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OCR
Oxford Cambridge and RSA

A LEVEL
Sample SAM Taster Booklet

PHYSICAL EDUCATION

H555
For first teaching in 2016

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A LEVEL
PHYSICAL EDUCATION

Our new A Level in Physical Education specification provides a dynamic, contemporary and exciting opportunity for students to engage with the world around us. They will study a wide range of content options, and consider key themes which demonstrate the relevance of the past in understanding the present.

We have designed this course with teachers and students in mind, having consulted extensively across the United Kingdom. The subject criteria pose challenges to us in terms of a slight increase in the weighting of the theory element and also in the fact that all content is now compulsory. The approach that we have taken in this specification will allow teachers and learners to face those challenges with confidence.

It is our strong desire to ensure that OCR PE should captivate learners and develop a desire within them to continue learning beyond the confines of the classroom and school as well as developing personal and interpersonal skills which will serve them in future education and the workplace.

Our Sample Assessment Material (SAMs) taster booklet introduces you to the style of assessment for our new qualification.

The booklet features the questions and mark schemes for the three assessments that make up this qualification. The complete set of sample assessment materials is available on the OCR website www.ocr.org.uk/alevelphysicaleducation

SUBJECT SPECIALIST SUPPORT

OCR Subject Specialists provide information and support to schools including specification and non-exam assessment advice, updates on resource developments and a range of training opportunities.

You can contact our Physical Education Subject Specialists for specialist advice, guidance and support.

Meet the team at ocr.org.uk/physicaleducationteam

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WHAT TO DO NEXT

- Sign up for regular updates, including news of our autumn calendar of events: http://www.ocr.org.uk/updates
- Book onto a free GCSE reform training event to help you get to grips with the new qualification: https://www.cpdhub.ocr.org.uk/
- View our new range of resources that will grow throughout the lifetime of the specification: www.ocr.org.uk/alevelphysicaleducation

H555/01 PHYSIOLOGICAL FACTORS AFFECTING PERFORMANCE

SPECIFICATION CONTENT

Anatomy and Physiology
Exercise Physiology
Biomechanics

Section A, short answer questions, total of 10 marks
Section B, 3 × 20 mark questions (1 per topic), broken down into part questions
Section C, 1 × 20 mark extended response, this will be synoptic and link topics within this paper

SECTION A: QUESTION 1

Name **one** agonist and **one** antagonist at the ankle joint at the point of take-off during a vertical jump. **[2]**

MARK SCHEME FOR QUESTION 1

Answer	Marks
Two marks for: • agonist – gastrocnemius/soleus • antagonist – tibialis anterior	2 (AO2)

SECTION A: QUESTION 2

Identify the processes that occur during the fast component of excess post exercise oxygen consumption (EPOC). **[2]**

MARK SCHEME FOR QUESTION 2

Answer	Marks
Two marks for: • re-synthesis of ATP/PC/phosphocreatine • replenishment of myoglobin with oxygen / oxy-myoglobin link	2 (AO2)

SECTION B: QUESTION 6a

Fig.1 shows a performer doing a sit up.

Fig. 1

© Dizzy. Image supplied by iStock, www.istockphoto.com

(a) Complete the table below to show the movements that take place at the hip joint during both the upward and downward phases.

Phase	Agonist	Movement produced	Type of contraction
Upward			
Downward			

[6]

