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# **GCE AS MARKING SCHEME**

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**SUMMER 2017**

**AS (NEW)  
PHYSICAL EDUCATION - UNIT 1  
2550U10-1**

## **INTRODUCTION**

This marking scheme was used by WJEC for the 2017 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 - UNIT 1 (NEW) (WALES)**

**MARK SCHEME - SUMMER 2017**

<b>Question</b>	<b>Mark Scheme</b>	<b>AO1</b>	<b>AO2</b>	<b>AO3</b>	<b>Total</b>
1(a)	<p><b>Describe what is happening to the levels of cognitive and somatic anxiety as shown in figure 1. (3)</b></p> <ul style="list-style-type: none"> <li>- Levels of cognitive anxiety are higher than somatic anxiety <b>prior</b> to competition</li> <li>- As competition gets <b>closer/during</b>, then levels of somatic anxiety rise to similar levels of cognitive anxiety</li> <li>- <b>After the event</b> there is a significant drop in levels of both cognitive and somatic anxiety</li> </ul> <p><b>3 x 1 Marks for each stage</b></p>	3			3
(b)	<p><b>Identify which of the following characteristics is associated with somatic anxiety.</b></p> <p>Only award mark for one ticked box.</p> <p>C – Increased blood pressure</p> <p>1 mark</p>	1			1

Question	Mark Scheme	AO1	AO2	AO3	Total
(c)	<p><b>Using Figure 2, outline how levels of arousal can affect sporting performance. Provide examples to support your answer. (6)</b></p> <p>Main points must be supported by example</p> <p><b>3x1 Marks</b> for description  <b>3x1 Marks</b> for supporting example (application)  <b>3x2 marks</b></p> <p><b>Indicative content</b></p> <ul style="list-style-type: none"> <li>- as arousal increases so does performance but only up to an optimum level</li> <li>- optimum performance is at moderate levels of arousal</li> <li>- if arousal is too high or the performer is highly aroused then performance will be negatively affected e.g. foul play</li> <li>- under arousal leads to poor performance because of lack of effort</li> <li>- Theory can change when there is variation in terms of: <ul style="list-style-type: none"> <li>- <b>personality</b> e.g. extrovert performs better with high arousal and introvert underperforms theory is modified</li> <li>- <b>Ability</b> or skill of performer. A performer in cognitive stage achieves optimum performance with lower level of arousal, while a performer in the autonomous stage of learning requires higher levels of arousal.</li> <li>- <b>Task/situational factors</b> – importance of event, type of skill or similar</li> </ul> </li> </ul> <p><b>Maximum of 3 marks - for examples</b></p> <p><b>Sporting Examples:</b></p> <p><b>Under arousal</b>  A golfer plays a shot but fails to hit the green or drives a short distance.</p> <p>A sprinter slow out of blocks is not stimulated enough.</p> <p>A rugby tackle may be lacking power and weak and attacking player runs through.</p>	3	3		6

Question	Mark Scheme	AO1	AO2	AO3	Total
	<p><b>Optimal Arousal</b> A golfer needs moderate arousal to execute a smooth swing and hit the green or fairway.</p> <p>A sprinter is quick out of the blocks and into his stride pattern quickly.</p> <p>A rugby player needs moderate levels of arousal to make an effective tackle in order that he is in the correct position and makes a legal tackle.</p> <p><b>Over arousal</b> In golf over arousal can cause loss in technique e.g. swing too fast so performance can be reduced with drives or shots off fairway or missed greens.</p> <p>A sprinter may false start or be unsteady in the blocks.</p> <p>A rugby player may have lack of control when tackling / high tackle giving away a penalty or receives a red or yellow card.</p>				

