



GCSE MARKING SCHEME

SUMMER 2024

**PHYSICAL EDUCATION - UNIT 1
SHORT COURSE
3555U10-1**

About this marking scheme

The purpose of this marking scheme is to provide teachers, learners, and other interested parties, with an understanding of the assessment criteria used to assess this specific assessment.

This marking scheme reflects the criteria by which this assessment was marked in a live series and was finalised following detailed discussion at an examiners' conference. A team of qualified examiners were trained specifically in the application of this marking scheme. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners. It may not be possible, or appropriate, to capture every variation that a candidate may present in their responses within this marking scheme. However, during the training conference, examiners were guided in using their professional judgement to credit alternative valid responses as instructed by the document, and through reviewing exemplar responses.

Without the benefit of participation in the examiners' conference, teachers, learners and other users, may have different views on certain matters of detail or interpretation. Therefore, it is strongly recommended that this marking scheme is used alongside other guidance, such as published exemplar materials or Guidance for Teaching. This marking scheme is final and will not be changed, unless in the event that a clear error is identified, as it reflects the criteria used to assess candidate responses during the live series.

GCSE PHYSICAL EDUCATION
UNIT 1 (SHORT COURSE)
SUMMER 2024 MARK SCHEME

Question	Mark Scheme	AO1	AO2	AO3	Total
1. (a) (i)	Identify what is defined as, ‘a state of complete mental, physical and social well-being and not simply the absence of disease or infirmity’. Tick one box only Health	1			1
(a) (ii)	Explain why it is important to measure fitness. Award 1 mark for basic explanation/or list e.g. strengths and weaknesses Award up to 2 marks for a developed explanation of why it is important to measure fitness Award up to 3 marks for a detailed explanation covering at least two points developed from the indicative content This is an explain question not just a list. Look for amplification on points made. INDICATIVE CONTENT: • To monitor strengths • To monitor weaknesses • To monitor current status and health • To reach baseline assessment • To assess match fitness • To assess recovery from injury • To compare to normative data • To compare to other sportspersons • To assess the success of training programme • To determine if individual is “peaking” • A variety of tests are needed to assess different components of fitness • To motivate the sportsperson Accept any other appropriate response		3		3
(b) (i)	Outline the function of carbohydrates, fats and minerals in our diet. Award one mark for each function <u>Carbohydrates</u> provide a ready source of energy. <u>Fats</u> provide energy but slower than carbohydrates. Fats provide insulation. <u>Minerals</u> enable the body to work normally and efficiently.	3			3

Question	Mark Scheme	AO1	AO2	AO3	Total
(b) (ii)	Explain energy balance in relation to weight gain and weight loss. Award 1 mark for basic explanation of energy balance - Weight remains constant when kilojoules (kjs) taken in equals kjs used. Award up to 2 marks for a basic explanation and amplification of energy balance either positive or negative. Award up to 3-4 marks for a developed explanation covering both weight gain and loss. This is an explain question therefore amplification is needed in responses. - Weight is gained when kjs taken in each day is greater than kjs used each day. - Weight is lost when kjs taken in each day is less than kjs used each day. Diagrams can be used and marks awarded accordingly.		4		4

Question	Mark Scheme	AO1	AO2	AO3	Total
(c)	Assess the possible mental and social risks to young people who do not lead a healthy lifestyle. Please see banded response sheet for guidance. Read the response, allocate a band and award marks. There are many opportunities for candidates to engage with the question, however, there should be amplification of any points made. Physical factors may be mentioned but these must relate to mental and social factors and be clearly stated in relation to mental and social risks. INDICATIVE CONTENT <u>SOCIAL</u> • Lack of self confidence • No opportunities for team working • Limited engagement in challenging activities and environments • Lack of self worth compared to others • Lack of respect from peers • Unable to meet new people • Cannot access new activities • Cannot lead active lifestyle becomes self-fulfilling <u>MENTAL</u> • Constant doubt about performance standards • No feel good factor • No excitement due to inactive lifestyle • Build up of stress / tension • Loss of self confidence about taking part in games • Negative impact of lack of success • Inability to let off steam • No fresh challenges in life to motivate / excite Accept any other appropriate response.	2		5	7
	Total AOs and Marks	6	7	5	18

