



GCE AS MARKING SCHEME

SUMMER 2022

**AS
PHYSICAL EDUCATION - COMPONENT 1
B550U10-1**

INTRODUCTION

This marking scheme was used by WJEC for the 2022 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.

GCE AS PHYSICAL EDUCATION – COMPONENT 1

SUMMER 2022 MARK SCHEME

Question	Mark scheme	AO1	AO2	AO3	Total
1. (a)	Identify, using Figure 1, the lever classification at the elbow. <i>Award 1 mark for</i> Third Class/order Lever Third or 3rd	1			1
(b)	Outline the advantages of using the lever classified in 1(a). <i>3 x 1 mark</i> Greater range of movement Resistance can be moved quickly Increase in distance	3			3
(c)	Describe the long-term adaptations on the musculo-skeletal system resulting from a structured anaerobic training programme. <i>1-2 marks for basic description of the long-term adaptations. This maybe a list or identification</i> <i>3-4 marks more detailed description of the long-term adaptations and the clear link to anaerobic training</i> <i>5-6 marks for a developed description of the long-term adaptations from anaerobic training</i> <i>Indicative content:</i> Increased bone density Increased mobility of the articular cartilage and ligaments Muscular hypertrophy Thickening of the tendons Increased force of muscular contractions Increased fast twitch fibres	6			6

Question	Mark scheme	AO1	AO2	AO3	Total
(d)	Explain how the dietary requirements of a competitive weightlifter differ from those of an endurance athlete. <i>(See banding for allocation of marks)</i> <i>Indicative content:</i> A balanced diet for both groups of athletes is essential for optimal performance. Consisting of between 10-15% proteins, 20-25% fats and 60-75% carbohydrates. A high carbohydrate (CHO) diet significantly improves performance for both power athletes and endurance-based athletes. However, an endurance-based athlete, such as a marathon runner, would need to consume at least 6-10 grams of CHO per kg of body mass, whilst a power athlete would be around 4-6 grams of CHO per kg of body mass. Protein requirements would differ between these two groups of athletes. For an endurance-based athlete the recommended protein intake is 1.2-1.4 grams per kg of body mass. In contrast, for a power athlete the recommended protein intake is 1.4-1.8 grams per kg of body mass. This need for a difference in protein intake is because after heavy resistance training the rate of protein breakdown and resynthesis is greater for the power athlete. Hydration – water consumption greater for a endurance athlete compared to a weightlifter Fat intake should be restricted for both endurance and power athletes, since muscle mass is more powerful than fat. Elite power and endurance-based athletes supplement their diets with nutritional ergogenic aids. Whey and Casein protein sources.		4		4
Totals		10	4		14

Band	AO2 (4 marks)
3	4 marks Excellent explanation of the difference in usage identified, which may reference to specific percentages and values for a weightlifter compared endurance athlete.
2	2-3 marks Good explanation of the different dietary requirements for a weightlifter and endurance athlete. There must be reference to carbohydrates and protein
1	1 mark Limited explanation of the basic information, identifies some dietary requirements for either weightlifter or endurance athlete
0	0 marks No examples of the different nutritional aspects of a weightlifters and endurance athletes diet.

Question	Mark scheme	AO1	AO2	AO3	Total
2. (a)	Identify the theory of arousal that states there is a linear relationship between performance and arousal. <i>Award 1 mark for: Only accept one tick B - Drive Theory</i>	1			1
(b)	Outline the difference between outcome and process orientated goals. <i>2 x 1 mark</i> Process goals – Short-term goals are process oriented, these often affect aspects of performance. a process goal is one that involves tactics or techniques Outcome goals – Long term goals that are product orientated affecting the future. outcome goal involves judging performance against others i.e. to win a race etc.	2			2
(c)	Explain why an athlete would use goal setting to improve their performance. <i>1-2 marks basic explanation of why an athlete would use goal setting to improve performance (focus on one purpose)</i> <i>3-4 marks detailed explanation of why an athlete would use goal setting to improve performance (more than one purpose)</i> Purpose of the question Motivation, adherence, anxiety stress Outcome goals, the performer successfully completes the goal, their motivation will increase. On the other hand, if the performer does not successfully complete the goal, their level of anxiety and stress can increase.		4		4