Question	Mark Scheme	AO1	AO2	AO3	Total
2 (a)	<p><b>Identify and explain one strategy a performer could use to speed up recovery after a training session or match. (2)</b></p> <p><b>Indicative content</b>  <b>1 mark</b> for identify  <b>1 mark</b> for explanation</p> <ul style="list-style-type: none"> <li>• Cool down – increase oxygen uptake/remove lactic acid</li> <li>• Ice bath – reduction in blood flow to muscles/reduce swelling around micro-tears/less pain</li> <li>• Contrast baths/showers – increases blood flow and aids removal of waste products</li> <li>• Correct nutrition e.g. Carbohydrate and protein – replenish energy stores/growth and repair of muscles</li> <li>• Massage – Aids venous return/soothing effect on muscles</li> <li>• Compression clothing- aids venous return by helping the action of the muscle pump.</li> <li>• Sleep/Rest – Speeds up physiological adaptations e.g. Hypertrophy</li> </ul> <p><b>2x1 mark</b></p>	1	1		2

Question	Mark Scheme	AO1	AO2	AO3	Total																				
(b)	<p><b>Discuss the use of continuous training when developing match fitness for a games player. (6)</b></p> <p><b>Indicative content</b></p> <table border="1"> <thead> <tr> <th>Band</th> <th>AO1</th> <th>AO2</th> <th>AO3</th> </tr> </thead> <tbody> <tr> <td>3</td> <td></td> <td></td> <td>3/4 Detailed with terminology + and -</td> </tr> <tr> <td>2</td> <td></td> <td></td> <td>2 Limited discussion</td> </tr> <tr> <td>1</td> <td>duration/intensity</td> <td>duration/intensity linked to games players</td> <td>1 Some benefits</td> </tr> <tr> <td>0</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p><b>2 marks maximum</b> Training session 1 mark –</p> <ul style="list-style-type: none"> <li>• Duration- without breaks</li> <li>• Inclusion of <b>intensity</b> – generic low/medium-high</li> </ul> <p>2 marks – (greater detail) AO2</p> <ul style="list-style-type: none"> <li>• all of the above including 60-80% of maximum heart rate</li> <li>• working under lactate threshold</li> </ul> <p><b>Discuss</b> <b>4 marks maximum</b></p> <p><b>2 marks maximum for either benefits or drawbacks AO3</b></p> <p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Develops aerobic fitness</li> <li>• Increase anaerobic threshold</li> <li>• Increase VO2 max</li> <li>• Speeds up repayment of oxygen debt (<b>amp</b> is there is coverage of alactic or lactic acid recovery)</li> <li>• Good as a pulse raiser within a warm up</li> </ul> <p><b>Drawbacks (AO3/4 + and -)</b> <b>(marks not awarded for 'lack of specificity to football' – this must be explained)</b></p> <ul style="list-style-type: none"> <li>• Football played at various intensities</li> <li>• No improvement in speed or agility, components that are vital in football</li> <li>• Within games, no continuous running for long periods</li> <li>• Medium to low intensity continuous exercise can have a negative impact on fast twitch fibres i.e. Type IIb</li> </ul>	Band	AO1	AO2	AO3	3			3/4 Detailed with terminology + and -	2			2 Limited discussion	1	duration/intensity	duration/intensity linked to games players	1 Some benefits	0				1	1	4	6
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Question	Mark Scheme	AO1	AO2	AO3	Total
(c)	<p><b>Discuss the types of practice a coach could use to enhance the learning of skills within a sporting activity. Justify your answer with the use of examples. (6)</b></p> <p><b>Indicative content</b>  <b>This is a banded response</b></p> <p><b>Whole and whole/part/whole</b>  Whole – For skills that cannot be broken down (simple/low organisation), a pass/penalty kick/hockey flick</p> <p>Part – Skills can be broken down into separate aspects/isolate weaker (High organisation/complex) e.g. Lineout isolate just the jump and lift without throw. A lay up in basketball</p> <p><b>Fixed and Variable</b>  Fixed – linked to repetition (closed skills) e.g. Free throw or penalty shot in netball</p> <p>Variable – must be related to gameplay (linked to open skills) e.g. 3v2</p> <p><b>Massed and Distributed</b>  Massed – Continuous repetitive practice (associated with closed/fixed skills) e.g. continually kicking/passing etc. with the performer relying on kinesthesia</p> <p>Distributed – can be associated to more complex or high intensity (variable skills). Tasks where a break for rest/feedback/guidance is necessary</p> <p>Mental rehearsal/Imagery – can be used for a variety of skills but mostly associated with closed skills e.g. Penalty</p> <p>Some discussion points may include information regarding stages of learning and transfer of learning</p>		3	3	6



