



GCE AS MARKING SCHEME

SUMMER 2024

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

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.

GCE AS PHYSICAL EDUCATION – COMPONENT 1

SUMMER 2024 MARK SCHEME

Question	Mark Scheme	AO1	AO2	AO3	Total						
1. (a) (i)	Identify one characteristic of slow twitch (Type I) muscle fibres. 1mark. High resistance to fatigue	1			1						
(a) (ii)	Describe one method of training that could enhance slow twitch (Type I) muscle fibres. Max 1 mark only for naming a suitable method of training. 1-2 marks for a candidate who describes a method of training but there is only basic information provided. There is reference to intensity, time etc. but the information is superficial and lacks detail. 3 marks for a candidate who describes a method of training but with more detailed information provided e.g., reps, % of maximum and specific recovery information. Methods of training likely to be from continuous training, low intensity fartlek, high rep/low resistance weight training etc. There must be reference to: • Lower intensity activities • Relatively long duration (20 mins+) • (60-80% MHR)/Aerobic training zone	3			3						
(b)	Figure 1 Gymnast holding a handstand balance. Analyse Figure 1 to complete the table below. 3x1 mark <table><tr><td>Movement at the ankle (A)</td><td>Plantar Flexion</td></tr><tr><td>Movement at the knee (B)</td><td>Extension</td></tr><tr><td>Type of muscular contraction at the quadriceps (C)</td><td>Isometric</td></tr></table>	Movement at the ankle (A)	Plantar Flexion	Movement at the knee (B)	Extension	Type of muscular contraction at the quadriceps (C)	Isometric			3	3
Movement at the ankle (A)	Plantar Flexion										
Movement at the knee (B)	Extension										
Type of muscular contraction at the quadriceps (C)	Isometric										

Question	Mark Scheme	AO1	AO2	AO3	Total
(c)	Identify the three axes of rotation. 3x1 marks • Longitudinal/Vertical • Transverse/Horizontal/Frontal • Frontal/Sagittal/Anterior/Posterior Frontal cannot be accepted twice	3			3

Question	Mark Scheme	AO1	AO2	AO3	Total
2. (a)	Identify one characteristic of skilled performance. Tick one box only Characteristic 1. Consistent	1			1
(b)	Explain, using examples, how a coach could use positive and negative reinforcement to develop skilled performance? 1-2 marks for basic explanation of positive or negative reinforcement. 3-4 marks for detailed explanation of positive and negative reinforcement with practical example/s. Indicative content • Positive - Use of praise or rewards e.g., Verbal praise/swim badges for children etc. • Negative - Removal of criticism/unpleasant stimulus to encourage desired response/ e.g., coach stops shouting/the coach criticises poor play or the coach stops criticising when skill is successful.		4		4

Question	Mark Scheme	AO1	AO2	AO3	Total
2. (c)	Figure 2: Hockey player passing the ball during the game. Justify, using Figure 2, the placements given on the continua below. Open.....↓.....Closed Self paced.....↓.....Externally paced 2x2 mark for correct justification of where the skill was placed on the continuum e.g. Award 1x1 mark for characteristics only Award Up to 2 marks for application to hockey 2 marks for Open skill justification 2 marks for Externally paced skill justification Open skill - Constantly changing environment/unpredictable/affected by environment e.g., the performance of the skill will always have a unique environment such as the number of team mates, opposition etc. Externally paced. - Environment dictates when to make the pass e.g., teammates/opposition will impact on the players decision about when to initiate the pass		4		4
(d)	Analyse possible causes of a plateau in sporting performance 1-2 marks basic analysis 3 marks for a detailed analysis Indicative content: - Lack of motivation of performer - Practices have become repetitive and boring. - Physical/mental fatigue - Performer has achieved goals. - Feels goals are unachievable. - Lack of rewards - Performer not receiving the correct information to improve. - Injury - Potential (ability)			3	3

