# GCE A LEVEL MARKING SCHEME

**SUMMER 2019**

**A LEVEL (NEW)**
**PHYSICAL EDUCATION - COMPONENT 1**
**A550U10-1**

## INTRODUCTION

This marking scheme was used by WJEC for the 2019 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 A LEVEL PHYSICAL EDUCATION - COMPONENT 1**

**SUMMER 2019 MARK SCHEME**

| Question | | AO1 | AO2 | AO3 | Total |
|---|---|---|---|---|---|
| 1. (a) | The part of the model labelled **c** is:<br><br>*Award one mark for*<br>Translatory mechanisms | 1 | | | 1 |
| (b) | Explain the role of the short-term memory when performing a skill.<br><br>*Award up to three marks for any of the points below:*<br><br>• receives information from the short-term sensory store (STSS) via the process of selective attention.<br>• receives coded information from the long-term memory store (LTM).<br>• can hold 7 (+/- 2) pieces of information at any one time (although this can be improved by 'chunking')<br>• Time: for approximately thirty seconds.<br>• passes on useful information to the LTM to be retrieved and used at a later date.<br>• Decision making occurs – working memory/space<br>• passes on decisions via the body's effector mechanisms in order to produce an action. | | 3 | | 3 |
| (c) | Explain, using examples, the difference between gross motor abilities and psychomotor abilities.<br><br>*Award one mark for knowledge of gross motor abilities.*<br><br>Use of large muscle groups<br><br>Gross motor abilities are innate characteristics which allow movements to occur such strength, flexibility, balance and whole-body coordination. They are sometimes referred to as physical proficiency abilities.<br><br>*Award one mark for knowledge of psychomotor abilities.*<br><br>Reference to decision making or processing<br><br>Psychomotor abilities involve information processing and decision making in order to carry out a particular movement e.g. reaction time, dexterity, aiming and limb coordination. They are sometimes called perceptual motor abilities.<br><br>*Award an additional mark for understanding shown through the use of appropriate examples.*<br><br>*Award only 1 mark for knowledge with applicatiion* | 1 | 2 | | 3 |

| Question | | AO1 | AO2 | AO3 | Total |
|---|---|---|---|---|---|
| (d) | Place a specific skill on the organisation continuum below and justify its placement.<br><br>*Must be a skill and not an activity*<br><br>*Award 2 marks for understanding – shown through justification of placement of specific skill.*<br><br>A low organisation skill can be easily broken down into its sub-routines or parts eg. gymnastics routine. Sub-routines can be practised separately to enhance overall performance.<br><br>A high organisation skill cannot be easily broken down. The sub-routines are difficult to isolate and must the practised as part of the whole movement eg. golf swing. | | 2 | | 2 |
| (e) | Describe how drive reduction theory might be used in the teaching of a new skill.<br>*3x1 mark*<br><br>• Individuals are motivated to achieve / solve problems (desires).<br>• When faced with learning new skills, individuals have a drive to achieve effective / competent performance (satisfy need and solve problem).<br>• This leads to goal-directed behaviour – individuals practise in order to achieve success.<br>• Once skill has been mastered, drive reduces. This reduction in drive acts as a form of reinforcement- strengthens S-R bond.<br>• Habit reduces drive to continue, inhibition occurs.<br>• New goals / targets must then be set.<br>• Increase challenge | 3 | | | 3 |
| (f) | Explain, using examples, progressive part practice<br><br>*2x1mark*<br><br>*Max 1 for explanation without example*<br><br>• Must be more than two parts to award marks<br><br>A progressive part practice is one where the initial part of the skill is taught and then additional parts (of the sub-routine) are added in sequence eg. for whole skill ABCD, then the progressive part practice would be A → AB → ABC → ABCD.<br><br>A good example can be worthy of 2 marks | | 2 | | 2 |