<b>Band</b>	<b>AO2 3 marks</b>	<b>AO3 3 marks</b>
<b>3</b>	<p><b>3 marks</b></p> <p>Excellent knowledge and application of the various types of practice linked to sporting examples.</p>	<p><b>3 marks</b></p> <p>Excellent discussion about the appropriate type of practice used to enhance learning. There is a clear link between the type of practice and the learning of skill.</p> <p>Advantages and disadvantages of some methods of practice are provided e.g. <i>adv of fixed practice = able to groove and replicate a skill. Disadv = can be boring and reinforce poor technique if practice is not monitored.</i></p>
<b>2</b>	<p><b>2 marks</b></p> <p>Good explanation of a variety of types of practice linked to sporting examples.</p>	<p><b>2 marks</b></p> <p>Good discussion around the relevant practice to the skill being learnt.</p> <p>Some relevant examples throughout.</p>
<b>1</b>	<p><b>1 mark</b></p> <p>The candidate correctly identifies the types of practice and there is limited application.</p>	<p><b>1 mark</b></p> <p>Limited discussion about the type of practice to develop skill.</p> <p>Few sporting examples provided.</p>
<b>0</b>	<p><b>0 mark</b></p> <p>No identification of the types of practice and there is no application.</p>	<p><b>0 mark</b></p> <p>No discussion about the types of practice used to develop skill.</p>

Question	Mark Scheme	AO1	AO2	AO3	Total
3(a)	<p><b>Describe one of the factors that affects the participation in sport of disadvantaged groups. (3)</b></p> <p><b>3x1 mark 1x3 marks link to disadvantaged group (gender, ethnicity, disability, social economic)</b></p> <p><b>Indicative content (all marks must come one of the 3 areas e.g. opportunity)</b></p> <p><b>Opportunity</b> Opportunity to play or be involved with sport e.g. issues relating: Financial – cost implications for equipment/membership fees/coaching costs Transport – car ownership/public transport issues etc Time constraints - work/family commitments/ Religious or cultural restraints - e.g. Devout Christians not playing sport on Sunday</p> <p><b>Provision</b> Availability of facilities/where facilities exist. Local teams. Access to coaching/transport.</p> <p><b>Esteem</b> How society views individuals e.g. Women often feel uncomfortable in gyms and other mixed sporting activities Sport seen as masculine and dominated by men Issues linked to self- confidence / issues linked to stereotypes.</p>	3			3

Question	Mark Scheme	AO1	AO2	AO3	Total
(b)	<p><b>Outline three factors that have contributed to the development of professional sports in the late 19th and early 20<sup>th</sup> centuries. (3)</b></p> <p><b>3x1mark</b></p> <p><b>Indicative content</b></p> <ul style="list-style-type: none"> <li>• Urbanisation - growth of towns and cities resulted in less space for fields, etc. for sport for the masses. Forced a change from participator base to spectator base / leading to a need for stadia / improved spectator facilities and stadia</li> <li>• <b>Spectators</b> charged to watch / Commercial opportunity from numbers of spectators / entrepreneurs / business opportunity / sponsorship / factory team development / ticket revenue</li> <li>• Success and winning brought in more spectators therefore more revenue.</li> <li>• transportation - Improvements in networks meant more regular fixtures which facilitated payment of players</li> <li>• Factory owners begun developing teams – workers rights</li> <li>• Culture of “compensating” better players to play replaced with open payment. Need to compensate workers for time lost playing sport</li> <li>• Split in the Rugby codes creating RFL</li> <li>• <b>Rationalised leisure time</b> / Rise in personal income</li> <li>• <b>Codification</b> of sport brought about accepted rules that were understood / facilitated leagues / competitions / desire to win</li> <li>• <b>Media</b> created an affiliation with teams for spectators and increased the need to win.</li> <li>• Influence of Oxford and Cambridge Blues on spectators</li> </ul> <p>3x1 marks</p>	3			3