Question	Mark Scheme	AO1	AO2	AO3	Total
3. (a)	Nutrition is essential for optimum physical performance. Describe how nutrition could be used to speed up recovery following an intense tennis match. 1-2 marks basic description - generic 3-4 marks for detailed description which would include reference to quantity and time. Indicative content • Consumption of nutrients <u>ASAP</u> after exercise is beneficial (within golden hour of recovery). • High carbohydrate intake needed within 1 hour after event. • Consume approximately 1g of carbohydrate per kg of bodyweight every 2 hours after event. • Combination of High/Low glycaemic index foods. Carbohydrate aids recovery by replenishing the glycogen stores that are used during exercise. Simple/high GI carbs will provide immediate energy after exercise. Example – energy drinks/high sugar foods or drink e.g., jellybeans at half time Complex/low GI carbs will release energy over a longer period helping to further replenish glycogen stores. Example – Potatoes/Pasta/breads/fruit and vegetables. • Metabolism remains elevated up to 5 hours after completion of exercise, therefore low GI foods essential for continued glycogen replenishment. • Proteins essential for growth and repair of muscles. Example – Milk/Fish/chicken/ red meat etc. Consume approximately 1-2g of protein per kg of bodyweight.	4			4

Question	Mark Scheme	AO1	AO2	AO3	Total
(b) (i)	Dehydration can have a negative effect on performance. Explain the effect of dehydration on sporting performance. 1 mark for a basic explanation 2 marks for a detailed explanation clearly linked to sporting performance. Indicative content Effect on sporting performance • Athlete fatigues • Decision making/selective attention is negatively affected. • Athlete will cramp. • Reaction time is impaired. • Strength/power levels decrease. • Reduction in Cardiovascular Endurance and Muscular Endurance		2		2
(b) (ii)	Explain, using volumes and timings, how an athlete could maintain hydration levels. 1 mark for a basic explanation of a suitable hydration strategy. 2-3 marks for a good explanation of strategies with basic reference to volumes/timings. 4 marks for a detailed explanation of strategies with more detailed information provided in reference to volumes/timings. Indicative content: <u>Hydration strategies:</u> • Consume 1-2Ltr of water prior to exercise (time-based) • Between 100-150ml of fluid every 20 minutes prior to and during exercise • The above values double in hot conditions • After exercise drink 1Ltr of fluid for every KG of weight lost during exercise • Hypotonic (low carbohydrate) sports drinks can be taken during event to maintain hydration levels. • Hypertonic drink (high carbohydrate) sports drink can be taken before and after an event to boost/replenish glycogen stores. • Maintain hydrated before onset of thirst. • Replacing lost electrolytes		4		4

Question	Mark Scheme	AO1	AO2	AO3	Total
4. (a) (i)	Identify one questionnaire that measures an athlete's anxiety. 1 mark for naming a recognised questionnaire SCAT CSAI-2 Accept all other appropriate tests.	1			1
(a) (ii)	Explain why questionnaires may not always be reliable predictors of anxiety. 1 marks basic explanation 2 marks detailed explanation Indicative content: • Answers may not be truthful. • Participants might put answers they feel will provide the best score. • Misinterpretation of questions due to lack of understanding • Questions may not allow for full answers with limited options to express feelings. • Inappropriate or biased questions • Situation or timing when carried out may not be ideal/changes in mood. • Participants may rush to complete questionnaire and put any answer.		2		2
(b)	Explain, using examples, how an understanding of Social Learning Theory can be used by a coach to influence aggressive behaviour within sport. 1 mark for a basic explanation of how Social Learning Theory relates to aggressive behaviour. 2-3 marks for a detailed explanation of how Social Learning Theory relates to aggressive behaviour with relevant sporting examples. Indicative content • Aggression is not instinctive - it is a learned response. • Athletes can learn to be aggressive by observing others acting in an aggressive manner e.g., if sports stars display aggression, young players may copy their actions (vicarious conditioning). • Athletes can also learn to be aggressive by having their aggression reinforced e.g., coaches condoning aggression as part of the game. • Athletes could learn the value of aggressive behaviour via participation in sport e.g., they may be prepared to break the rules as the reward outweighs the punishment (Lombardian ethic – win at all costs mentality).		3		3

Question	Mark Scheme	AO1	AO2	AO3	Total
(c)	Assess, using relevant theories, the importance of group cohesion when building a successful sports team. <u>This is a banded question (see banding guidance for Q4c)</u> <u>Indicative content:</u> Knowledge of appropriate theories • Stages of group formation (forming, storming, norming and performing) (Tuckman) • Model of group productivity (Steiner) • Ringlemann effect and social loafing • Factors (antecedents) of group cohesion (Carron) • Plus any other relevant theories Assessment of importance of group cohesion • Cohesion - tendency of a group to stay together in order to reach shared objectives/targets/goals. • Cohesive teams tend to be more productive - they share the same motivations (all work for a share goal and 'pull' in the same direction) and individuals interact effectively with one another (co-ordination). • Cohesive teams tend to be more successful - task cohesion is more important than social cohesion in elite performance. • Large groups tend to be less cohesive - easier to hide in a crowd (social loafing). • Desire for success and shared experiences (of both winning and losing) contribute to cohesion. • Leadership plays an important role in building cohesive teams - democratic (decision-making) style, open dialogue with members. • Cohesive teams tend to be of similar age and status - star player effect. • Importance of team identity in building cohesion. • Unclear whether cohesion leads to success or success leads to cohesion. • Strategies for building cohesive teams - identity, clear communication, role acceptance and clarity, team conformity, togetherness and sacrifices.	2		4	6

