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# **GCSE MARKING SCHEME**

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**SUMMER 2018**

**PHYSICAL EDUCATION - UNIT 1  
SHORT COURSE  
C5550U10-1**

## **INTRODUCTION**

This marking scheme was used by WJEC for the 2018 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

# GCSE PHYSICAL EDUCATION

## SUMMER 2018 MARK SCHEME

Question	Mark scheme	AO1	AO2	AO3	Total
1 (a) (i)	<b>AWARD</b> 1 mark for identifying any of the following fitness components: balance, coordination, muscular endurance, muscular strength	1			1
(ii)	<b>AWARD</b> 2X1 marks for correctly justifying how the component(s) of fitness are used to hold the bar still above the lifters head at the end of the lift Definitions not enough to gain marks.  <b>Example justifications:</b> Balance is required to maintain equilibrium and avoid movement likely to cause the lifter / bar to move and the lift to be null and void. Coordination is required to synchronise e.g. arms and legs and ensure that the bar remains still and feet / arms do not move. Muscular endurance required in lift and when in competition to enable muscles to work for extended period of time without fatigue. Muscular strength required to overcome the resistance of the bar and prevent movement		2		2
(iii)	<b>AWARD</b> 1 mark for a definition of overload increase the amount of stress placed on the body 2 marks for an explanation of the importance of specificity for a lifter.  <b>EXPLANATION</b> candidates may mention specificity within the context SPORT. Lifters need to increase the amount of stress placed on the body when training / competing. Increased overload incorporates principle of overload. Knowledge of overload in order to train safely/avoid injury.  An explanation answer rather than simply listing Look for successful linking of the theory of POT and possibly, relevant examples.	1	2		3

Question	Mark scheme	AO1	AO2	AO3	Total
(b) (i)	<b>AWARD</b> 1 mark for ticking ISOMETRIC	1			1
(ii)	<b>AWARD</b> 1 mark for ticking HINGE	1			1
(iii)	<b>AWARD</b> 1 mark for ticking FAST TWITCH	1			1
(c)	<b>AWARD</b> 1 mark for identifying each of the following  Heart - cardiac organs etc - involuntary skeleton - voluntary	3			3
(d)	<b>AWARD</b> 1 mark(s) 3 x 1 for each correct answer to the type of movement.  ADDUCTION ROTATION ABDUCTION	3			3
<b>Q1</b>	<b>AO totals for Q1</b>	<b>11</b>	<b>4</b>	<b>0</b>	<b>15</b>

Question	Mark scheme	AO1	AO2	AO3	Total
2 (a) (i)	<p><b>AWARD</b> 2 X 1 marks for identifying short term changes due to taking part in intense physical activity.</p> <p><b>IDENTIFICATION</b> Increased tidal volume- more O<sub>2</sub> to working muscles. Skin reddens. Body sweats, water evaporates, blood moved to skin surface to regulate temperature. Cardiac output increases <math>Q=SV \times HR</math> Heart Rate increases supplying more oxygen to working muscles.</p>	2			2
(ii)	<p><b>AWARD</b> 1 mark for the identification / explanation of the term "aerobic threshold"</p> <p>AEROBIC THRESHOLD refers to the point at which a stimulus takes effect; the entry point into the aerobic training zone (ATZ)</p>	1			1
(iii)	<p><b>AWARD</b> 3 marks for explanation of why an understanding of "aerobic threshold" is important.</p> <p>Normally ATZ this is 60 to 80% of Maximum Heart Rate Exercising below 60% threshold would therefore have no effect on improving Aerobic Fitness. 16 year olds MHR = <math>220 - 16 = 204</math>. 60 to 80% of MHR = 120-160 BPM Exercising above 80 / 85% MHR would be entering Anaerobic Training Zone (ANTZ) therefore develops different aspects of fitness. Knowledge of Aerobic Threshold could help to guide training and assist with the monitoring of progress.</p> <p>Credit any acceptable response. Read carefully.</p>		3		3

Question	Mark scheme	AO1	AO2	AO3	Total
(iv)	<p><b>AWARD</b> 3 marks for any appropriate assessment. Responses may refer to either the cyclist or sedentary individual or could be written in terms of a comparison.</p> <p><b>IDENTIFICATION / EXPLANATION</b> FREQUENCY= cyclist training more often whereas sedentary individual training less often/less frequently.</p> <p>INTENSITY= cyclist training harder (more overload) sedentary individual training less intensely (EASIER). For sedentary individual training would be gradually progressive – EASIER -&gt; HARDER.</p> <p>TIME / DURATION = cyclist training for longer time and possibly more frequently than sedentary individual who trains for short time probably less frequently.</p>			3	3
(b) (i)	<p><b>AWARD</b> 1 mark for correctly identifying the joint at A as a BALL AND SOCKET</p>	1			1
(ii)	<p><b>AWARD</b> 2 marks for Sagittal plane divides the body vertically into right and left halves.</p> <p>Forward and backward movements of the body and body segments (legs) occurs during the movement of the cyclist.</p>		2		2
(c)	<p><b>AWARD</b> 1 mark for correctly naming the muscle group at B as the HAMSTRINGS</p> <p>1 mark for correctly naming the muscle group at C as the QUADRICEPS</p>	2			2