Question	Mark Scheme	AO1	AO2	AO3	Total
(c)	<p>Analyse the role played by the Public Schools and universities in the development of sports during the 19th century. (6)</p> <p><b>This is a banded question – need to identify the AOs</b></p> <p><b>Indicative Content</b></p> <ul style="list-style-type: none"> <li>• Influence of Public schools e.g boys brought games e.g. cricket/mob football etc/ Generally unruly. More games developed e.g. Fives.</li> <li>• Thomas Arnold encouraged moral standards/discipline etc</li> <li>• Clarendon Commission focused on such morals and especially team games - sportsmanship</li> <li>• E.G. Cricket – early acceptance, while Mob football – unacceptable within schools until boys devised rules</li> <li>• Boys in charge of organising games/inter house competitions</li> <li>• However there were no inter-school fixtures because of lack of common rules</li> <li>• Public school boys played games that were particular to their schools they would have taken the games and the rules with them to university.</li> <li>• Not being possible to play several different versions of games, the different versions would have been “rounded” off to establish one common or standard game and set of rules. The Oxbridge “Melting Pot”</li> <li>• Oxbridge were the first to make an attempt to codify sports, with formalised sets of rules established.</li> <li>• Universities often credited with establishing the early forms of the NGB’s</li> <li>• Establishment of governing bodies led to regular competitions/leagues</li> <li>• Industrialists and employers developed factory teams facilities</li> <li>• Clergy developed church clubs, teams, YMCA, Boys Brigade</li> <li>• Sport was played within army and therefore spread around British Empire and rest of the world</li> <li>• Ex-public school boys and university graduates travelled the British Empire and introduced new sports</li> <li>• Philanthropists/social reformers built facilities and encouraged social reform</li> <li>• Politicians introduced Acts of Parliament for public provision of facilities</li> </ul>		3	3	6

<b>Band</b>	<b>AO2 3 marks</b>	<b>AO3 3 marks</b>
<b>3</b>	<p><b>3 marks</b></p> <p>Excellent knowledge and understanding of the role Public Schools and Universities and their contribution to the development of Sport.</p>	<p><b>3 marks</b></p> <p>Excellent <b>analysis</b> of how Public Schools and Universities influenced the development of sport in 19<sup>th</sup> Century.</p> <p>Analysis of major events that contributed to development of sport.</p> <p>Relevant examples are provided throughout.</p>
<b>2</b>	<p><b>2 marks</b></p> <p>Good knowledge and understanding of the role Public Schools and Universities and the link to the development of Sport.</p>	<p><b>2 marks</b></p> <p>Good <b>analysis</b> of how Public Schools and Universities influenced the development of sport in 19<sup>th</sup> Century.</p> <p>Analysis of some events that contributed to development of sport.</p> <p>Some relevant examples throughout.</p>
<b>1</b>	<p><b>1 mark</b></p> <p>The candidate identifies some knowledge and understanding to the role of Public Schools and/or Universities in the development of Sport.</p>	<p><b>1 mark</b></p> <p>Limited <b>analysis</b> of how Public Schools and/or Universities influenced the development of sport in 19<sup>th</sup> Century.</p> <p>Few sporting examples provided.</p>
<b>0</b>	<p><b>0 marks</b></p> <p>No knowledge and understanding of the role of Public Schools and Universities motivational strategies.</p>	<p><b>0 marks</b></p> <p>No analysis of how Public Schools and Universities influenced the development of sport in 19<sup>th</sup> Century.</p>