Question	Mark scheme	AO1	AO2	AO3	Total
	When using performance goals, if the performer achieves the realistic goals set, they will experience lower anxiety and stress, alongside increased motivation. Adherence and motivation levels may decrease if the goals set do not follow the SMARTER principle				
(d)	Analyse, using relevant theories, the reasons for aggressive behaviour in sport. <i>Indicative content:</i> Aggression in sport involves arousal and anger and intention to harm outside the rules. Instinct theory suggests that aggressive behaviour is an innate characteristic of all individuals. We are born with an aggressive instinct that makes aggressive behaviour inevitable. Sport releases built-up aggression and so the aggressive response is cathartic (providing psychological relief through the open expression of strong emotions). Instinct theory sees aggression in sport as being healthy Aggressive cue hypothesis theory (due to Berkowitz) suggests that frustration causes anger and arousal which creates a readiness for aggression. According to Berkowitz, the aggression itself must be initiated by an incident or stimuli that act as cues. The player would then associate the cues (a learnt response) with having to be aggressive. For example, a player sees a colleague fouled so decides to join in. It could be related to a specific playing venue. For example, an away venue (associated with previous aggressive incidents) could be the cue where aggressive incidents had previously occurred. This cue could increase players' arousal levels that would most likely produce aggressive responses.	2	3	3	8

Question	Mark scheme	AO1	AO2	AO3	Total
	Frustration aggression hypothesis (after Dollard) states that aggression is caused by frustration. The aggression is the result of blocking, or frustrating, a person's efforts to attain a goal. Sport is frustrating as one player (or team) is always trying to prevent the other side from winning. This suggests that frustration always leads to aggression. For example, when a rugby player tries to achieve a goal or target and his opponent stops him, the player becomes frustrated, leading to more aggression. For example, fans of a losing team are much more likely to be aggressive, rather than the winning team, owing to their frustration at not winning. Social learning theory (Bandura 1977) asserts that aggression is a learnt response rather than instinctive. Social learning states that we learn by observing and copying the behaviours of others through primary socialisation agents such as parents, teachers and friends. So, a person can learn an aggressive act either by being taught or through observational learning and modelling. Sport can promote both aggressive and non-aggressive acts. For example, if a person observes a role model performing an aggressive act he or she will want to copy it. Sport can be used to teach aggressive and non-aggressive acts depending on how rewards and punishments are used. <i>See banding grid for distribution of marks</i>				
Totals		5	7	3	15

Band	AO1 (2 marks)	AO2 (3 marks)	AO3 (3 marks)
3		3 marks Excellent use of examples throughout to illustrate their answer	3 marks Excellent analysis of more than two theories of aggression Appropriate sporting examples used to illustrate how sport was codified and rationalism of modern sport Complex ideas are expressed with clarity.
2	2 marks Good knowledge of the theories related to aggression in sport.	2 marks Good use of sporting examples to illustrate their point.	2 marks Good analysis of two theories of aggression Relevant examples provided throughout The response is adequately expressed and shows an accurate use of terminology. Writing is generally well structured using accurate grammar, punctuation and spelling.
1	1 mark Limited knowledge of theories related to aggression in sport.	1 mark Examples limited or repeated throughout.	1 mark Limited analysis of one theory of aggression.
0	0 marks No knowledge of the role of the theories related to aggression in sport.	0 marks No examples of the theories related to aggression in sport.	0 marks No evaluation of the theories of aggression in sport

Question	Mark scheme	AO1	AO2	AO3	Total
3. (a)	Explain Bandura's theory of Observational Learning. <i>Indicative content:</i> <i>1-2 marks Basic explanation of Bandura's Observational Learning Process</i> <i>3-4 marks Developed explanation outlining most sections clearly</i> <i>5-6 marks Detailed explanation outlining each section clearly</i> There are four mediational processes proposed by Bandura: Attention: The extent to which we are exposed/notice the behaviour. For a behaviour to be imitated, it has to grab our attention. We observe many behaviours on a daily basis, and many of these are not noteworthy. Attention is therefore extremely important in whether a behaviour influences others imitating it. Retention: How well the behaviour is remembered. The behaviour may be noticed but is it not always remembered which obviously prevents imitation. It is important therefore that a memory of the behaviour is formed to be performed later by the observer. Much of social learning is not immediate, so this process is especially vital in those cases. Even if the behavior is reproduced shortly after seeing it, there needs to be a memory to refer to. Reproduction: This is the ability to perform the behaviour that the model has just demonstrated. We see much behaviour on a daily basis that we would like to be able to imitate but that this not always possible. We are limited by our physical ability and for that reason, even if we wish to reproduce the behaviour, we cannot. This influences our decisions whether to try and imitate it or not. Imagine the scenario of a 90-year-old-lady who struggles to walk watching Dancing on Ice. She may appreciate that the skill is a desirable one, but she will not attempt to imitate it because she physically cannot do <i>it</i>. Motivation: The will to perform the behaviour. The rewards and punishment that follow a behaviour will be considered by the observer. If the perceived rewards outweigh the perceived costs (if there are any), then the behaviour will be more likely to be imitated by the observer. If the vicarious reinforcement is not seen to be important enough to the observer, then they will not imitate the behaviour.		6		6