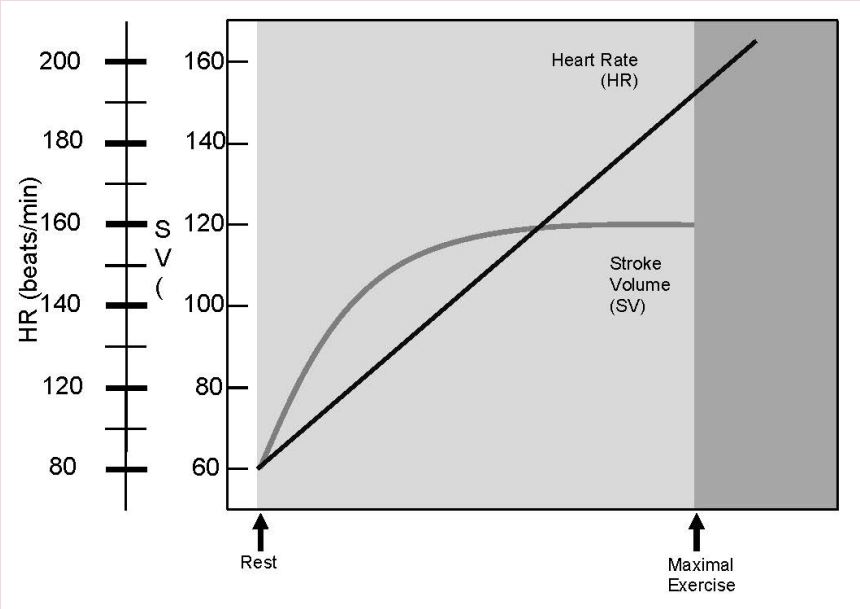
MARK SCHEME FOR QUESTION 6a

Answer	Marks	Guidance
Six marks for: **Upward phase** • (agonist) Iliopsoas • (movement) Flexion • (contraction) Concentric **Downward phase** • (agonist) Iliopsoas (still the agonist) • (movement) Extension • (contraction) Eccentric	6 (AO3)	Do not accept: isotonic for the contraction phases

SECTION B: QUESTION 6bi

Fig.2 the changes in stroke volume and heart rate from rest to maximal exercise.

Fig. 2



Calculate the cardiac output when the heart rate is 180bpm. Show your working. **[2]**

MARK SCHEME FOR QUESTION 6bi

Answer	Marks	Guidance
Two marks for: • formula – Cardiac Output/Q = Heart rate x stroke volume/ 180 x 120 • calculation – Cardiac output/Q = 21600ml/minute / 21.6litres/minute	2 (AO2)	Must show units for full marks

SECTION B: QUESTION 6bii

Explain the changes to stroke volume during sub maximal exercise. **[3]**

MARK SCHEME FOR QUESTION 6bii

Answer	Marks
Two marks from: • stroke volume is dependent on venous return • (during sub maximal exercise) increased VR → increased SV • (at higher heart rates) reduced filling time of heart • (at higher HR) smaller end diastolic volume / EDV • (which means) heart is only partially filled with blood • replenishment of myoglobin with oxygen / oxy-myoglobin link	3 (AO2)

SECTION B: QUESTION 7b

Define 'centre of mass'.

Explain how a rugby player can apply knowledge of centre of mass to increase their stability. **[4]**

MARK SCHEME FOR QUESTION 7b

Answer	Marks	Guidance
Four marks from: • the point at which a body is balanced (in all directions) / the point from which weight appears to act (AO1) • to maintain stability centre of mass must be over base of support (AO2) • (to increase stability) rugby player lowers centre of mass by bending knees (AO2) • (to increase stability) player increases area of base by widening stance (AO2) • stability is increased if line of gravity is in centre of base of support (AO2) • stability is increased if line of gravity is in centre of base of support forwards / player leans forwards (AO2)	4 (1 × AO1 3 × AO2)	Definition must be given for full marks to be awarded

SECTION C: QUESTION 9

An elite marathon runner will have a very high aerobic capacity.

Explain how the aerobic system provides energy during a marathon and how cardiovascular adaptations as a result of an aerobic training programme can enhance aerobic capacity. **[20]**

MARK SCHEME FOR QUESTION 9

This question is marked via levels of response approach. The left-hand column is generic and will not change year to year; the guidance in the right column will apply the generic criteria to the specific question each year.

Below the levels of response on the full SAM are examples of indicative content candidates might use in their response. They may however use other relevant and correct content to access the marks available.

Assessment Objective allocations of this question are as follows: 7 × AO1, 7 × AO2, 6 × AO3.