Question	Mark scheme	AO1	AO2	AO3	Total
(d)	<p><b>AWARD</b> 1 mark for correct definition of Health 4 marks for an explanation of how taking part in regular physical activity can help mental and social wellbeing</p> <p><b>EXPLANATION</b> Health is a state of complete mental, physical and social wellbeing (not simply the absence of disease or infirmity)</p> <p><b>SOCIAL EFFECTS OF EXERCISE</b> increased confidence teamworking / cooperation development self fulfilment /challenging increased self worth increased respect from peers meet new people mix with people of similar interests increased opportunities</p> <p><b>MENTAL EFFECTS OF EXERCISE</b> satisfaction with own performance promotes feel good factor can provide excitement gives enjoyment can relieve stress/tension/aggression feeling of exhilaration develops feeling of being part of something leads to feelings of success helps in forgetting life problems when performing provides new challenges</p> <p>Many opportunities available to engage with the question. Not a list, rather an opportunity to explain the merits of taking part in physical activity. The answer should deal with mental and social wellbeing <u>not</u> physical benefits.</p>	1	4		5
<b>Q2</b>	<b>AO totals</b>	<b>7</b>	<b>9</b>	<b>3</b>	<b>19</b>

Question	Mark Scheme	AO1	AO2	AO3	Total
3 (a)	<b>AWARD</b> 1 marks for The term "energy balance" refers to the intake of calories being equal to the amount of calories/energy consumed by an individual.	1			1
(b)	<b>AWARD</b> 3X1 marks  <b>EXPLANATION</b> We use up calories when we are active. This helps us to balance our energy intake with the energy we use. Adaptation of the body as a result of exercise leads to more efficient use of the body and energy systems. Use of fat and less carbohydrates as fuel for exercise. More efficient circulatory system with possible reduction in cholesterol levels. Possible adaptation of diet as a result of involvement in physical exercise / activity. Adaptation of lifestyle as a result of exercise may lead to improved HEALTH, FITNESS AND WELL-BEING. Increased PAL and possibly BMR leading to an improved energy balance / reduced obesity levels. Increased physical activity would reduce the impact of increased obesity levels on the health services.		3		3



Question	Mark Scheme	AO1	AO2	AO3	Total
(c)	<p><b>AWARD</b> 4X1 marks for effectively evaluating how and why changes to diet takes place by distance athletes prior to competition.</p> <p><b>INDICATIVE CONTENT / EVALUATION</b> Candidates may commence their answer by discussing / defining what carbohydrate loading is. Different activities require different diets and energy consumption. When we work hard the energy used comes from glycogen. Glycogen stores are limited therefore we need to consume extra carbohydrates, which build up supplies of glycogen. Athletes "carbo-load" by reducing their exercise levels in the week leading up to competition while at the same time increasing the amount of carbohydrate in their diet. Endurance training enables our body to use more fats during exercise thus helping limited supplies of carbohydrates to last longer. Some candidates may discuss the concept of TAPERING training levels, amending training and diet. Pasta parties before a marathon may be used as an example. Discussion may include types of food to consume when tapering training. This may be linked to food and fluid consumption immediately before and during competition.</p>			4	4

Question	Mark Scheme	AO1	AO2	AO3	Total
(d)	<p>The analysis must determine what flexibility is, how it can be developed and why performance levels can be improved in specified sporting events as a result of having improved flexibility.</p> <p><b>INDICATIVE CONTENT / EVALUATION</b>            Credit appropriate responses.            Accept responses where reference is made in negative terms, e.g., reduced flexibility levels may lower performance standards of a hurdler as a result of a poor range of limb movements. Flexibility is defined as a range of limb movement around a joint.            Specific activities require high flexibility levels in order to face the demands of regular sporting activity.            Improved fitness levels generally would also enhance performance levels as well as increased flexibility levels.            Flexibility levels can be improved by regular stretching. This to include antaganistic and prime movers. Stretching to include passive, active, static and PNF.            Some activities require a great deal of overall body flexibility = gymnastics, hurdling.            Other sports require flexibility in particular parts of the body = javelin, volleyball.            Increased flexibility reduces the potential for injury and enables the athlete to train more effectively.            Body builds may be mentioned and linked to different activities / events and also linked with improved performance levels.            Improved efficiency of movement examples could include golf, swimming, athletics, football along with detailed explanations.</p> <p><b>SEE BANDS AT END OF MARK SCHEME</b></p>	2		4	6
Q3	<b>AO Totals</b>	3	3	8	14