Question	Mark scheme	AO1	AO2	AO3	Total
(b)	Assess how a coach could use different methods of guidance in the three stages of learning. <i>Indicative content:</i> Guidance refers to any information we give learners to help them develop their skills. The type of guidance used is affected by several factors: The stage of learning of the individual – cognitive, associative or autonomous. The nature of the activity – complexity of the skill, safety etc. Individual preferences – most people have preferred styles of learning, e.g. most people like to see what the skill they are learning looks like. There are 3 basic forms of guidance that a teacher/coach may use to transmit information: Visual – used in all stages of learning, but particularly valuable in the cognitive stage. Examples include demonstration – this includes physical demonstration by teacher/coach or other competent performer, visual aids, e.g. charts showing stages of a skill, video of ‘ideal’ performance and modifying the display, e.g. putting markers on the floor when teaching a layup shot to ensure correct foot placement. The important point here is that the demonstration must be accurate so that the learner builds up the correct picture. Advantage – The learner can see accurate performance. Demonstrations can be repeated. With video ‘slow motion’, can help individuals learn skill accurately. Useful in all stages of learning. Helps to form a mental image of correct performance. Disadvantage – Problems if no accurate image available Verbal – this is used a lot by teachers/coaches to explain the task and describe the actions. It is also used effectively to highlight important performance cues, e.g. counting beat out loud in dance. It is most often used in conjunction with visual guidance.			8	8

Question	Mark scheme	AO1	AO2	AO3	Total
	Advantages – Effective questioning by coaches/teachers can enhance learning and understanding. Effectively combined with visual guidance to paint a more accurate picture for learners. It is immediate. Disadvantage – Some verbal instructions are too long and complicated – beginners often have short attention spans (limited capacity to process information). Some movements cannot be accurately explained Manual/Mechanical – This form of guidance involves physical contact/ support. Often used when there is an element of danger, e.g. use of safety harness in trampolining. Advantages – In potentially hazardous activities it can be used to prevent learners from making inaccurate movements. In dangerous situations it can help a performer deal with fear by providing a safe environment. Helps individuals to develop kinaesthetic awareness (the feel) of the motion. Useful in early stages of learning when the teacher/coach can position limbs/body parts of the learner, e.g. correct hand position on ball when shooting in netball. Disadvantages – Should not be overused as performers can become dependent on support. Can give learners an unrealistic ‘feeling’ of the motion, e.g. they do not take their full body weight and can therefore experience failure on removal of manual/mechanical guidance <i>(See banding grids for mark allocation)</i>				
Totals			6	8	14

Band	AO3 (8 marks)
3	6-8 marks Excellent assessment of the use different methods of guidance in all three stages of learning
2	3-5 marks Good assessment of the use different methods of guidance in some of stages of learning
1	1-2 marks Limited assessment of methods of guidance in one stage of learning
0	0 marks No assessment of the stages of learning and guidance techniques

Question	Mark scheme	AO1	AO2	AO3	Total
4. (a)	Discuss, using examples, the view that sport promotes societal and cultural values. <i>Indicative content:</i> The different avenues that sport transcends e.g. health, leisure business and entertainment Respect for authority, conforming to rules, competition. Promotion of national pride Regular participation in energetic sporting activities helps to decrease the strain on the NHS and to reduce levels of obesity as health and fitness improve. Levels of crime can be reduced too, as individuals make more positive use of the free time they have available to them. This increases social control within society. Increased social integration and equality of opportunity may result via increased participation in sport together by different socio-economic and ethnic groups. Increased participation in sport has economic benefits as people pay to participate and spend money on new equipment and the latest fashionable kit on the market. Employment opportunities can be created as a result of sports participation (e.g. via employment as sports coaches, lifeguards, fitness trainers, etc.). Increased health and fitness helps reduce the strain on the NHS and lowers obesity rates. If more individuals from different social communities join clubs and socially interact, it can help increase social integration and improve community cohesion. This can lead to an increase in employment and economic benefits when more people use facilities and buy equipment to participate. A more positive use of free time by individuals increases social control and decreases crime statistics in a more socially inclusive society. If increased skill levels occur at the participation stage, this can lead to more individuals potentially progressing through to performance/elite levels. <i>See banding grids for mark allocation</i>		2	4	6