Band	AO1 2 marks	AO3 5 marks
3		5 marks Excellent assessment of the mental and social risks of not leading a healthy lifestyle. Explicit links are made between lifestyle choices and potential risks to the individual. Excellent use of appropriate grammar, punctuation and spelling.
2	2 marks Good knowledge of lifestyle choices and potential risks of leading an unhealthy lifestyle.	3-4 marks Good assessment of the mental and social risks of not leading a healthy lifestyle. Some links are made between lifestyle choices and potential risks to the individual. Some good use of appropriate grammar, punctuation and spelling.
1	1 mark Limited knowledge of lifestyle choices and potential risks of leading an unhealthy lifestyle.	1-2 marks Limited assessment of the mental and social risks of not leading a healthy lifestyle. Limited links are made between lifestyle choices and potential risks to the individual. Some errors in grammar, punctuation and spelling.
0	Not attempted. No knowledge evident.	Not attempted. No assessment.

Question	Mark Scheme	AO1	AO2	AO3	Total
2. (a) (i)	Define Speed. The ability to get from A to B in the fastest possible time. OR The fastest rate a person can complete a task or cover a distance. Accept similar responses to the above.	1			1
(ii)	Identify the two main elements of an interval training session. Accept WORK and REST or similar terms.	2			2
(b) (i)	Compare the characteristics of fast twitch and slow twitch muscle fibres. Award 1 mark for basic justification (implicit) e.g. fast twitch muscles contract quickly Award up to 2 marks for developed comparison including fast and slow twitch muscle fibres (direct comparison) e.g. compare and offer the differences Award 3-4 marks for a detailed comparison of the characteristics (two or more direct comparisons) e.g. clear and detailed responses FAST twitch muscle fibres are; • Used for more explosive powerful events and activities requiring quick reactions. • They contract fast / quickly. • They contract powerfully. • They tire quickly. • White in colour. SLOW twitch muscle fibres are; • Fatigue resistant. More suited to endurance activities. • They contract slowly. • They contract with less force than fast twitch muscle fibres. • They can contract many times and stay efficient over longer periods. • They have a good supply of oxygen. • Red in colour.		4		4

Question	Mark Scheme	AO1	AO2	AO3	Total
(ii)	Explain antagonistic muscle action. Award 1 mark for basic explanation e.g. One muscle contracts the other one relaxes Award up to 2 marks for developed explanation or amplification . – using the correct terminology agonist, antagonist, prime mover and/or the use of correct muscle terminology. – contraction and pulling and working as a pair. e.g. The prime mover (agonist) is responsible for the action taking place. It contracts and pulls the bone creating movement at a joint. The antagonist muscle on the other side of the bone relaxes, allowing movement.		2		2
(iii)	Identify the type of muscle in the heart. Cardiac muscle.	1			1
(c)	Identify the three energy systems. Award 1 mark for each energy system ATP-PC or CP SYSTEM LACTIC ACID SYSTEM AEROBIC SYSTEM Do not accept anerobic.	3			3

Question	Mark Scheme	AO1	AO2	AO3	Total
(d)	Analyse why sportspersons include VARIANCE in their training programme. Please refer to the banded response sheet. Read the question, allocate a band and award marks. The candidates are asked to analyse the reasons for sportspersons including variance in a training programme. Look for appropriate analysis and amplification of relevant points. INDICATIVE CONTENT Some of the following may be included in the response along with examples to support the points made. • To motivate the person • To challenge the person • To excite • To overcome mundane routines • To add variety to programme • To train with others as a stimulus • To enhance the effect of training • In order to assist “peaking” • To make it fun • To train in different terrains or environments • To change mood • To promote solidarity within training group • To enhance progression • To avoid overuse injuries • To reduce boredom Accept any other appropriate responses. Maximum of 2 marks for listing.	2		5	7
Total AOs and Marks		9	6	5	20

Band	AO1 2 marks	AO3 5 marks
3		5 marks Excellent analysis of the reasons for including variance in the training programme. Specific reasons and examples are provided which effectively relate to the analysis. Excellent use of grammar, punctuation and spelling.
2	2 marks Good knowledge of principles of training including variance.	3-4 marks Good analysis of the reasons for including variance in the training programme. Some reasons and examples are provided to support the analysis. Punctuation, grammar and spelling are generally good.
1	1 mark Limited knowledge of principles of training including variance.	1-2 marks Limited analysis of the reasons for including variance in the training programme. Limited reasons and examples are provided to support the analysis. Some errors in punctuation, grammar and spelling.
0	Not attempted No knowledge of principles of training.	Not attempted. No analysis of the reasons for including variance in a training programme.