Question	Mark scheme	AO1	AO2	AO3	Total
4(a)	<p><b>Coaches will often use reinforcement to enhance learning.</b></p> <p><b>Explain, using examples from sport the different types of reinforcement. (2)</b></p> <p><b>2x1 mark</b></p> <p><b>Indicative content</b></p> <p>Positive and negative reinforcement</p> <ul style="list-style-type: none"> <li>• Positive - Use of praise or rewards. A coach attempts to promote self- satisfaction to encourage correct behaviour</li> <li>• 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</li> <li>• Link to SR bond.</li> </ul> <p>(Punishment is not correct)  <b>2x1 marks if example is provided</b></p>		2		2
(b)	<p><b>Discuss the advantages and disadvantages of the various motivational strategies a coach or teacher could use when developing sporting performance. (8)</b></p> <p><b>This is a banded question – need to identify the AOs</b></p> <p><b>Indicative content</b></p> <p><b>1. Use of Extrinsic rewards</b></p> <p>To develop motivation  Develop intrinsic motivation</p> <p><b>Tangible and intangible rewards</b>  e.g. Medals, Disadvantage – extrinsic rewards given too frequently can result in a loss of intrinsic motivation, e.g. praise (intangible) advantages – some people are not self-motivated (and need external sources of motivation).</p> <p>Disadvantage is the reliance and control of behavior, e.g. Ensure enjoyment and success within session.</p>		2	6	8

Question	Mark scheme	AO1	AO2	AO3	Total
	<p><b>2. Goalsetting</b></p> <p><b>Advantages:</b> Focus Long term target –SMART</p> <p><b>Disadvantage:</b> Unrealistic goals could be set</p> <p><b>3. Varied activities</b></p> <ul style="list-style-type: none"> <li>• <b>fun / novel activities</b> a range of activities will potentially add interest and encourage participation</li> <li>• e.g. Games such as ball touch and stuck in the mud to encourage agility and awareness of others</li> <li>• Disadvantage – some participants may prefer to work in the same area and focus on developing specific skills rather than constantly varying practice and activities</li> </ul> <p><b>4. Coaches use of significant others or role models</b></p> <ul style="list-style-type: none"> <li>• Provide examples of role models, who young people copy or are inspired by role models need to be ones young people can identify with or relate to the wrong role models can reinforce disaffection, e.g. a skillful sports performer is someone to copy</li> <li>• Disadvantage – not all significant others/role models are appropriate as motivators</li> </ul> <p>Other responses could include:</p> <ul style="list-style-type: none"> <li>• Punishment Privileges withdrawn if punishment can reinforce poor lifestyle behavior</li> <li>• Some may be proud of dysfunctional behaviour or unhealthy lifestyle / some need to be different, e.g. it's more 'cool' to not do sport</li> <li>• Disadvantage – punishment can lead to a loss of self-esteem/not a good strategy for cognitive learners</li> </ul> <p><b>Peer pressure</b></p> <ul style="list-style-type: none"> <li>• May motivate / peers can encourage. e.g. friends can encourage 'non doers' to join gym</li> <li>• Disadvantage – young people may participate just to retain friends/if peers are not active then they may not be either</li> </ul>				

Question	Mark scheme	AO1	AO2	AO3	Total
	<p><b>5. Feedback</b></p> <ul style="list-style-type: none"> <li>• Positive/negative</li> <li>• Knowledge of results</li> <li>• Knowledge of performance</li> <li>• Where/When/how/who/what</li> <li>• Allocation of marks are for the level of response rather than coverage of all aspects;</li> </ul>				

