
PHYSICAL EDUCATION

9396/13

Paper 1

October/November 2018

2 hours 30 minutes

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

An answer booklet is provided inside this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper ask the invigilator for a continuation booklet.

Answer **all** questions.

Electronic calculators may be used.

You may lose marks if you do not show your working or if you do not use appropriate units.

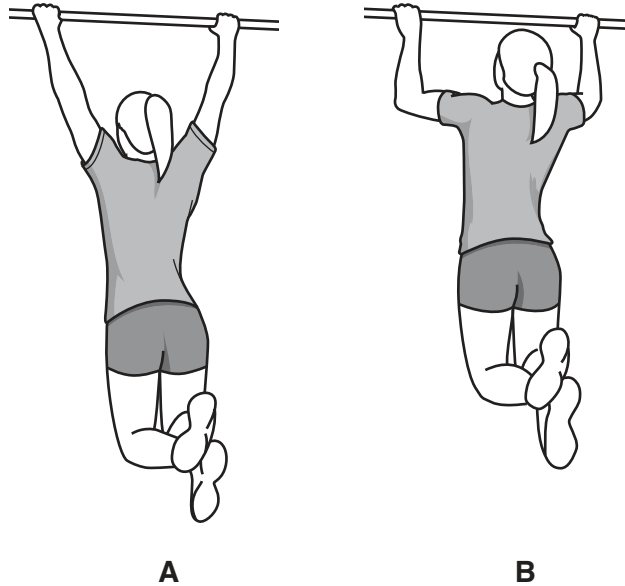
The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **5** printed pages, **3** blank pages and **1** Insert.

Answer **all** questions.

Section A: Applied anatomy and physiology

- 1 (a) (i) The diagrams show a performance of a pull-up.



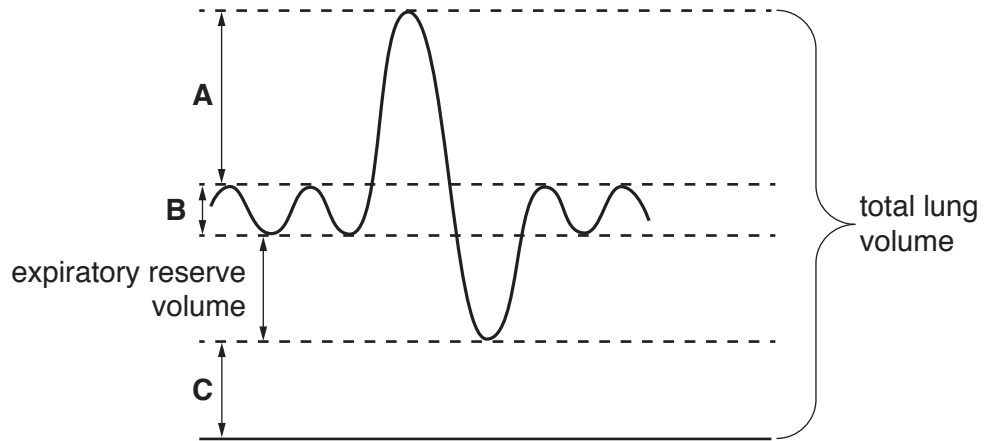
Identify the items 1–5 in the table to describe a movement analysis of the elbow and shoulder joints from position **A** to position **B**. Your analysis should include the type of muscle contraction, the type of movement occurring and the main agonist.

| | type of muscle contraction | type of movement occurring | main agonist |
|----------------|----------------------------|----------------------------|--------------|
| elbow joint | 1 | 2 | 3 |
| shoulder joint | | 4 | 5 |

[5]

- (ii) Describe the structure of the elbow and shoulder joints in terms of both stability and range of movement. [4]
- (b) Describe the characteristics of fast glycolytic muscle fibres. [3]
- (c) Sketch a graph to show a typical heart rate response of a fit and healthy 17-year-old to a sub-maximal 10-minute training run, followed by a 5-minute recovery period. [5]
- (d) Describe how the vascular shunt mechanism redistributes a significant percentage of the cardiac output to the working muscles during exercise. [4]
- (e) Explain how an increase in carbon dioxide levels and blood acidity causes ventilation to increase. [4]

(f) The diagram shows a trace of various respiratory volumes.



- (i) Identify the respiratory volumes labelled **A**, **B** and **C**. [3]
- (ii) Describe how respiratory volumes **A** and **B** change during exercise. [2]

[Total: 30]

Section B: Acquiring, developing and performing movement skills

- 2 (a) (i) Skilful performances are learned, efficient and goal directed.
State **three** other characteristics of skilful performances. [3]
- (ii) Explain, using sporting examples, the difference between gross motor abilities and psychomotor abilities. [4]
- (b) (i) Outline the theory of operant conditioning. [4]
- (ii) Explain the disadvantages of using operant conditioning to develop skilful performers. [2]
- (c) Schmidt's schema theory is based on various sources of information.
Explain the role of recognition schema in modifying and evaluating motor programmes. [4]
- (d) Describe, using examples for each, **four** types of feedback available to a performer. [4]
- (e) Transfer of learning may be used when developing a skill.
Explain, using a suitable example, how you would optimise the effects of positive transfer. [3]
- (f) Both extrinsic and intrinsic motivation can be used in the learning and performance of skills.
Suggest ways a coach could motivate a group of performers. [6]

[Total: 30]

Section C: Contemporary studies in physical education and sport

- 3 (a) The concepts of physical education, physical recreation and sport are different.
- (i) State **two** similarities and **two** differences between physical education and physical recreation. [4]
- (ii) Suggest how a physical education teacher could introduce the characteristics and values of sport into their lessons. [4]
- (b) Describe, using a country of your choice, how potential elite performers are identified and developed. [5]
- (c) (i) State the benefits of increased participation in physical activity for each of the following.
- the individual
 - society
- [6]
- (ii) Suggest why some people do **not** take part in physical activity. [4]
- (d) (i) Explain why some elite performers take illegal performance-enhancing drugs. [3]
- (ii) Suggest ways to solve the continuing problem of drugs in sport. [4]

[Total: 30]

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