Band	AO2 (2 marks)	AO3 (4 marks)
3		4 marks Excellent discussion of at least three aspects of the importance of sport as a vehicle for the promotion of societal and cultural values
2	2 marks Good sporting examples of the importance of sport as a vehicle for the promotion of societal and cultural values	2-3 marks Good discussion the importance of sport as a vehicle for the promotion of societal and cultural values. At least two points have been explored.
1	1 mark Limited sporting examples of the importance of sport as a vehicle for the promotion of societal and cultural values	1 mark Limited discussion the importance of sport as a vehicle for the promotion of societal and cultural values
0	0 marks No explanation of the importance of sport as a vehicle for the promotion of societal and cultural values	0 marks No discussion of the importance of sport as a vehicle for the promotion of societal and cultural values

Question	Mark scheme	AO1	AO2	AO3	Total
(b)	Discuss how role models influence sport through social media. <i>Indicative content:</i> The media can have both a positive and negative effect on sport. Consider the inspiring images from the Paralympic Games and how they change people's perception of people with disabilities in our society. Compare that to the media coverage of athletes who are perceived to have 'failed' in some way. Positive influences of the media • Raise awareness of sport • Promote healthy active lifestyles • Showcase sport's positive values • Present positive and inspiring role models • Motivate people to take part • Set high standards for performance • Provide examples of skills and tactics • Publicise a variety of sports and activities • Make certain sports more fashionable • Introduce new supporters to sport • Educate spectators through analysis • Celebrate effort and success • Give sport a high status in society • Give people a sense of belonging • Generate revenue and attract investment for sport • Generate revenue for charity Negative influences of the media • Intrude on performers' privacy • Undermine people's confidence and careers • Showcase negative values and behaviour • Undermine officials and their decisions • Dictate event schedules and availability • Alter competition rules and traditions • Edit coverage so it is incomplete or biased • Obstruct spectators and participants • Reduce spectator attendance at live events	2	1	3	6

Question	Mark scheme	AO1	AO2	AO3	Total
	- Reinforce inequalities by limiting coverage to traditional sports or social groups and under-representing women's, black and minority ethnic (BME) and disability sport - Incite distrust and prejudice between groups - Discourage activity by encouraging armchair spectators <i>See banding grids for mark allocation</i>				
Totals		2	3	7	12

Band	AO1 (2 marks)	AO2 (1 mark)	AO3 (3 marks)
3			3 marks Excellent discussion of how role models use social media to influence sport. Many positive and negative aspects are discussed. Complex ideas are expressed with clarity. The response is adequately expressed and shows an accurate use of terminology. Writing is generally well structured using accurate grammar, punctuation and spelling.
2	2 marks Good knowledge of the influence of the media on sport and the impact of role models.		2 marks Good discussion of how role models use social media to influence sport. The discussion explores some positive and negative aspects The response is adequately expressed and shows an accurate use of terminology. Writing is generally well structured using accurate grammar, punctuation and spelling.
1	1 mark Limited knowledge of the influence of the media on sport and the impact of role models	1 mark The candidate is able to provide examples of the influence of the media on sport and the impact of role models	1 mark Limited evaluation of how role models use social media to influence sport, could be either positive or negative
0	No knowledge of the influence of the media on sport	No examples of the influence of the media on sport	No discussion of their influence on sport

Question	Mark scheme	AO1	AO2	AO3	Total
5. (a)	Identify the articulating bones, type of muscular contraction and joint action occurring at the shoulder in Figure 2 <i>3 x 1 mark</i> Articulating bones: Humerus & Scapula Muscle contraction: Isometric Joint action: Abduction or adduction	3			3
(b)	Analyse how a coach could use various analysis techniques to improve individual or team performance. <i>Indicative content:</i> Physical – Fitness testing: field (e.g. Multistage Fitness test) and laboratory (e.g. Wingate Anaerobic test). Outside competition to gain information on performance e.g. physical conditioning. Most important use of fitness testing is to provide feedback to performers about their progress in relation to their goals. They are good for establishing a starting point for performers (baseline information) and useful for helping to plan training programmes. Physiological testing e.g. Blood lactate analysis, blood pressure, resting heart rate. GPS tracking systems e.g. Prozone, Nike +, Strava, Garmin Connect. Increasingly used by recreational performers as well as the elite. Too much focus on physical development over technical development and tactical ability (often linked to team games, particularly rugby players in Wales) This is only one aspect of performance an individual who is powerful may not necessarily have the technical/tactical/psychological ability Field tests can be unreliable/tester error is common and therefore a lack of reliability and validity to testing	2	4	6	12

