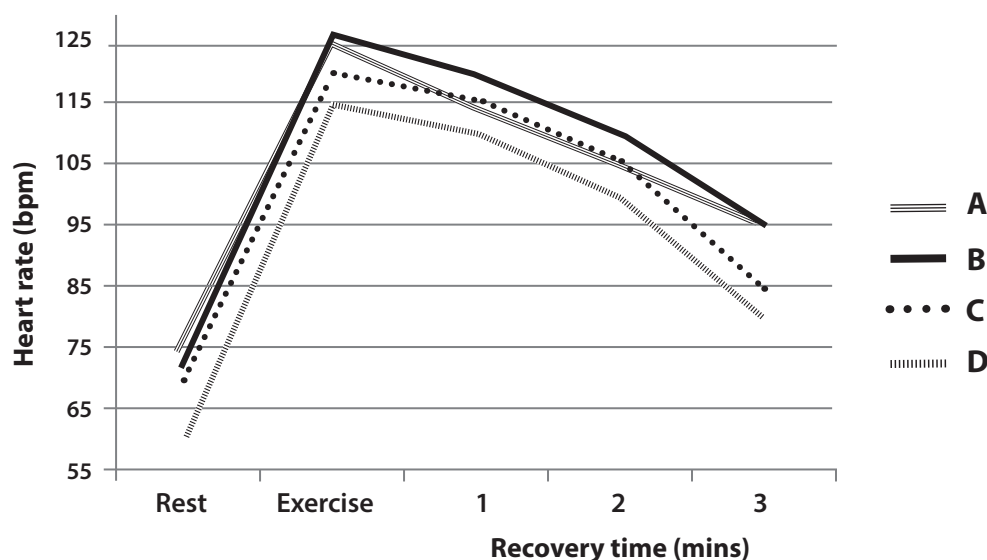


Figure 6



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(a) Which performer, A, B, C or D, is **most** likely to participate in regular aerobic training? (1)

(b) Using **Figure 6**, explain your answer to 13(a). (3)

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(c) Explain the antagonistic muscle action that occurs as the performers step onto the bench during the Harvard step test. (3)

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(d) Explain **one** way the skeletal system allows the performers to step onto the bench during the Harvard step test. (2)

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**(Total for Question 13 = 9 marks)**



14 Sports performers will select training methods to meet their individual needs.

- (a) Complete the table by identifying the **most** suitable method of training for each performer.

Sports performer	Method of training
(i) A basketball player who wants to improve her skill and fitness in the same session.	(1)
(ii) A triathlete whose event involves running, swimming and cycling, who needs to train for each part of his event.	(1)

Jacob is a cross-country runner.

- (b) Explain a reason why Jacob would choose Fartlek as a method of training.

(2)

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- (c) Describe how the respiratory **and** cardiovascular systems work together to help Jacob complete the cross-country race in a good time.

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(d) Explain a reason why Jacob's cross-country performance would get worse if he smoked.

(2)

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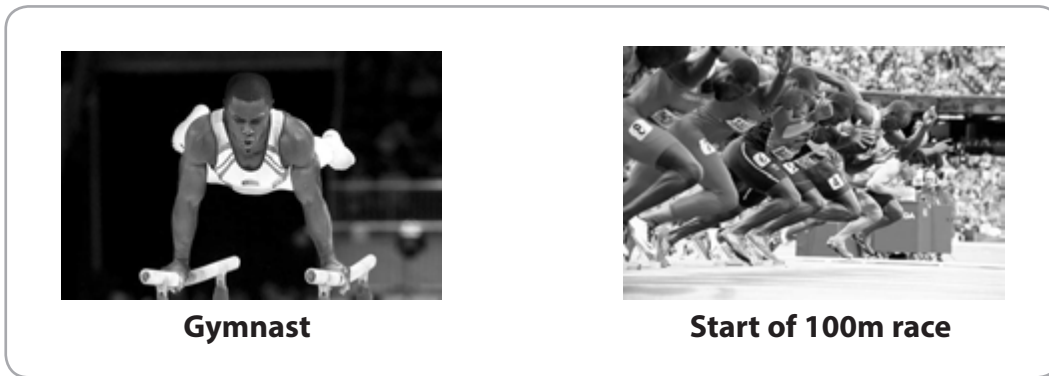
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**(Total for Question 14 = 10 marks)**



**\*15** Discuss the relative importance of muscular strength and reaction time for each of the performers competing in the activities shown in **Figure 7**.

(6)



**Figure 7**

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**\*16** Discuss the possible effects of an active lifestyle on mental **and** physical health.

(6)

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(Total for Question 16 = 6 marks)

**TOTAL FOR PAPER = 80 MARKS**



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