<table>
<tr><th>Question</th><th></th><th>AO1</th><th>AO2</th><th>AO3</th><th>Total</th></tr>
<tr><td>(g)</td><td>Describe Bandura's theory of observational learning and explain how it may be used when coaching young performers.<br><br>Bandura suggests that we can learn new skills by observing significant others demonstrate them.<br><br>Observational learning (DARMMM) involves:<br>• Demonstration (modelling by coach – significant other)<br>• Attention (demonstration must be seen and heard, precise, focus on specific teaching points and cues, avoid overload)<br>• Retention (performer must be able to retain information in memory and recall it, importance of practice and mental rehearsal, practices must be relevant, meaningful and/or realistic)<br>• Motor production (allow time for practice of skill, graduated approach to practices to allow success, performer must be able to carry out the task i.e. it shouldn't be too difficult)<br>• Motivation (without motivation performers will not pay attention, remember or practise skills, importance of feedback (intrinsic and extrinsic) and reinforcement (positive and negative)<br>• More respect for the significant other the other motivated you are<br>• The more relevant the skill the more they increase motivation<br>• Matching performance (performer is able to successful copy the demonstration and is ready to progress)<br><br><table><tr><th>Band</th><th>AO1</th><th>AO2</th></tr><tr><td>3</td><td>3 marks<br>Excellent knowledge of observational learning. Excellent use of technical language. Must use DARMMM</td><td>3marks<br>Excellent understanding of how observational learning may be used when teaching young performers.<br>Wide range of appropriate examples used.</td></tr><tr><td>2</td><td>2 mark<br>Good knowledge of observational learning. Good use of technical language.</td><td>2 marks<br>Good understanding of how observational learning may be used when teaching young performers.<br>Some examples used to exemplify points.</td></tr><tr><td>1</td><td>1</td><td>1</td></tr><tr><td>0</td><td>0 marks<br>No knowledge of observational learning.<br>Response not worthy of credit.</td><td>0 marks<br>No understanding of how observational learning may be used when teaching young performers. Response not worthy of credit.</td></tr></table></td><td>3</td><td>3</td><td></td><td>6</td></tr>
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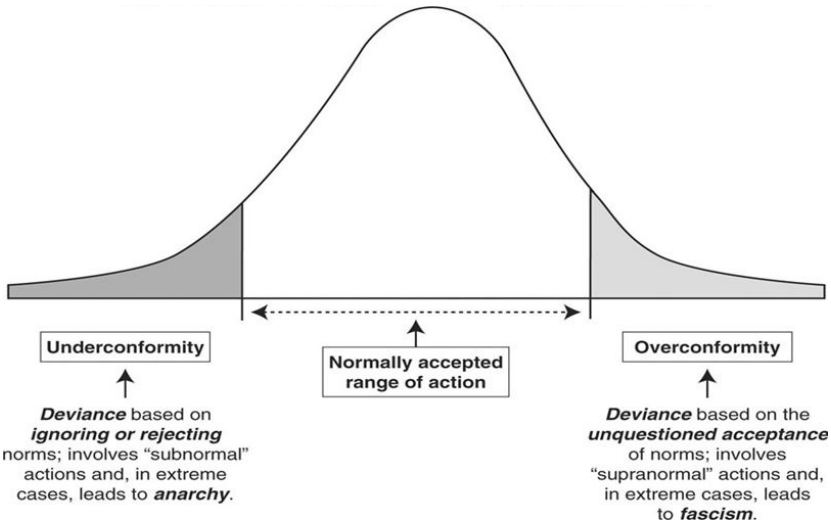
| Question | | AO1 | AO2 | AO3 | Total |
|---|---|---|---|---|---|
| 2. (a) | Define, within the context of sport, socialisation<br><br>*Award one mark for:*<br><br>Societies:<br>cultural values<br>Norms and values<br><br>e.g. Members of a group/team following rules / values in sport<br><br>e.g. sport used to teach behaviours/attitudes | 1 | | | 1 |
| (b) | Explain, using examples, what is meant by the term 'golden triangle'.<br><br>*Award 1 mark for knowledge of 'golden triangle'.*<br><br>The 'golden triangle' refers to the interdependency between<br>• sport,<br>• sponsorship/ commercialisation/business<br>• media.<br><br>*Award up to two marks for understanding shown through application.*<br><br>Appropriate examples of the relationship<br><br>Sport, sponsorship and the media exist in a symbiotic relationship – they can influence each other. | 1 | 2 | | 3 |
| (c) | Explain how Dr Thomas Arnold used sport as a mechanism of social control.<br><br>A*ward up to four marks for the points below.*<br>*2 marks may be awarded for one bullet point developed in detail.*<br>*The points must relate to the impact of Arnold.*<br><br>**Indicative content**<br>• regarded by many as the father of public school athleticism (physical endeavour with **moral integrity**).<br>• concerned with moral reform and **muscular Christianity** (combination of godliness and manliness). Arnold focussed on playing sport for the glory of God.<br>• valued the contribution of sport in relation to **social control** – used games as a mechanism for establishing control.<br>• gave pupils / boys greater **responsibility** and greater authority in order to develop leadership qualities.<br>• As result of Arnold's influence, games were assimilated into the curriculum (games afternoons and **inter-House**). They were given higher status and fixtures between schools emerged.<br><br>• Prefects | 1 | 3 | | 4 |

