



Mark Scheme (Results)

Summer 2018

Pearson Edexcel GCE

In Physical Education (9PE0)

Paper 01 Component 1: Scientific Principles of
Physical Education

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Question Number	Answer	Additional guidance	Mark
Q01a	Circumduction –a circle/cone shaped movement described by the body part (a combination of flexion, extension, abduction and adduction)		(1)

Question Number	Answer	Additional guidance	Mark
Q01b	Plantar Flexion-pointing of the toes/foot at the ankle joint.	Anything that describes the pointing of the toe away from the shin is acceptable.	(1)

Question Number	Answer	Additional guidance	Mark
Q02	<p>1 mark per bullet point</p> <ul style="list-style-type: none"> • Muscles don't actually need to move (shorten or lengthen) at all to contract or develop tension/it would be under load/tension but no movement would occur. • For example, if during the squat the person stopped moving at a certain point (say halfway up) and held that position, the quadriceps muscle would be contracting isometrically. 	Accept any suitable example. The example must specify a muscle that is working isometrically.	(2)

Question Number	Answer	Additional guidance	Mark
Q03	<ul style="list-style-type: none"> • For every action there is an equal and opposite reaction. • For example, in weightlifting the lifter exerts a force on the weight to hold it above their head, • For example, gravity exerts an equal and opposite force of their weight back down to the ground. <p>Or any other suitable example.</p>	<p>1 mark awarded for the law.</p> <p>2 possible marks from the example :</p> <p>1 mark for Action 1 mark for Reaction</p>	(3)

Question Number	Answer	Additional guidance	Mark
Q04	1 mark per bullet point <ul style="list-style-type: none"> • Contraction of (external) intercostal muscles • Movement of rib cage up and out • Contraction of the diaphragm down/ flattening • Expands the volume of the thoracic cavity • Pressure inside lungs decreases and is less than outside the body • Therefore the air moves in to the lungs as gases move from higher to lower pressure 		(4)

Question Number	Answer	Additional guidance	Mark
Q05	1 mark per bullet point <ul style="list-style-type: none"> • At the lungs diffusion of the oxygen into the capillaries from the alveoli • Diffusion occurs from high concentration to low concentration/ partial pressure • Oxygen binds to haemoglobin/ carried by the red blood cells • Transport of oxygen via the cardiovascular system to the muscles • Oxygen diffuses into the muscle from high concentration to low concentration/ partial pressure 		(4)

Question Number	Answer	Additional guidance	Mark
Q06	1 mark per bullet point <ul style="list-style-type: none"> • Increased ventilation / tidal volume • Increased diffusion gradient(s) (lung and muscle) • Increased cardiac output / stroke volume / heart rate • Increased blood pressure • Vasodilation to increase blood flow to the muscles • Vasoconstriction of blood vessels in areas where it is not required 	Vascular shunting can be awarded under either the vasodilation or vasoconstriction bullet points as appropriate	(4)

Question Number	Answer	Additional guidance	Mark
Q07	1 mark per bullet point <ul style="list-style-type: none"> • An increase in end diastolic volume. • An increase in stroke volume. • An increase in cardiac output when exercising. • Increased strength / force of (ventricular) contractions. • Reduction in resting heart rate / bradycardia. • The same exercise after aerobic training will have a lower heart rate. • Increased heart rate reserve (as a result of bradycardia). • Faster recovery (heart rate returning to resting level). 	Do not allow any structural changes.	(6)

Question Number	Answer	Additional guidance	Mark
Q08	<p>1 mark per bullet point</p> <p>Excitation:</p> <ul style="list-style-type: none"> • Nerve impulse reaches neuromuscular junction / motor end plate • Acetylcholine released across synaptic cleft • Nervous stimulation of the muscle tissue. • Triggers an action potential <p>Contraction :</p> <ul style="list-style-type: none"> • Calcium ions released/ bind to troponin • Active site on actin exposed • ATP provides the energy for cross bridge formation • Myosin heads form a cross bridge with the actin • Myosin heads move/ratchet mechanism/ power stroke/actin pulled towards centre of myosin. 		(6)