Question	Mark Scheme	AO1	AO2	AO3	Total
4 (a)	<p><b>EXPLANATION</b> The evaluation MUST link the changes in the performance AND EXPLAIN WHY the changes could have taken place.</p> <p>The indicative content should be read in conjunction with the BANDING assessment criteria sheet.</p> <p><b>INDICATIVE CONTENT</b> Answers may be general and wide ranging or specific and detailed. Principles of Training = SPORT Overload described in terms of FITT Mention could be made of the TYPE of training taking place Links may be made between DIET and NUTRITION and progress being made in training performance Possible links also to MOTIVATION and ADHERENCE strategies. Physiological adaptations in the short and long term</p> <p><b>SEE BANDS AT END OF MARK SCHEME</b></p>	2		4	6
(b)	<p><b>AWARD</b> People are more health conscious. Drive to reduced obesity Greater health initiatives in wider society. Awareness of health benefits of exercising Risks of not exercising.</p> <p>Credit appropriate responses such as more disposable income, facilities, access etc.</p>		4		4

(c)	<p>2X1 marks for suggesting how adherence could be encouraged</p> <p>There are lots of opportunities for candidates to access the question, for example;</p> <p>COST RELATED ANSWER to include having paid monthly subscription it is important to keep attending in order to exercise regularly.</p> <p>SOCIAL RELATED ANSWER to include friends / family are exercising and are members therefore acting as an incentive to keep exercising.</p> <ul style="list-style-type: none"> <li>- Enjoyable/fun activities</li> <li>- Train with friends</li> <li>- Train with music playing</li> </ul> <p>HEALTH RELATED / FITNESS ANSWER to include health / fitness benefits are taking place therefore more likely to want to continue.</p> <ul style="list-style-type: none"> <li>- Developing a positive mindset about the benefits of being active.</li> </ul> <p>FACILITY RELATED ANSWER to include variety and quality of Facilities and Personal Trainers available</p> <p>PERSONALISING RELATED ANSWERS to include:</p> <ul style="list-style-type: none"> <li>- Setting (agreed) goals</li> <li>- Adapt schedule to fit in with work/lifestyle</li> <li>- Monitor progress</li> <li>- Having/setting rewards</li> </ul> <p>Credit appropriate responses and look for candidates personalising answers using their own</p>	2			2
<b>Q4</b>	<b>AO Totals</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>12</b>

### Mark Bands for extended answers

#### Bands to accompany question 3(d)

Band	A01 2 marks	AO3 4 marks
3		<b>4 marks</b> Excellent, well reasoned evaluation of different types of flexibility training and how they could lead to improved performance. The answer is very detailed. Writing is well structured using accurate grammar, punctuation and spelling.
2	<b>2 marks</b> Good knowledge of different types of flexibility training	<b>3 marks</b> Good evaluation of different types of flexibility training and shows some links to how they could improve performance. The answer has some detail. Writing is generally well structured using reasonably accurate grammar, punctuation and spelling.
1	<b>1 mark</b> Limited knowledge of different types of flexibility training	<b>1-2 marks</b> Limited evaluation of different types of flexibility training and how they could improve performance. The answer is limited and might be generic in nature. The response shows some structure with errors in grammar, punctuation and spelling.
0	<b>0 marks</b> No knowledge of different types of flexibility training	<b>0 marks</b> Not attempted No analysis

**Bands to accompany question 4 (a)**

<b>Band</b>	<b>AO1 2marks</b>	<b>AO3 4 marks</b>
<b>3</b>		<b>4 Marks</b> Excellent evaluation of principles of training. The reponse is very detailed. The reponse is clearly expressed and shows accurate use of technical terminology. Writing is very well structured using accurate grammar, punctuation and spelling
<b>2</b>	<b>2 Marks</b> Good knowledge of principles of training	<b>3 marks</b> Good evaluation of principles of training. The response has some detail. The reponse is adequately expressed and shows appropriate use of technical terminology. Writing is generally well structured using reasonably accurate grammar, punctuation and spelling.
<b>1</b>	<b>1 mark</b> Limited knowledge of principles of training	<b>1-2 marks</b> Limited evaluation of principles of training. The reponse shows basic use of technical terminology. Writing shows some evidence of structure but with errors in grammar, punctuation and spelling.
<b>0</b>	<b>0 marks</b> No knowledge of principles of training	<b>0 marks</b> Not attempted No evaluation

	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>TOTAL</b>
<b>AO1</b>	11	7	3	4	25
<b>AO2</b>	4	9	3	4	20
<b>AO3</b>	0	3	8	4	15
<b>TOTAL</b>	15	19	14	12	60