Question	Mark Scheme	AO1	AO2	AO3	Total
3. (a) (i)	Define cardiovascular endurance. Award 1 mark for definition The ability of our heart and lung system to cope with activity over a long period of time without tiring. Accept any similar responses.	1			1
(ii)	Identify a test that measures Cardiovascular Endurance. Multi Stage (bleep) Fitness Test Cooper 12 Minute Run Harvard Step Test Broncho test Accept any recognised test or similar to above.	1			1
(b) (i)	Identify the training zone shown as A in figure 2. Aerobic Training Zone	1			1
(ii)	Explain how the heart rate, shown at B in figure 2, is calculated. Award 1 mark for just equation; $220 - 16 = 204$ bpm Award up to 2 marks for an explanation including maximum heart rate and age. Maximum heart rate = 220 beats per minute. The sportsperson is 16 years old. $220 - 16 = 204$ beats per minute.		2		2

Question	Mark Scheme	AO1	AO2	AO3	Total
(c)	Evaluate the long term effects of endurance training on the body Please refer to the banded response sheet when marking. This is an evaluate question where candidates are asked to critically consider the long term effects of endurance training on the body. Read the response, allocate a band and award marks. INDICATIVE CONTENT Knowledge of Endurance training and how its linked to aerobic adaptations Long duration – low intensity <u>ON THE HEART:</u> • Heart chambers become bigger • Heart chambers have thicker and stronger walls • Stroke volume increases therefore Cardiac output increases • Heart becomes more efficient • Heart beat returns to normal faster than an untrained heart • lower resting heart rate <u>ON THE BLOOD VESSELS</u> • arteries become larger and more elastic • blood pressure is reduced • capillaries increase in number • more red blood cells and haemoglobin to transport oxygen • lower levels of fat in the blood • increased ability to cope with lactic acid build up in the body <u>TENDONS LIGAMENTS AND BONES (if relevant)</u> • Tendons become stronger • Ligaments become more flexible • Bones become stronger • Cartilage layer at end of bones increase therefore better at absorbing shock <u>ON OUR BODY FAT</u> • We use more fat and less carbohydrates as fuel for exercise. • Change in body shape / composition <u>ON OUR LUNGS</u> • Stronger rib muscles and diaphragm • Volume of air inhaled increases in each breath • Increase in number of alveoli • Increase in capillary network • More efficient gaseous exchange • Increased VO2 Max	2		5	7

Question	Mark Scheme	AO1	AO2	AO3	Total
	- Better at supplying O₂ to reduce effects of fatigue - Faster recovery after exercise <u>Candidates will provide a wide variety of responses therefore it is important to read, allocate a band then award marks. Indicative content is a guide to possible content in responses.</u> Maximum 2 marks awarded for listing.				

	Total AOs and Marks	5	2	5	12
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Band	AO1 2 marks	AO3 5 marks
3		5 marks Excellent evaluation linking the training method to the effects on the body in a detailed manner. Explicit links are made between training method and effects on the body using accurate technical terminology. Excellent use of appropriate grammar, punctuation and spelling.
2	2 marks Good knowledge of the effects of training on the body.	3-4 marks Good evaluation linking the training method to the effects on the body. Some links are made between training method and effects on the body using some correct technical terminology. Some good use of appropriate grammar, punctuation and spelling.
1	1 mark Limited knowledge of the effects of training on the body.	1-2 marks Limited evaluation with limited links showing the effects of exercise on the body. Limited use of correct terminology. Some errors in grammar, punctuation and spelling.
0	Not attempted. No knowledge of training effects.	No evaluation. Not attempted.

QUESTION	AO1	AO2	AO3	TOTAL
1	6	7	5	18
2	9	6	5	20
3	5	2	5	12
TOTAL	20	15	15	50