Question Number	Indicative Content	
Q09	<p>AO1 = 4 marks, AO3 = 4 marks Students who only show achievement against AO1 will not be able to gain marks beyond Level 1. Reward acceptable answers. Responses may include, but are not limited to the following.</p> <ul style="list-style-type: none"> • Muscle temperature increases (AO1) • Enzyme activity is facilitated (AO1) • Muscle metabolism is increased (AO3) • Energy supply is made available due to breakdown of glycogen (AO1) • Increased temperature leads to greater elasticity of fibres (AO3) • Increased elasticity of fibres causes greater speed and force of contraction (AO3) • More oxygen is being delivered to muscles (AO3) • Static stretching can reduce force of contraction (AO3) 	(8)
Level	Level Descriptor	Mark
0	<ul style="list-style-type: none"> • No rewardable material 	0
1	<ul style="list-style-type: none"> • Some accurate and relevant knowledge (AO1). • Simple or generalised statements supported by limited evidence (AO1). • Limited balancing of ideas against each other (AO3). • Limited evaluative statement (AO3). 	1-2
2	<ul style="list-style-type: none"> • A good level of accurate and relevant knowledge (AO1) • A line of reasoning is presented and supported by some evidence (AO1). • Examines a wide range of ideas, balancing ideas against each other (AO3). • An evaluative statement which is relevant (AO3). 	3-5
3	<ul style="list-style-type: none"> • A high level of accurate and relevant knowledge (AO1) • Articulates a clear viewpoint with clarity and precision which is well substantiated (AO1). • Critically examines a wide range of issues balancing ideas against each other (AO3). • Clear evaluative statement which is thorough and focussed (AO3). 	6-8

Question Number	Indicative Content	
Q10	<p>AO1 = 4 marks, AO3 = 4 marks Students who only show achievement against AO1 will not be able to gain marks beyond Level 1. Reward acceptable answers. Responses may include, but are not limited to the following.</p> <ul style="list-style-type: none"> • Slow component is after the first 3 minutes of recovery (after the fast component) (AO1) • Oxidation /Removal of lactate and hydrogen ions (AO3) • Protein allows for repair of damaged muscle fibres (AO3) • Restoration of myoglobin (AO1) • Replenishment of energy stores (AO3) • Rehydration (AO1) • Restoration of Glycogen and carbohydrate restores energy levels (AO3) • Return of temperature to resting levels (AO3) <p>The indicative content is a guide to the responses candidate may give. Other valid responses which answer the question correctly can be credited as appropriate.</p> <p>The candidate's response must be read in conjunction with the level descriptor below in order to give the appropriate mark. For example, a response that is firmly in the level would receive the middle mark in the level, a response that is just into the level would receive the bottom mark in the level, a response which nearly reaches the next level would receive the top mark in the level preceding it.</p>	(8)
Level	Level Descriptor	Mark
0	<ul style="list-style-type: none"> • No rewardable material 	0
1	<ul style="list-style-type: none"> • Some accurate and relevant knowledge (AO1). • Simple or generalised statements supported by limited evidence (AO1). • Limited balancing of ideas against each other (AO3). • Limited evaluative statement (AO3). 	1-2
2	<ul style="list-style-type: none"> • A good level of accurate and relevant knowledge (AO1) • A line of reasoning is presented and supported by some evidence (AO1). • Examines a wide range of ideas, balancing ideas against each other (AO3). • An evaluative statement which is relevant (AO3). 	3-5