| Question | | AO1 | AO2 | AO3 | Total |
|---|---|---|---|---|---|
| (d) (i) | Identify the advantages and disadvantages of such a centralised system of talent development.<br><br>*Award one mark of any of the following points:*<br>Maximum 3 marks for just advantages or disadvantages<br><br><u>Possible advantages:</u><br>• Creates a culture of excellence through healthy competition.<br>• Allows best scientific support and coaching expertise to be pooled in one place and available for all.<br>• Reduces costs – economies of scale.<br>• Improved facilities/performance/coaching.<br>• Allows for greater acceleration and closer monitoring of athletes.<br>• Success and therefore role models<br>• Standards<br>• Showcase country/ values<br>• Health, training<br>• Other relevant<br><br><u>Possible disadvantages:</u><br>• May create unhealthy environment – culture of fear / elitism / doping<br>• Location – may not be appropriate for all athletes to relocate (associated problems)<br>• Expensive to establish.<br>• Long term health issues – over training<br>• Barrier to development<br>• Other relevant | 4 | | | 4 |

| | | | | | |
|---|---|---|---|---|---|
| (d) (ii) | Coakley (2007) suggests that most actions within sport fall within a normally accepted range in society as a whole.<br><br>Explain, using examples, the difference between deviant **under** conformity and deviant **over** conformity.<br><br>*Award 1 mark for knowledge of deviant under conformity and 1 mark for knowledge of deviant over conformity.*<br><br>Coakley (2007) suggests that deviance occurs outside of this normal range of action<br><br>Under conformity or negative deviance<br><br>Over conformity or positive deviance<br><br>There terms maybe used interchangably<br><br>Deviant under conformity consists of actions based on **ignoring or rejecting norms** whereas over conformity consists of actions based on uncritically accepting norms and being willing to follow them to extreme degrees (Coakley).<br><br>  <br><br><br>*Award up to 2 marks for application of knowledge through the use of examples.*<br><br>Examples of under conformity may include:<br>• violence on and off field,<br>• use of performance-enhancing drugs,<br>• financial irregularies (tax fraud/bungs)<br>• deliberate lack of effort<br><br>Examples of over conformity may include:<br>• over training leading to issues with family and work<br>• responsibilities and possibly affecting health and well-being in a negative way;<br>• playing through pain and causing severe injury. | 2 | 2 | | 4 |

| Question | | AO1 | AO2 | AO3 | Total |
|---|---|---|---|---|---|
| (d) (iii) | Explain, using examples, why sport may be seen as an important mechanism for developing national identity.<br><br>2x2 marks<br>*Award two marks for understanding of the following points if examples are used / points developed:*<br><br>• Patriotism and pride – playing of national anthems and displaying of national flag.<br>• By attending and supporting different sporting events, people reinforce the identity dimension of citizenship eg. what is means to be British.<br>• Sport creates a sense of belonging and unity – bringing the country together (shared experiences).<br>• 'Feel-good' factor associated with success in global games eg. London 2012 – Super Saturday / Ashes.<br>• Success in sport is often linked with politics – sport seen as a shop window (Cold War).<br>• Creation of national icons eg. Mo Farah, David Beckham. | | 4 | | 4 |