Band	AO2 2 marks	AO3 6 marks
<b>3</b>		<p><b>5-6 marks</b></p> <p>Excellent <b>discussion</b> of the positive and negative aspects of different motivational strategies.</p> <p>Analysis of the strategies linked to developing performance.</p> <p>Relevant examples are provided throughout</p> <p>Technical vocabulary used.</p>
<b>2</b>	<p><b>2 marks</b></p> <p>Good knowledge and understanding of a variety of motivational strategies.</p>	<p><b>3-4 marks</b></p> <p>Good <b>discussion</b> of the positive and negative aspects of different motivational strategies.</p> <p>Good Analysis of some strategies linked to developing performance.</p> <p>Some relevant examples throughout.</p> <p>Some technical vocabulary used.</p>
<b>1</b>	<p><b>1 mark</b></p> <p>limited knowledge and understanding different motivational strategies.</p>	<p><b>1-2 mark</b></p> <p>Limited <b>discuss</b> the positive and negative aspects of different motivational strategies.</p> <p>Limited practical application.</p> <p>Limited technical vocabulary used Few sporting examples provided.</p>
<b>0</b>	<p><b>0 marks</b></p> <p>No knowledge and understanding of motivational strategies.</p>	<p><b>0 marks</b></p> <p>No discussion of positive and negative aspects of motivational strategies.</p>



Question	Mark Scheme	AO1	AO2	AO3	Total
5(a)	<p><b>Complete Table 1 identifying the articulating bones, the joint action and the type of muscular contraction occurring at the knee joint. (3)</b></p> <ul style="list-style-type: none"> <li>• Articulating bones – Femur and tibia (<i>don't accept fibula</i>)</li> <li>• Joint action – Flexion</li> <li>• Type of contraction – Isometric (<i>don't accept static</i>)</li> </ul> <p><b>3x1 Marks</b></p>	3			3
5(b)	<p><b>Identify which of the following characteristics is associated with fast twitch (Type II fibres) (Tick the appropriate box)</b></p> <p>D – Fatigue quickly</p> <p><b>1 Mark</b></p>	1			1
5(c)	<p><b>Describe a method of training likely to enhance type IIb muscle fibres</b></p> <p><b>Indicative content</b></p> <p>Methods of training likely to be from Weight training, interval, plyometric.</p> <p>There must be reference to</p> <ul style="list-style-type: none"> <li>• Higher intensity activities with relatively short duration.</li> <li>• If there is a reference to speed, strength etc. the recovery should be longer e.g. over 2 minutes between sets</li> </ul> <p><b>1 mark</b> Candidate 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</p> <p><b>2 marks</b> Candidate describes a method of training but with more detailed information provided e.g. reps, % of maximum and specific recovery information.</p>	2			2

Question	Mark Scheme	AO1	AO2	AO3	Total
5(d)	<p><b>Explain why the consumption of nutrients and re-hydrating, immediately after exercise can aid the recovery process. (4)</b></p> <p><b>2x2 marks</b></p> <ul style="list-style-type: none"> <li>• No marks for identifying.</li> <li>• Marks must link to the reasoning <b>why</b>.</li> <li>• 2 marks maximum for nutrients.</li> <li>• 2 marks maximum for rehydration.</li> </ul> <p><b>Indicative content:</b></p> <p><b>Hydration</b> If the athlete is dehydrated then the following problems occur, which means recovery will be considerably slower.</p> <ul style="list-style-type: none"> <li>• <b>Reduction in plasma volume/viscosity in blood, means slower circulation of blood (key point for max marks)</b></li> <li>• Slows the removal of lactic acid and conversion</li> <li>• Reduction in the supply of energy glucose to muscles</li> <li>• Reduction in stroke volume/reduced heart rate</li> <li>• Lowering of blood pressure</li> <li>• Impairment of muscle function</li> <li>• Reduction in heat loss from the skin (temperature control)</li> <li>• Reduction in the transport of enzymes</li> </ul> <p><b>Consumption of Nutrients</b></p> <p><b>Carbohydrate</b></p> <ul style="list-style-type: none"> <li>• Combination of Simple/Complex carbohydrate</li> <li>• Combination of High/Med/Low glycaemic index foods</li> </ul> <p>Carbohydrate aids recovery by replenishing the glycogen stores that are used during exercise.</p> <ul style="list-style-type: none"> <li>• Simple/high GI carbs will provide immediate energy after exercise.</li> <li>• Complex/med/low GI carbs will release energy over a longer period helping to further replenish glycogen stores</li> </ul> <p><b>Protein</b></p> <ul style="list-style-type: none"> <li>• Proteins are used for growth and repair of the muscle</li> </ul> <p><b>Fats – really need to justify</b></p> <ul style="list-style-type: none"> <li>• <i>Unsaturated fats – Used as a source of energy but should not be consumed in excess</i></li> <li>• <i>Saturated fats - Used as a source of energy but should not be consumed in excess</i></li> </ul>		4		