3	<ul style="list-style-type: none">• A high level of accurate and relevant knowledge (AO1)• Articulates a clear viewpoint with clarity and precision which is well substantiated (AO1).• Critically examines a wide range of issues balancing ideas against each other (AO3).• Clear evaluative statement which is thorough and focussed (AO3).	6-8
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Question Number	Indicative Content	
Q11	<p>AO1 = 4 marks, AO3 = 4 marks Students who only show achievement against AO1 will not be able to gain marks beyond Level 1. Reward acceptable answers. Responses may include, but are not limited to the following:</p> <ul style="list-style-type: none"> • Priming is a way of manipulating a warm-up to speed up how quickly the aerobic system starts at the onset of exercise (A03) • Priming involves manipulating the intensity of warm-up exercise (A03) • A bout of high intensity exercise to increase oxygen uptake (A01) • A sufficient period of recovery is required after the priming exercise to prevent fatigue (A03) • Oxidation of lactate occurs during recovery (A03) • Priming increases the rate at which energy systems work (A01) • Faster breakdown of glycogen is facilitated / increased enzyme activity (A03) • Heart rate remains elevated above resting level (A01) • The aerobic system works faster than at rest (A01) • The anaerobic systems are utilised less during subsequent exercising (A01) • Oxygen uptake remains elevated above rest, enabling faster increase at start of exercise(A03) • Faster increase of oxygen at start of exercise reduces anaerobic energy requirement (A03) <p>The indicative content is a guide to the responses candidate may give. Other valid responses which answer the question correctly can be credited as appropriate.</p> <p>The candidate's response must be read in conjunction with the level descriptor below in order to give the appropriate mark. For example, a response that is firmly in the level would receive the middle mark in the level, a response that is just into the level would receive the bottom mark in the level, a response which nearly reaches the next level would receive the top mark in the level preceding it.</p>	(8)
Level	Level Descriptor	Mark
0	<ul style="list-style-type: none"> • No rewardable material 	0
1	<ul style="list-style-type: none"> • Some accurate and relevant knowledge (AO1). • Simple or generalised statements supported by limited evidence (AO1). • Limited balancing of ideas against each other (AO3). • Limited evaluative statement (AO3). 	1-2

2	<ul style="list-style-type: none"> • A good level of accurate and relevant knowledge (AO1) • A line of reasoning is presented and supported by some evidence (AO1). • Examines a wide range of ideas, balancing ideas against each other (AO3). • An evaluative statement which is relevant (AO3). 	3-5
3	<ul style="list-style-type: none"> • A high level of accurate and relevant knowledge (AO1) • Articulates a clear viewpoint with clarity and precision which is well substantiated (AO1). • Critically examines a wide range of issues balancing ideas against each other (AO3). • Clear evaluative statement which is thorough and focussed (AO3). 	6-8

Question Number	Indicative Content	
Q12	<p>AO1 = 5 AO3 =10</p> <p>Students who only show achievement against AO1 will not be able to gain marks beyond Level 1. Reward acceptable answers. Responses may include, but are not limited to the following.</p> <ul style="list-style-type: none"> • Factors mentioned in the table can negatively affect the cardiovascular system (AO1). • The elements that would be affected are heart, blood and blood vessels (AO1). • 1 in 6 adults smoking can lead to stiffening of blood vessels, increased blood pressure and reduced blood flow, all of which raise the chances of CHD. (AO3). • A lack of physical activity will mean that the heart is not experiencing hypertrophy (AO3). • 27% of UK adults are obese which is often associated with other cardiovascular risk factors such as diabetes, high blood pressure, and so on (AO3). • Obesity impairs the ability to undertake exercise • 39% of adults in the UK do not meet Physical Activity recommendations which are essential for strengthening the cardiovascular system and reducing incidents of high blood pressure and cardiovascular diseases. (AO3). • A poor diet can lead to elevated cholesterol which is linked with heart disease / blood pressure (AO3) • Alcohol can be linked with blood clotting and high blood pressure. <p>The indicative content is a guide to the responses candidate may give. Other valid responses which answer the question correctly can be credited as appropriate.</p>	15

	The candidate's response must be read in conjunction with the level descriptor below in order to give the appropriate mark. For example, a response that is firmly in the level would receive the middle mark in the level, a response that is just into the level would receive the bottom mark in the level, a response which nearly reaches the next level would receive the top mark in the level preceding it.	
Band		Mark
0	No rewardable material	0
1	<ul style="list-style-type: none"> Limited understanding of the factors that underpin performance and involvement in physical activity and sport. This is communicated in a basic way with simple or generalised statements (AO1). Limited analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). Little analysis of performance due to limited application of relevant skills and techniques in physical activity and sport (AO3). Analysis is not used to make a judgement (AO3). 	1-3
2	<ul style="list-style-type: none"> Attempts some understanding of the factors that underpin performance and involvement in physical activity and sport and organises or expresses ideas with some clarity (AO1). Attempts some analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). Attempts to apply relevant skills and techniques in physical activity and sport to analyse performance (AO3). Analysis may not be used to make a clear judgement (AO3). 	4-6
3	<ul style="list-style-type: none"> Evidence of some basic understanding of the factors that underpin performance and involvement in physical activity and sport and offers a logical clear writing structure (AO1). Evidence of some analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). Some application of relevant skills and techniques in physical activity and sport to analyse performance (AO3). A judgement may be given but with limited substantiation (AO3). 	7-9
4	<ul style="list-style-type: none"> Key issues are explored, but not all viewpoints may be addressed. The answer is generally well organised, communicated with clarity but may lack precision (AO1). 	10-12