| Question | | AO1 | AO2 | AO3 | Total |
|---|---|---|---|---|---|
| 3. (a) | Blaming the referee for a defeat is an example of an:<br><br>*Award one mark for:*<br><br>D: External, unstable attribution | 1 | | | 1 |
| (b) | Describe the characteristics of a Need to Avoid Failure (NAF) performer<br><br>*Award 3 marks for any of the following points:*<br><br>A performer with a Need to Avoid Failure (NAF) approach will:<br>• avoid challenging situations or seek out simpler alternatives.<br>• demonstrate avoidance behaviour.<br>• dislike critical feedback.<br>• often give up easily and dislikes 50:50 situations / lacks determination.<br>• avoid situations where performance is likely to be evaluated / does not like to perform in front of an audience.<br>• attribute incorrectly<br>• will tend to avoid personal responsibility.<br>• will normally be outcome goal orientated.<br>• Doesn't persists at activities.<br>• Low self-efficacy/self esteem/self-confidence<br>• Avoid taking risks<br><br>Do not accept marks for personality - introvert | 3 | | | 3 |
| (c) | Describe how levels of cognitive state anxiety and somatic state anxiety vary prior to and during competition.<br><br>*Award up to 4 marks for any of the points below if described in detail.*<br><br>*Candidates must describe variations before and during competition for both types of anxiety in order to achieve maximum marks.*<br><br>*Maximum of two marks if only describe prior or during*<br><br>• Prior to competition, cognitive state anxiety increases in the run-up to a competition. It will remain high immediately before the start of a (major) competition.<br>• During competition, cognitive state anxiety will vary / fluctuate depending on performance (success/failure). Expectancy of success<br>• Prior to competition, somatic state anxiety will be low but will rise quickly immediately before performance.<br>• Somatic state anxiety tends to decrease during performance.<br>• Can award marks for a labelled graph | 4 | | | 4 |