Answer	Guidance
Level 4 (17–20 marks) • detailed knowledge and excellent understanding (AO1) • well-argued, independent opinion and judgements which are well supported by relevant practical examples (AO2) • detailed analysis and critical evaluation (AO3) • very accurate use of technical and specialist vocabulary • there is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.	**At Level 4 responses <u>are likely</u> to include:** • detailed knowledge of how the aerobic system provides energy during a marathon • detailed explanation of cardiovascular adaptations showing how they can enhance aerobic capacity • understanding of the greater efficiency of the aerobic system of an elite athlete • synoptic links are effectively made between the aerobic system and the cardiovascular adaptations as a result of training • AO1, AO2 and AO3 all covered well in this level

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MARK SCHEME FOR QUESTION 9 (continued)

Answer	Guidance
Level 3 (12–16 marks) • good knowledge and clear understanding (AO1) • independent opinions and judgements will be present but may not always be supported by relevant practical examples (AO2) • good analysis and critical evaluation (AO3) • generally accurate use of technical and specialist vocabulary • there is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence.	**At Level 3 responses <u>are likely</u> to include:** • good knowledge of how the aerobic system provides energy during a marathon • a range of cardiovascular adaptations are covered, however some may be described rather than explained. • some synoptic links are made between the aerobic system and the adaptations to it as a result of training • maximum of 7 marks to be awarded for AO1 and 7 marks for AO2; some AO3 required for top of this level.
Level 2 (7–11 marks) • limited knowledge and understanding (AO1) • opinion and judgement given but often unsupported by relevant practical examples (AO2) • some evidence of analysis and critical evaluation (AO3) • technical and specialist vocabulary used with limited success • the information has some relevance and is presented with limited structure. The information is supported by limited evidence.	**At Level 2 responses <u>are likely</u> to include:** • limited knowledge of how the aerobic system provides energy during a marathon • stages of the aerobic system may be identified but there is little development of each stage • some cardiovascular adaptations are identified, and a few have been described • explanations of cardiovascular adaptations are limited • maximum of 7 marks to be awarded for AO1 with no application.
Level 1 (1–6 marks) • basic knowledge and little understanding (AO1) • little or no attempt to give opinion or judgement (AO2) • little relevant analysis or critical evaluation (AO3) • little or no attempt to use technical and specialist vocabulary • the information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear.	**At Level 1 responses <u>are likely</u> to include:** • basic knowledge of the aerobic system • a few cardiovascular adaptations may have been identified and/or described • some inaccurate information may be present • mainly AO1 content.
(0 marks) No response or no response worthy of credit.	

H555/02 PSYCHOLOGICAL FACTORS AFFECTING PERFORMANCE

SPECIFICATION CONTENT

Skill Acquisition
Sports Psychology

Section A, short answer questions, total of 10 marks
Section B, 2 × 20 mark questions (1 per topic), broken down into part questions
Section C, 1 × 10 mark extended response, this will be synoptic and link topics within this paper

SECTION A: QUESTION 3

Why is selective attention important when learning motor skills? **[3]**

MARK SCHEME FOR QUESTION 3

Answer	Marks
Two marks for: • (selective attention) filters out the irrelevant detail • allows through the relevant detail/focusses on relevant stimuli/concentrates on relevant cues • enables accurate perception/decision making	2 (AO3)

SECTION A: QUESTION 5

Identify the processes that occur during the fast component of excess post exercise oxygen consumption (EPOC). **[2]**

MARK SCHEME FOR QUESTION 5

Answer	Marks
Two marks for: • group has a common goal/common identity • members interact/communicate with each other	2 (AO1)

SECTION B: QUESTION 6a

Describe the theory of operant conditioning when applied to the learning of motor skills. **[6]**

MARK SCHEME FOR QUESTION 6a

Answer	Marks	Guidance
Six marks from: • operant conditioning is a method of learning by association/connection • behaviour is shaped/modified/manipulated (e.g. through practice) • trial and error is a feature (e.g. trying different techniques) • reinforcement takes place (e.g. through successful outcomes) • S-R bond will be strengthened • use of praise/reward (e.g. for achieving goals in training) • negative reinforcement/punishment can affect behaviour (e.g. being dropped from the team) • S-R bond might be weakened if response is incorrect • (Thorndike's law of effect) the effect of the response dictates the next response (e.g. positive outcome/satisfaction from practice makes you continue) • (Thorndike's law of exercise) the response should be practices/rehearsed if learning is to take place. (e.g. skills improve through training so you train with more focus) • (Thorndike's law of readiness) the performer should be ready/mature/intellectually aware/capable to perform the response (e.g. you need to be physically mature/strong enough to start some activities/training)	6 (AO2)	Theoretical marks can be gained through examples