Banding guidance for Q4c

	AO1 2 Marks	AO3 4 Marks
3		4 Marks Excellent assessment of how group cohesion can be used to understand how to build successful teams. Response is well-reasoned and appropriate, balanced conclusions are drawn.
2	2 Marks Good knowledge of theories relating to the importance of group cohesion when building teams	2-3 Marks Good assessment of how group cohesion can be used to understand how to build successful teams. Response is well-reasoned although some of the conclusions may be one-sided or lack evidence.
1	1 Mark Limited knowledge of theories relating to the importance of group cohesion when building teams.	1 Mark Limited assessment of how group cohesion can be used to understand how to build successful teams. Few superficial judgements made on issues surrounding the establishment of cohesive teams.
0	0 Marks No knowledge of appropriate theories	0 Marks No assessment evident.

Question	Mark Scheme	AO1	AO2	AO3	Total
5. (a)	Outline <u>four</u> barriers to participation faced by women in competitive sport. 4x1 Marks: <u>Barriers could include:</u> • Opportunities (time/coaching etc) • Provision (Clubs/facilities) • Financial support • Effects of lack of media coverage, female role models, female coaches • Accepted gender role (mother, childcare, homemaker etc.) • Stereotypical role of women • Sport is a male preserve, women's sport is not as entertaining/dynamic etc. (Stereotyping) • Some sports are still seen as inappropriate for women e.g., combat sports/rugby etc. • Perception that a powerful/athletic female body is seen as a negative • Inequality in terms of sponsorship/prize money etc. Accept any other correct barriers.	4			4
(b)	Discuss how the sporting values of 19th Century Public Schools have changed over time. <u>This is a banded question (see banding guidance for Q5b)</u> <u>Indicative content:</u> <u>Original Values (some still exist in certain situations)</u> • Sportsmanship and fair play • Respect for opponents • Follow rules both written and unwritten (etiquette) • Rely on ability (not drugs/cheating) • Taking part is more important than winning. • Team loyalty more important than individual success • No prize money, compete for glory and amateur values. • Self-discipline with maximum commitment and effort <u>How some values have changed over time</u> • Movement away from amateurism to professionalism • State sponsored athletes e.g., Russia as means of completing political ideologies		2	6	8

	- Global sporting events such as FIFA World Cup, Olympics etc... being used as a political tool. - Political statements 1968 Mexico, Black Power salute, S. Africa (Apartheid) - Commercialisation/media coverage leading to globalisation of sport and worldwide superstars e.g., Usain Bolt, Ronaldo etc. - Vast amounts of money now associated with Sport. - Within the last few decades, there has been a constant stream of allegations of bribery and corruption within governing bodies e.g., FIFA - Lombardian ethic – “Win at all cost cultures” through funding/sport science/nutrition/performance analysis etc. - Use of numerous examples of performance enhancing drugs - State sponsored doping e.g., Russia - Using sport to promote National Identity e.g., Qatar World Cup/sports washing.				
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Banding guidance for Q5 (b)

	AO2 2 Marks	AO3 6 Marks
3		5-6 marks Detailed discussion of the fact that some of the original values of 19 th Century Public Schools still exist within some sports/events. Also need to consider how some values have changed. The discussions are supported with relevant examples where appropriate.
2	2 marks Good explanation of the original values of 19 th Century Public Schools. The explanations are supported with some examples where appropriate.	3-4 marks Good discussion of the fact that some of the original values of 19 th Century Public Schools still exist within some sports/events. Some consideration to the change in values. The discussions are supported with some examples.
1	1 mark Basic explanation of the original values of 19 th Century Public Schools. Limited examples are provided.	1-2 marks Basic discussion of the fact that some of the original values of 19 th Century Public Schools still exist within some sports/events. The discussions are supported with limited/basic examples.
0	0 marks No explanation or examples are provided of the factors that have changed the original values of 19 th Century Public Schools.	0 marks No discussion or examples are provided of the original values of 19 th Century Public Schools or changes in values.