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<tr><th>Question</th><th></th><th>AO1</th><th>AO2</th><th>AO3</th><th>Total</th></tr>
<tr><td>(d)</td><td>Analyse the factors that may contribute to the faulty processes within a sporting context.<br><br>Indicative content<br>• Coordination losses<br>• Tactical misunderstandings / poor teamwork / lack of unity.<br>• Some sports rely on players interacting with each other extensively and this leads to more issues with coordination.<br>• Motivational losses<br>• Social loafing<br>• More players means that some players can ‘hide’ / players develop the sense that others can do the work for them / over-reliance on star players / not all players giving 100% / loss of confidence as a team /reduction in commitment.<br>• Ringlemann effect – more players leads to difficulties in coordination / communication<br><br>Steiner’s model<br><br>
<table>
<tr><th>Band</th><th>AO3</th></tr>
<tr><td>3</td><td>5-6 marks<br>Excellent analysis of factors contributing to faulty processes.<br>Sporting examples required throughout<br>Reasoned judgements are made and balanced conclusions drawn.<br>There is excellent use of technical language.</td></tr>
<tr><td>2</td><td>3-4 marks<br>Good analysis of factors contributing to faulty processes. Some reference to sporting examples<br>Judgements are made and some conclusions drawn.<br>There is good use of technical language.</td></tr>
<tr><td>1</td><td>1-2 marks<br>Limited analysis of factors contributing to faulty processes. No examples<br>Some judgements made but conclusions tend to be superficial.<br>There is limited use of technical language.</td></tr>
<tr><td>0</td><td>0 marks<br>Response not worthy of credit.</td></tr>
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<tr><th>Question</th><th></th><th>AO1</th><th>AO2</th><th>AO3</th><th>Total</th></tr>
<tr><td>(e)</td><td>Using appropriate theories, analyse why some performers act in an aggressive manner during sporting contests.<br><br>Specific examples from sport must be used to explain reasons for aggression – linked with appropriate theories.<br><br>Indicative content<br>• instinct theory – aggression is innate; aggression viewed as an energy that is constantly building up and has to be released; sport as catharsis<br>• frustration-aggression hypothesis – aggression is innate and learned and linked with frustration; frustration occurs when goals are blocked; frustration makes aggression more likely; frustration is more likely to lead to an aggressive act if (i) the athlete is close to achieving a goal (ii) frustration is caused deliberately (iii) the blocking the goal is seen as unfair<br>• aggressive-cue theory - frustration causes arousal; arousal produces a ‘heightened state’ which can boil over due to cues in the environment; sport-related aggressive cues include objects, sport, people and places associated with aggression<br>• social learning theory – aggressive behaviour is learnt from others (copying); strengthened through vicarious reinforcement; linked with portrayal of aggressive acts in the media.<br><br>
<table>
<tr><th>Band</th><th>AO2</th><th>AO3</th></tr>
<tr><td>2</td><td>2 marks<br>Excellent understanding of appropriate theories of aggression – linked with appropriate use of examples.</td><td>3-4 marks<br>Excellent analysis of theories with strong links to the possible causes of aggression.<br>Reasoned judgements made on the merits of the theories. Excellent application of theory to practice.</td></tr>
<tr><td>1</td><td>1 mark<br>Good understanding of appropriate theories of aggression – linked with appropriate use of examples.</td><td>1-2 marks<br>Good analysis of theories with some links to the possible causes of aggression established.<br>Judgements made on the merits of the theories but not fully developed.<br>Good application of theory to practice.</td></tr>
<tr><td>0</td><td>0 marks<br>No understanding of aggression theories.<br>Response not worthy of credit.</td><td>0 marks<br>No analysis of aggression theories.<br>Response not worthy of credit.</td></tr>
</table>
</td><td></td><td>2</td><td>4</td><td>6</td></tr>
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| Question | | AO1 | AO2 | AO3 | Total |
|---|---|---|---|---|---|
| 4. (a) | *Award 1 mark for:*<br><br>About the transverse axis and along the sagittal plane<br>E | 1 | | | 1 |
| (b) | Explain, using the Bernoulli principle, how the lift force is generated.<br><br>*Award up to 3 marks for explanation of how lift is generated – diagrams may be used to aid explanation.*<br><br>• The additional lift force explained by the Bernoulli principle will allow objects, such as the discus, to 'hang' in the air. Thus, a further distance of throw can be achieved.<br><br>• Flow fast create low pressure (Air will flow faster over the top of the discus as it has further to travel (and will travel at a greater velocity compared to the air underneath the discus)).<br><br>• Slow flow create high pressure (Air underneath the discus will flow at a slower velocity (in comparison to air above) as it has a shorter distance to travel).<br><br>• This will create a pressure differential or gradient – high pressure below and low pressure on top of the discus.<br><br>• As air will move from an area of high to low pressure, a lift force will be generated.<br><br>The object needs to be aerofoil shape | | 3 | | 3 |
| (c) | Using specific examples, explain different ways in which coaches may use GPS tracking systems to analyse the performance of players.<br><br>*2x2 marks:*<br><br>• To monitor performance statistics – physical, technical and tactical eg. distance, intensity and time<br>• May be used to highlight social loafing eg. pitch coverage.<br>• Used to identify potential substitutions / establish fatigue levels of players.<br>• To direct compare the performance of players in real-time or over a number of weeks.<br>• To detect fatigue in matches and identify periods of most intense play / health benefits and player welfare.<br>• To establish different activity profiles by position<br><br>• Other. | | 4 | | 4 |

| Question | | AO1 | AO2 | AO3 | Total |
|---|---|---|---|---|---|
| (d) | Outline the advantages and disadvantages of the increasing use of technology in officiating sport.<br><br>*Award up to 4 marks for development of any of the following points:*<br><br>*Maximum of 3 marks from one area*<br>*2x2 marks*<br><br><u>Advantages:</u><br>• Helps officials to make correct decisions eg. use of video replays in rugby, use of Hawkeye in tennis.<br>• Allows officials to review original decisions and footage and act accordingly eg. citing players in rugby<br>• Challenge/review systems in tennis and cricket have placed onus on players – less controversial decisions? Increased entertainment?<br>• Improved communication between officials has led to more accurate decisions/ faster<br>• More objective<br>• Accurate timing.<br>• Advancements in drug testing.<br>• Fairness for performer.<br>• Other.<br><br><u>Disadvantages:</u><br>• Technology means officials are under spotlight – can highlight mistakes that have been made.<br>• Officials feel under pressure to use technology rather than rely on their own judgement – reduced importance of officials?<br>• Reduce importance of subjective decisions (officials)<br>• Expensive – cannot be employed at all levels of the game.<br>• Inaccurate results<br>• Other.<br>• Time/ stoppages during game. | 4 | | | 4 |