SECTION B: QUESTION 6c

Explain how manual and mechanical guidance might be used in acquiring skills and give a practical example for each type of guidance. **[4]**

MARK SCHEME FOR QUESTION 6c

Answer	Marks
Four marks from: • (manual) hands on/physical support of the performer to place in correct position or guide through the correct movement pattern (AO1) • e.g. a teacher supporting a gymnast when performing a vault (AO2) • (mechanical) use of aids/equipment to support performer (AO1) • e.g. a golfer using a putting target machine to improve putting technique (AO2)	4 (2 × AO1 2 × AO2)

SECTION B: QUESTION 7bii

Using examples, describe **three** characteristics of a performer who is said to be 'in the zone'. **[3]**

MARK SCHEME FOR QUESTION 7bii

Answer	Marks	Guidance
Three marks from: • performer is focused/performer fully concentrating, e.g. blocking out crowd noise before taking a penalty • performance appears effortless/automatic, e.g. the execution/timing of a complex routine in gymnastics or dance • there is a peak flow experience/confidence, e.g. reactions seem quicker/more responsive/ more natural during a rally in tennis • affective/enjoyment/satisfaction at a key part of the performance, e.g. 'raising game' in more challenging game situations	3 (AO2)	Each point must have example to gain mark

SECTION B: QUESTION 8

Why is goal setting so important to effective performance in sport?

Explain how goal setting could be used in the different stages of learning to ensure effective performance. **[10]**

MARK SCHEME FOR QUESTION 8

This question is marked via levels of response approach. The left hand column is generic and will not change year to year; the guidance in the right column will apply the generic criteria to the specific question each year.

Below the levels of response on the full SAM are examples of indicative content candidates might use in their response. They may however use other relevant and correct content to access the marks available.

Assessment Objective allocations of this question are as follows: 3 × AO1, 3 × AO2, 4 × AO3.

Answer	Guidance
Level 3 (8–10 marks) • detailed knowledge & excellent understanding (AO1) • well-argued, independent opinion and judgements which are well supported by relevant practical examples (AO2) • detailed analysis and critical evaluation (AO3) • very accurate use of technical and specialist vocabulary • there is a well-developed line of reasoning which is clear and logically structured. The information is relevant and substantiated.	**At Level 3 responses <u>are likely</u> to include:** • detailed knowledge and understanding of why goal setting important • examples used frequently throughout the answer • clear reference to effect of goal setting on different stages (cognitive, associative, autonomous) of learning - at the top of the level, all three stages of learning linked to goal setting covered • consistent use of practical examples • consistent use of technical terminology • AO1, AO2 and AO3 all covered well in this level.

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MARK SCHEME FOR QUESTION 8 (continued)

Answer	Guidance
Level 2 (5–7 marks) • good knowledge and clear understanding (AO1) • independent opinions and judgements will be present but may not always be supported by relevant practical examples (AO2) • good analysis and critical evaluation (AO3) • generally accurate use of technical and specialist vocabulary • there is a line of reasoning presented with some structure. The information presented is in the most part relevant and supported by some evidence.	**At Level 2 responses <u>are likely</u> to include:** • satisfactory knowledge and understanding of why goal setting important • examples used occasionally • some reference to effect of goal setting on different stages (cognitive, associative, autonomous) of learning – at the top of the level, at least two of the three stages of learning linked to goal setting covered • some use of practical examples • some use of technical terminology. • maximum of 3 marks to be awarded for AO1 and 3 marks for AO2; some AO3 required for top of this level.
Level 1 (1–4 marks) • satisfactory knowledge and understanding (AO1) • occasional opinion and judgement but often unsupported by relevant practical examples (AO2) • limited evidence of analysis and critical evaluation (AO3) • technical and specialist vocabulary used with limited success • the information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear.	**At Level 1 responses <u>are likely</u> to include:** • mostly descriptions • limited reference to the different stages of learning • maximum of 3 marks to be awarded for AO1 with no application.
(0 marks) No response or no response worthy of credit.	

