Materials
For this paper you must have:
- an AQA 16-page answer book

Instructions
- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Write the information required on the front of your answer book. The Paper Reference is PHED3.
- Answer nine questions.
- In Section A, Section B, and Section C, answer the first question and two other questions from this section.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information
- The marks for questions are shown in brackets.
- The maximum mark for this paper is 84.
- Question 1, Question 5 and Question 9 should be answered in continuous prose.
- In these questions you will be marked on your ability to
  - use good English
  - organise information clearly
  - use specialist vocabulary where appropriate.
Section A: Applied Physiology to Optimise Performance

Answer three questions.

Answer Question 1 and any two from Question 2, Question 3 or Question 4.

Question 1

Elite performers who play games, such as hockey and football, will use a predominant energy system which will vary depending on the demands of the match.

01 Explain how each energy system contributes to the performance of a games player during a match. [14 marks]

Question 2

Elite performers may use illegal ergogenic aids and specialised training methods to improve performance.

02 Explain the physiological reasons why an elite performer may use synthetic erythropoietin (EPO). [2 marks]

Altitude training is used to improve aerobic capacity.

03 Outline the advantages and the disadvantages of altitude training. [5 marks]

Question 3

Gymnasts have to change the position of their body when performing a somersault during a gymnastic floor routine.

04 Name the muscle fibre type predominantly used by a gymnast during a floor routine and state the functional characteristics that allow these muscles to produce this type of movement. [3 marks]

05 Explain how a gymnast alters their angular velocity by changing their moment of inertia. [4 marks]
Question 4

Elite endurance performers require a high VO\textsubscript{2} max and the ability to delay the effects of fatigue.

0 6 Explain the term VO\textsubscript{2} max \textbf{and} its relationship to aerobic performance. [2 marks]

0 7 Describe one method of glycogen loading \textbf{and} outline the benefits to an elite performer. [5 marks]

Turn over for the next section
Section B: Psychological Aspects that Optimise Performance

Answer three questions.

Answer Question 5 and any two from Question 6, Question 7 or Question 8.

Question 5

All teams will experience victories and defeats.

Explain how the coach of a team can use knowledge of Weiner’s Attribution Theory to maintain the motivation of a team following defeat and outline other strategies that can be used to avoid learned helplessness.

[14 marks]

Question 6

During competitive matches players may become over-aroused and commit aggressive acts, such as foul play.

Figure 1 shows the frustration-aggression hypothesis, which offers one explanation for the cause of aggressive behaviour.

Figure 1

Drive to goal – need to win → Obstacle to a goal → Frustration → Aggression

Using other psychological theories of aggression, explain the weaknesses of the frustration-aggression hypothesis.

[4 marks]

Explain how a performer can use biofeedback as a stress management technique to control over-arousal.

[3 marks]
Question 7

Leaders and coaches have an important role in developing the performance of their players.

Outline the role of a leader and explain the difference between a prescribed leader and an emergent leader.

[3 marks]

Figure 2 shows Bandura’s model of self-efficacy.

Figure 2

Past performance
Verbal persuasion
Vicarious experience
Physiological/emotional states

Self-efficacy beliefs

Explain the term self-efficacy and outline the impact of positive vicarious experiences on the performer.

[4 marks]

Question 8

Spectators can have an impact on the quality of an individual’s performance.

Explain the difference between the terms social inhibition and evaluation apprehension.

[2 marks]

Outline the strategies a coach may use to reduce the negative effects of an audience on performance.

[5 marks]
Section C: Evaluating Contemporary Influences

Answer three questions.

Answer Question 9 and any two from Question 10, Question 11 or Question 12.

Question 9

Modern day sport is constantly changing due to the advancement of technology.

Discuss the suggestion that technology is improving the experience of the performer and spectator in modern day sport. [14 marks]

Question 10

During the 19th century, many sports’ governing bodies were established.

Explain the factors that led to the emergence of national governing bodies, such as the Football Association, during the 19th century. [4 marks]

Outline the role and purpose of a national governing body in modern day sport. [3 marks]

Question 11

There is a temptation for performers to take drugs to enhance their sporting performance.

Other than for the physiological benefits, outline the reasons sport performers take performance enhancing drugs. [2 marks]

Explain the problems faced by sporting organisations when implementing a ban on the use of performance enhancing drugs. [5 marks]
Question 12

During sporting contests performers are expected to maintain traditional ethical codes, such as sportsmanship, and play within the laws of the game.

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Explain the term sportsmanship and outline how it is encouraged and maintained at the highest level of sport. [4 marks]

The law has become increasingly involved in sporting issues.

2 1

State how the law can protect elite performers. [3 marks]

END OF QUESTIONS