<table>
<tr><th>Question</th><th></th><th>AO1</th><th>AO2</th><th>AO3</th><th>Total</th></tr>
<tr><td>(e)</td><td>Figure 6 shows a player executing a tennis serve. Coaches will analyse joints, movement types and muscle actions when refining performance.<br><br>Analyse the technique shown in figure 3 and explain, using Newton's Laws, how the player generates power in the serve.<br><br>Indicative content<br><br>• Joint analysis e.g. shoulder joint (ball and socket), elbow joint (hinge), wrist joint (condyloid) and neck joint (pivot).<br><br>• Movement types e.g. extension (non-hitting arm at elbow and wrist) and flexion (hitting arm).<br><br>• Muscle action e.g. flexion (bicep brachii) and extension (tricep brachii).<br><br>• Power is generated by speed of the racket head of impact x strength:<br>• application of Newton's 2nd Law – if the ball is hit with greater force, then it will travel faster (acceleration) as mass remains constant. Heavier racket will increase force.<br><br>• Newtons third law<br>(b) application of levers – the more the arm is extended on contact, the greater the length of the lever arm which will then, in turn, out more acceleration on the racket head (leading to more power).<br>(c) application of impulse (Impulse = Ft). Importance of the follow-through.<br><br>
<table>
<tr><th>Band</th><th>AO2</th><th>AO3</th></tr>
<tr><td>3</td><td></td><td>5-6 marks<br>Excellent analysis of techniques covering both aspects of the question</td></tr>
<tr><td>2</td><td>2 marks<br>Good explanation of Newtons laws in relation to generation of power</td><td>3-4 marks<br>Good analysis of joints, movement types, muscle action<br>Good use of technical language.</td></tr>
<tr><td>1</td><td>1 mark<br>Limited explanation of some of Newtons Laws in relation to generation of power</td><td>1-2 marks<br>Limited analysis of joints, movement types, muscle action and levers systems.<br>Limited use of technical language.</td></tr>
<tr><td>0</td><td>Response not worthy of credit.</td><td>Response not worthy of credit.</td></tr>
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</td><td></td><td>2</td><td>6</td><td>8</td></tr>
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| Question | | AO1 | AO2 | AO3 | Total |
|---|---|---|---|---|---|
| 5. (a) | Vital capacity is defined as:<br><br>Award 1 mark for:<br>The maximal volume that can be forcefully expired after a maximal inspiration. | 1 | | | |
| (b) | Explain how the cardiac control centre regulates heart rate during exercise.<br><br>*Award two marks for knowledge*<br><br>• The cardiac control centre (CCC) is located within the medulla oblongata of the brain and is stimulated by chemoreceptors, baroreceptors and proprioceptors<br><br>• The cardiac control centre initiates the sympathetic and parasympathetic nervous systems to stimulate the SA node<br><br>*Award 4 marks for application*<br><br>Application for the question during exercise<br><br>• Sympathetic nervous systems via the accelerator nerve stimulates the heart to beat faster increasing intensity<br><br>• Whilst the parasympathetic nervous system returns the heart to resting levels via the Vagus nerve during decreasing intensity<br><br>• During exercise, chemoreceptors detect increase in $CO_2$ → increase HR.<br><br>• During exercise baroreceptors establish a set point for blood pressure. Decrease in arterial pressure → HR increases.<br><br>• Proprioceptors detect increase in muscle movement. More movement during exercise → increase on HR. | 2 | 4 | | 6 |

| Question | | AO1 | AO2 | AO3 | Total |
|---|---|---|---|---|---|
| (c) | Define fartlek training and explain, using examples, why it is a suitable method of training for a games player<br>*Award 1 mark for description of fartlek training.*<br><br>• Fartlek training sessions must involve working at different intensities/speeds<br>• May include work on different terrains.<br><br>*Award up to 2 marks for understanding of use of Fartlek training (if appropriate example used)*<br><br>• training replicates the different demands / intensities of games players e.g. central midfield players need to sprint, jog to recovery, work ay ¾ pace.<br>• training allows different energy systems to be stressed – linked with positional requirements for game players.<br>• Physiological adaptations from the training to improve the game<br>• appropriate examples must be used. | 1 | 2 | | 3 |
| (d) | Explain the fate of lactic acid during the recovery process.<br><br>*Award 1 mark for each bullet point below on explanation of fate of lactic acid.*<br><br>Post exercise, lactic acid is converted back into pyruvic acid as part of the recovery process:<br><br>• The majority of **pyruvic acid** (50-75%) is then oxidised into $CO_2$ and $H_2O$<br>• (Kreb's Cycle and Electron Transport Chain).<br>• Between (10-20%) of pyruvic acid is converted into glucose and glycogen to be stored in muscles and liver.<br>• Between (5-10%) of pyruvic acid is converted into protein (via Cori Cycle).<br>• Converted to urine and sweat | | 3 | | 3 |