H555/03 SOCIO-CULTURAL ISSUES IN PHYSICAL ACTIVITY AND SPORT

SPECIFICATION CONTENT

Sport, Society and technological influences

Section A, short answer questions, total of 10 marks
Section B, 2 × 20 mark questions, broken down into part questions
Section C, 1 × 10 mark extended response, this will be synoptic and link topics within this paper

SECTION A: QUESTION 1

Explain **two** ways in which freedom of movement for performers has influenced sport in the 21st century. **[2]**

MARK SCHEME FOR QUESTION 1

Answer	Marks	Guidance
Two marks from: • allows performers to cross continents in lots of different sports, e.g. overseas players in football and rugby teams in UK • performers can move to different countries/regions for training/development, e.g. altitude training, 'warm weather' training camp • successful sports/clubs/teams tour other 'markets', e.g. Premier League football teams touring USA or Asia in pre-season • can increase the potential fan-base of successful sports/clubs/teams/performers as they are known internationally • quicker/easier travel makes competitions more flexible/possible, e.g. European club games in football and rugby played midweek in between domestic fixtures	2 (AO2)	Look for link to performers' freedom of movement and impact on sports characteristics and participation

SECTION A: QUESTION 4

Describe **two** social implications of violence in sport. **[2]**

MARK SCHEME FOR QUESTION 4

Answer	Marks
Two marks from: • Sports performers are high profile/role models so violence in elite sport may be copied • Violence in sport can put parents off letting their children participate • Violent behaviour by performers can lead to violence amongst spectators • Sport reflects on society, so if there is violence in sport it is because that is what some people 'want'/because society is violent/has violence • The importance placed upon sport may create the pressure which leads to the violence • Violence in sport may be a result of other frustration/could indicate other social issues or individual problems	2 (AO2)

SECTION B: QUESTION 6a

Using examples, describe **two** ways in which social class influenced the characteristics of sports and pastimes in pre-industrial Britain. **[6]**

MARK SCHEME FOR QUESTION 6a

Answer	Marks	Guidance
Two marks from: • different classes took part in different actiities (AO1) • e.g. lower class play mob football; upper class/gentry play real tennis (AO2) • different classes may have different roles in games/pastimes (AO1) • e.g. (AO2) • social class influenced access to sports and pastimes, due to money, free time, etc… (AO1) • e.g. (AO2) • nature of some activities reflected the class of people who played them / they were aimed at (AO1) • e.g. mob football violent, unruly (AO2)	4 (2 × AO1 2 × AO2)	Award maximum of 2 AO1 marks for influence. Award maximum of 2 AO2 marks for relevant examples.

SECTION B: QUESTION 6c

Explain possible conclusions which could be drawn about sports participation in the 21st Century from the statistics below. **[6]**

- According to Sport England, in 2015 15.6 million adults now play sport at least once a week. That's 1.6 million more than in 2005/6. However, most adults (58%) still do not play sport.
- Just over 1.9 million people played football once a week during 2012–13, a drop from the figure of almost 2.2 million for 2011–12.
- The England and Wales census in 2011 showed the percentage of the population aged 65 and over was the highest seen in any census – at 16.4%.

MARK SCHEME FOR QUESTION 6c

Answer	Marks	Guidance
Six marks from: • (fact) although participation increased, the majority do not participate • therefore, strategies have worked but still not good enough • strategies are therefore not sufficiently targeted or do not encourage active lifestyles • (fact) 0.3 million fewer people played football in 12/13 than the previous year • strategies to participate are not working with football participation • strategies might be affected by poor weather or by lack of facilities or the selling off of playing fields or less money available from government / local authorities to maintain or develop facilities • (fact) more people 65+ than ever before • therefore strategies should be directed more at 65+ • strategies could include more appropriate activities to be available for the 65+ • failure of the government or sporting organisations to build on Olympic legacy (post 2012)	6 (AO3)	Conclusion must be derived from each fact point for a second mark to be scored.