Question	Mark Scheme	AO1	AO2	AO3	Total
6	Analyse, using sporting examples, how a coach could use a variety of performance analysis methods before, during and after competition. <u>This is a banded question (see banding guidance for Q6)</u> The main factors of performance that may be monitored and analysed when seeking to refine performance can be grouped under the following headings: - Physical/physiological factors - Technical factors - Tactical factors - Behavioural/psychological factors. Indicative content <u>Physical techniques</u> - Fitness testing: field (e.g., Multistage Fitness test) and laboratory (e.g. VO2Max 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. There are good for establishing a starting point for performers (baseline information) and useful for helping to plan training programmes. - Physiological testing e.g., VO2 Max/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 e.g., Apple Fitness, smart watches, Fitbit etc.... - This is only one aspect of performance. An individual who is powerful may not necessarily have the technical/tactical/psychological ability needed. - Field tests can be unreliable/tester error is common and therefore a lack of reliability and validity to testing. - Lab testing, GPS, Computer software, etc. are all expensive and require specialist analysts to carry out protocols. Mainly only elite athletes have access.	3	3	8	14

Question	Mark Scheme	AO1	AO2	AO3	Total
6	<u>Technical techniques</u> • Biomechanics: 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 understand 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 Hudl, Sports Code, Prozone to help match analysis - speed of analysis affects depth of analysis. Real time analysis for instant feedback • Video: Provides objective information and can enhance performance analysis. Permanent, immediate, technological aids (frame by frame, freezing, slow motion). Use of performance analysis software such as Dartfish etc.... <u>Tactical techniques</u> • As with technical methods of analysis, video or computer analysis is primarily used as well as coach observation e.g., Hudl, Sports Code etc.... • Techniques such as wide angle and multi camera views can give coaches a complete picture of what is going on (more evident in team games) • GPS/Catapult provides even more objective data which coaches can use to track monitor work rates, intensity levels etc.				

Question	Mark Scheme	AO1	AO2	AO3	Total
6	<u>Behavioural (Psychological) techniques</u> • Questionnaires – can be useful but limited in terms of validity/reliability as they are often open to bias. • Sports Psychologists often employed to help give performers marginal gains over competition. Can be expensive to employ. • Interviews • Coach/Psychologist observation • Goal setting (KPIs) Discussion Points • 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. Limitations of Coach Observation • It is very difficult, if not impossible, for coaches to observe and remember all the key events occurring within a training session or match. • There are significant problems with coaches retaining and recalling information they have observed during games due to the emotional demands placed on coaches during competition. Studies suggest that coaches can only recall between 30-50% of the key performance factors they had witnessed within a game. How Coaches use PA It is clear that the foundations for training and competing can no longer be based on simple subjective views of how well athletes perform. This is especially true at the elite level which has embraced technology for performance analysis over many years. • Individualise training e.g., Identify strengths and work on weaknesses. • Monitor athlete progress over time e.g., physical and technical aspects. • Tailor training sessions to replicate competitive situations in terms of intensity and duration. • Observe opposition teams/individuals/tactics. • Use/change/adapt tactics. • Attempt to exploit perceived opposition weaknesses. • Encourage performers to watch their own performance and be self-critical. • This empowers players and encourages independent learning. • Understand performer's behaviour or psychological make up. E.g., Help build an individual's confidence and player profile.				

Banding guidance for Q6

Band	AO1 Marks	AO2 Marks	AO3 Marks
3	3 marks Excellent knowledge of performance analysis techniques.	3 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.	6-8 marks Excellent analysis of how coaches use performance analysis to develop performance. Relevant examples are provided throughout. 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 marks Good application of the performance analysis techniques for each of the phases: Before, During and after competition. Appropriate examples of the techniques used.	3-5 marks Good analysis of how coaches use performance analysis to develop performance. Relevant examples are provided throughout. The response is adequately expressed and shows an accurate use of terminology. Writing is generally well structured using accurate grammar,
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.	1-2 marks 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	0 marks No knowledge of performance analysis	0 marks No application of knowledge and understanding of performance analysis	0 marks No analysis of how performance analysis is used.

	Q1	Q2	Q3	Q4	Q5	Q6	Total
AO1	7	1	4	3	4	3	22
AO2	0	8	6	5	2	3	24
AO3	3	3	0	4	6	8	24
Total	10	12	10	12	12	14	70