<table>
<tr><th>Question</th><th></th><th>AO1</th><th>AO2</th><th>AO3</th><th>Total</th></tr>
<tr><td>(e)</td><td>Evaluate, using specific examples, the disadvantages of using laboratory tests as opposed to field tests when monitoring performance<br>Candidates must evaluate the disadvantages of laboratory tests as opposed field tests using specific examples eg. Maximal O2 consumption test v Multi-stage fitness test.<br><br><u>Indicative content:</u><br><br>Comparisons against normative data<br><br><u>Disadvantages:</u><br>• expensive (needs specialist equipment / facilities)<br>• may not be sport-specific<br>• difficult to replicate the environment in which activities take place<br>• requires expertise in order to carry out correct protocols.<br>• tend to only be able to test one athlete at a time.<br>• Ethical concerns<br><br>
<table>
<tr><th>Band</th><th>AO3</th></tr>
<tr><td>2</td><td>3-4 marks<br>Excellent evaluation of disadvantages of named tests.<br>Excellent use of specialist language.<br>Logical conclusions drawn.</td></tr>
<tr><td>1</td><td>1-2 marks<br>Good evaluation of disadvantages although examples may be less developed.<br>Good use of specialist language.<br>Some attempt to draw conclusions.</td></tr>
<tr><td>0</td><td>0 marks<br>No evaluation evident.<br>Response not worthy of credit.</td></tr>
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| Question | | AO1 | AO2 | AO3 | Total |
|---|---|---|---|---|---|
| (f) | Analyse how correct nutrition, hydration and an active cool down can help to speed up the recovery process.<br><br>**Indicative content**<br><br>**Nutrition**<br>• Use of protein (whey and casein) for muscle growth and repair.<br>• Intake of carbohydrate immediately following exercise.<br>• Understanding of glycaemic index eg. high/medium GI straight after exercise to immediately help to restore glycogen levels (fast release).<br>• Low GI foods (slower release) to continue to restore glycogen levels over longer period of time (as metabolism remains elevated following exercise).<br>• Other.<br><br>**Hydration**<br>• Consume fluids immediately following exercise to replace loss – 1l for every kg of body weight lost.<br>• Use of isotonic drinks.<br><br>**Active cool-down**<br>• Low intensity exercise allows oxygen to be taken to working muscle (repay oxygen debt)<br>• Prevention of blood pooling.<br>• Creatine phosphate stores resaturated at a faster rate.<br>• Faster removal of lactic acid (and conversion).<br>• Helps re-saturation of myoglobin stores.<br>• Reduces body temperature at gradual rate. | 2 | 2 | 4 | 8 |

| Question | | AO1 | AO2 | AO3 | Total |
|---|---|---|---|---|---|
| | | | | | |

| Band | AO1 | AO2 | AO3 |
|---|---|---|---|
| 2 | *2 marks*<br>Excellent knowledge of nutrition, hydration and active-cool down.<br>Excellent use of technical language. | *2 marks*<br>Excellent application with extensive use of examples. | *3-4 marks*<br>Excellent analysis of how nutrition, hydration and cool-down can speed up recovery.<br>At least two areas discussed in detail.<br>Logical conclusions drawn. |
| 1 | *1 mark*<br>Good knowledge of nutrition, hydration and active-cool down.<br>Good use of technical language. | *1 mark*<br>Good application with use of some appropriate examples. | *1-2 marks*<br>Good analysis of how nutrition, hydration and cool-down can speed up recovery.<br>One area discussed in detail or two areas covered but requiring development.<br>Some attempt to draw conclusions. |
| 0 | *0 marks*<br>Response not worthy of credit. | *0 marks*<br>Response not worthy of credit. | *0 marks*<br>Response not worthy of credit. |