Question	Mark scheme	AO1	AO2	AO3	Total
	Lab testing, GPS, Computer software, etc. are all expensive and require specialist analysts to carry out protocols. Mainly elite athletes have access to this Technical – Biomechanical analysis of technique is integral to the work of coaches in most sports. It can determine how coaches devise and manipulate practice sessions and what feedback they give to performers. In order to carry out a technique analysis the coach needs to know what good technique looks like and an understanding of the biomechanical principles involved in its execution. Study of the body motions in terms of force, time, distance. Frame analysis. Notation: Using symbols to record information about performance – statistical – patterns of play – technical errors and achievements – work/rest intervals. Match analysis only provides raw data but it can help in making more informed decisions about performance. Many software companies have developed computerised products such as Prozone to help match analysis - speed of analysis affects depth of analysis. Video: Provides objective information and can enhance performance analysis. Permanent, immediate, technological aids (freezing, slow motion). Use of performance analysis software such as Dartfish. As with technical methods of analysis, video or computer analysis is primarily used as well as coach observation Techniques such as wide angle and multiple views can give coaches a complete picture of what is going on (more evident in team games) GPS provides even more objective data which coaches can use. Tactical – As with technical methods of analysis, video or computer analysis is primarily used as well as coach observation Techniques such as wide angle and multiple views can give coaches a complete picture of what is going on (more evident in team games)				

Question	Mark scheme	AO1	AO2	AO3	Total
	GPS provides even more objective data which coaches can use. It is very difficult, if not impossible, for coaches to observe and remember all the key events occurring within a training session or match using just their powers of observation. There are significant problems with coaches retaining and recalling information they have observed during games. Studies suggest that coaches can only recall between 30-50% of the key performance factors they had witnessed within a game due Behavioural – Aspects can be analysed using questionnaires Interviews Coach/Psychologist observation Digital video analysis of behavioural factors. Individual performers can struggle to express feelings and emotions and do not see the value in this approach Reluctance by coaches to use such an approach Specialist psychologist required <i>(See banding grids for mark allocation)</i>				
Totals		5	4	6	15
AO Totals		22	24	24	70

Band	AO1 (2 marks)	AO2 (4 marks)	AO3 (6 marks)
3		4 marks Excellent application of the performance analysis techniques for each of the phases: Before, During and after competition. Appropriate examples of the techniques for each phase.	5-6 marks Excellent analysis of how coaches use performance analysis to develop performance. Relevant examples are provided throughout. All areas of analysis are analysed. The response is clearly expressed and shows an accurate use of terminology. Writing is very well structured using accurate grammar, punctuation and spelling.
2	2 marks Good knowledge of performance analysis techniques.	2-3 marks Good application of the performance analysis techniques for each of the phases: Before, During and after competition. Appropriate examples of the techniques used.	2-4 marks Good analysis of how coaches use performance analysis to develop performance. Relevant examples are provided throughout. At least three areas of analysis. The response is adequately expressed and shows an accurate use of terminology. Writing is generally well structured using accurate grammar, punctuation and spelling.
1	1 mark Limited knowledge of performance analysis techniques.	1 mark Limited application of the performance analysis techniques. Appropriate examples of the techniques however may not cover all the phases.	1 mark Limited analysis of how coaches use performance analysis to develop performance. Relevant examples are provided. The response shows basic use of terminology. Writing shows evidence of structure but some errors in grammar, punctuation and spelling.
0	No knowledge of performance analysis	No examples of performance analysis techniques	No analysis of performance analysis techniques

QUESTION	AO1	AO2	AO3	TOTAL
1.	10*	4*	0	14
2.	5	7	3 (3xA)	15
3.	0	6	8 (4xA, 4xE)	14
4.	2	3	7 (3xA, 4xE)	12
5.	5	4***	6 (4xA, 4xE)	15
TOTAL	22	24	24	70

*Quantitative marks