Question	Mark Scheme	AO1	AO2	AO3	Total
6.	<p><b>Discuss how coaches use performance analysis to develop sports performers before, during and after competition. Provide examples where appropriate.</b></p> <p><b>This is a banded question – need to identify the AOs</b>  <b>The focus is on how the coaches use the performance analysis</b></p> <p>The main factors of performance that may be monitored and analysed when seeking to refine performance can be grouped under the following headings:</p> <ul style="list-style-type: none"> <li>• <b>Physical/physiological factors,</b></li> <li>• <b>Technical factors</b></li> <li>• <b>Tactical factors</b></li> <li>• <b>Behavioural/psychological factors.</b></li> </ul> <p>The focus of analysis depends very much on the sporting activity and the level of the performer with different sporting activities placing a different emphasis on these components.</p> <p>Sporting activities place a different emphasis on these components.  Physical aspects: Physical fitness is a critical factor in most sports – the physical training programmes should match the demands made of the performer while competing.</p> <p>Technical aspects: efficiency of movement and its aesthetic qualities – a thorough understanding of the technical demands of the sport is essential to the coach and performer.</p> <p><b>Physical PA techniques</b></p> <ul style="list-style-type: none"> <li>• 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. There are good for establishing a starting point for performers (baseline information) and useful for helping to plan training programmes.</li> <li>• Physiological testing e.g. Blood lactate analysis, blood pressure, resting heart rate.</li> <li>• GPS tracking systems e.g. Prozone, Nike +, Strava, Garmin Connect. Increasing used by recreational performers as well as the elite.</li> </ul>	3	5	8	16

Question	Mark Scheme	AO1	AO2	AO3	Total
	<p><b>Discussion points</b></p> <ul style="list-style-type: none"> <li>• Too much focus on physical development over technical development and tactical ability (often linked to team games, particularly rugby players in Wales)</li> <li>• This is only one aspect of performance an individual who is powerful may not necessarily have the technical/tactical/psychological ability</li> <li>• Field tests can be unreliable/tester error is common and therefore a lack of reliability and validity to testing</li> <li>• Lab testing, GPS, Computer software, etc. are all expensive and require specialist analysts to carry out protocols. Mainly elite athletes have access to this</li> </ul> <p><b>Technical PA techniques</b></p> <ul style="list-style-type: none"> <li>• 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 an understanding of the biomechanical principles involved in its execution. Study of the body motions in terms of force, time, distance. Frame analysis.</li> <li>• 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.</li> <li>• Video: Provides objective information and can enhance performance analysis. Permanent, immediate, technological aids (freezing, slow motion). Use of performance analysis software such as Dartfish.</li> </ul> <p><b>Tactical PA techniques</b></p> <ul style="list-style-type: none"> <li>• As with technical methods of analysis, video or computer analysis is primarily used as well as coach observation</li> <li>• Techniques such as wide angle and multiple views can give coaches a complete picture of what is going on (more evident in team games)</li> <li>• GPS provides even more objective data which coaches can use.</li> </ul>				