SECTION B: QUESTION 7a

The chairman of the US Tennis Association in the late 1970's was asked about the effectiveness of newly designed tennis rackets. He stated that 'you can play with a tomato can on a broomstick if you think you can win with it'.

Discuss the reasons why new technology has divided opinion amongst many that participate in sport. **[6]**

MARK SCHEME FOR QUESTION 7a

Answer	Marks
Six marks from:	6
Sub max four marks – reasons for positive opinion:	(AO3)
• it can improve sports performance	
• can make sport safer for performers or spectators or fewer injuries	
• sport can be more exciting / entertaining / enjoyable with technology advances	
• can help make fairer decisions / a fairer contest.	
• can help spectators see / experience more when watching sport	
• can make sport more accessible	
Sub max four marks – reasons for negative opinion:	
• But can take away the personal effect / more about technology than the individual	
• Technology gives those with money an advantage in performance	
• Can increase the chance of injury / harm	
• Can take away the element of chance	
• Can make some sport less of a spectacle/more predictable	

SECTION C: QUESTION 8

Explain how effectively UK Sport and the National Institutes develop excellence in sport in the UK.

What does the approach of these organisations tell us about contemporary social factors which influence sport?

MARK SCHEME FOR QUESTION 8

This question is marked via levels of response approach. The left hand column is generic and will not change year to year; the guidance in the right column will apply the generic criteria to the specific question each year.

Below the levels of response on the full SAM are examples of indicative content candidates might use in their response. They may however use other relevant and correct content to access the marks available.

Assessment Objective allocations of this question are as follows: 3 × AO1, 3 × AO2, 4 × AO3.

Answer	Guidance
Level 3 (8–10 marks) • detailed knowledge & excellent understanding (AO1) • well-argued, independent opinion and judgements which are well supported by relevant practical examples (AO2) • detailed analysis and critical evaluation (AO3) • very accurate use of technical and specialist vocabulary • there is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated.	**At Level 3 responses are likely to include:** • detailed knowledge of both UK Sport and the National Institutes • detailed analysis of each main role with well-developed points • relevant practical examples or case studies of elite athletes developing excellence throughout the response • excellent awareness of the extent to which these organisations are effective • detailed explanation of the approach of these organisations and contemporary social factors which influence sport • AO1, AO2 and AO3 all covered well in this level.
Level 2 (5–7 marks) • good knowledge and clear understanding (AO1) • independent opinions and judgements will be present but may not always be supported by relevant practical examples (AO2) • good analysis and critical evaluation (AO3) • generally accurate use of technical and specialist vocabulary • there is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence.	**At Level 2 responses are likely to include:** • good knowledge of both UK Sport and the National Institutes • good analysis of each main role with mostly well -developed points • some relevant practical examples of elite athletes developing excellence • good awareness of the extent to which these organisations are effective • some explanation of the approach of these organisations and contemporary social factors which influence sport • maximum of 3 marks to be awarded for AO1 and 3 marks for AO2; some AO3 required for top of this level.
Level 1 (1–4 marks) • satisfactory knowledge and understanding (AO1) • occasional opinion and judgement but often unsupported by relevant practical examples (AO2) • limited evidence of analysis and critical evaluation (AO3) • technical and specialist vocabulary used with limited success • the information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear.	**At Level 1 responses are likely to include:** • satisfactory knowledge of either UK Sport or the National Institutes • satisfactory analysis of each main role with some developed points • a few relevant practical examples of elite athletes developing excellence • little or no awareness of the extent to which these organisations are effective • little or no explanation of the approach of these organisations and contemporary social factors which influence sport some inaccurate information. • maximum of 3 marks to be awarded for AO1 with no application.
(0 marks) No response or no response worthy of credit.	

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