Question	Mark Scheme	AO1	AO2	AO3	Total
	<p><b>Limitations of Coach Observation (potential discussion point).</b></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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 to the way in which our memory works.</li> </ul> <p><b>Discussion Points</b></p> <ul style="list-style-type: none"> <li>• Can be subjectivity, particularly to tactical approaches</li> <li>• GPS, Computer software etc are all expensive and require specialist analysts to carry out protocols. Mainly elite athletes have access to this</li> </ul> <p><b>Behavioural (Psychological)</b></p> <ul style="list-style-type: none"> <li>• Aspects can be analysed using questionnaires</li> <li>• Interviews</li> <li>• Coach/Psychologist observation</li> <li>• Digital video analysis of behavioural factors</li> <li>• Goal setting (KPIs)</li> </ul> <p><b>Discussion Points</b></p> <ul style="list-style-type: none"> <li>• Individual performers can struggle to express feelings and emotions and do not see the value in this approach</li> <li>• Reluctance by coaches to use such an approach</li> <li>• Specialist psychologist required</li> </ul>				

Question	Mark Scheme	AO1	AO2	AO3	Total
	<p><b>How Coaches use PA</b></p> <p>It is clear that the foundations for training and competing can no longer be based on simple subjective views of how well athletes perform or on traditional methods passed from one generation of coach to another (Carling, Reilly and Williams, 2009). Sport, especially at the elite level, has embraced technology for performance analysis.</p> <ul style="list-style-type: none"> <li>• Individualise training e.g. Identify strengths and work on weaknesses</li> <li>• Monitor athlete progress over time e.g. physical and technical aspects</li> <li>• Tailor training sessions to replicate competitive situations in terms of intensity and duration</li> <li>• Observe opposition teams/individuals/tactics</li> <li>• Use/change/adapt tactics</li> <li>• Attempt to exploit perceived opposition weaknesses</li> <li>• Encourage performers to watch their own performance and be self-critical</li> <li>• This empowers players and encourages independent learning</li> <li>• Understand performer's behaviour or psychological make up. E.g. Help build an individual's confidence</li> </ul>				

<b>Band</b>	<b>AO1 3 marks</b>	<b>AO2 5 marks</b>	<b>AO3 8 marks</b>
<b>3</b>	<b>3 marks</b> Excellent knowledge of performance analysis techniques.	<b>5 marks</b> 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.	<b>7-8 marks</b> Excellent <b>discussion of how coaches</b> use performance analysis to develop performance.  All phase (before, during and after competition) must be used.  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.
<b>2</b>	<b>2 marks</b> Good knowledge of performance analysis techniques.	<b>3-4 marks</b> Good application of the performance analysis techniques for each of the phases:  Before, During and after competition.  Appropriate examples of the techniques used.	<b>4-6 marks</b> Good discussion of how coaches use performance analysis to develop performance.  All phase (before, during and after competition) must be used.  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, punctuation and spelling.
<b>1</b>	<b>1 mark</b> Limited knowledge of performance analysis techniques.	<b>1-2 marks</b> Limited application of the performance analysis techniques.  Appropriate examples of the techniques however may not cover all the phases.	<b>1-3 mark</b> Limited discussion 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.
<b>0</b>	<b>0 marks</b> No knowledge of performance analysis	<b>0 marks</b> No application of knowledge and understanding of performance analysis	<b>0 marks</b> No discussion of how performance analysis is used.

**Unit 1: Assessment objectives mark allocations**

	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Q5</b>	<b>Q6</b>	<b>Total</b>
<b>AO1</b>	7	2	6	0	6	3	24
<b>AO2</b>	3	5	3	4	4	5	24
<b>AO3</b>	0	7	3	6	0	8	24
<b>Total</b>	10	14	12	10	10	16	72