	<ul style="list-style-type: none"> • Analyses the factors that underpin performance and involvement in physical activity and sport (AO3). • Application of relevant skills and techniques in physical activity and sport to analyse performance (AO3). • Uses analysis to make a clear judgement and supports this with examples (AO3). 	
5	<ul style="list-style-type: none"> • Excellent knowledge and understanding of factors that underpin performance and involvement in physical activity and sport. Communicated in a coherent writing structure with clarity and precision (AO1) • Sophisticated analysis of the factors that underpin performance and involvement in physical activity and sport (AO3) • Uses analysis to make a fully informed judgement and supports this with examples (AO3). 	13-15

Section B

Question Number	Answer	Additional guidance	Mark
Q13	The ability to maintain a high percentage of Vo2 max for a prolonged period of time		(1)

Question Number	Answer	Additional guidance	Mark
Q14	<p>1 mark per bullet point</p> <ul style="list-style-type: none"> • Can be easily adapted to the individual needs e.g. reps and sets / W:R ratio • Very versatile /can be used in many activities e.g. swim, row, run, cycle • Adaptable to the equipment and space available • You can exercise at a specific exercise intensity required for the aerobic system • Cheap and accessible tool • Used by athletes of all levels, from grassroots to elite 		(4)

Question Number	Answer	Additional guidance	Mark
Q15(a)	<p>1 mark per bullet point</p> <ul style="list-style-type: none"> • The maximum amount of weight that can be lifted in a single repetition 	Must reference a single lift.	(1)

Question Number	Answer	Additional guidance	Mark
Q15(b)	<p>1 mark per bullet point</p> <ul style="list-style-type: none"> • Can cause injury • You may need to estimate 1RM to be able to complete training at a percentage • Can be limited by equipment • Can encourage poor technique • If you have never done it before, you can underestimate and fatigue • When setting the number of reps based on a percentage of 1RM, there is some individual variation 	<p>This covers the measurement of 1RM and the use of 1RM to set the training intensity.</p>	(3)

Question Number	Answer	Additional guidance	Mark
Q16	<p>1 mark per bullet point Any four from:</p> <ul style="list-style-type: none"> • Cruciate ligament damage (ACL or PCL) is when the cruciate ligament is stretched or torn • Soft tissue damage / rupture of muscle fibres / damage of muscles, ligaments or tendons / cuts / abrasions / lacerations • Sprain is a stretching or tearing of a ligament • Achilles Tendon Injury – a tear or rupture to the Achilles tendon • Fracture is a crack or a break to a bone (complete or partial) • Dislocation is when the ball and socket joint is separated from its normal position. • Concussion is a traumatic brain injury that affects brain function usually caused by a blow to the head 	<p>No mark for naming only without description</p> <p>Any other valid acute injury can be credited</p> <p>Do not accept any overuse/chronic injuries e.g. strain, shin splints, tendonitis, stress fractures</p> <p>A strain can be both chronic and acute. The description needs to match an acute scenario.</p>	(4)

Question Number	Answer	Additional guidance	Mark
Q17	<p>1 mark per bullet point</p> <p>Running (repeat) based anaerobic sprint test involves you</p> <ul style="list-style-type: none"> • Weighing each subject prior to the test to use in the calculations • Cones at each end of a 35 metre track • Two timers (or electronic timers if facility permits) • One times the 35 metres run and one the 10 second recovery • Subjects begins a (maximal) sprint on the command 'go'. • Subjects sprint maximally through the line on each sprint • After 10 seconds the next sprint begins from the opposite end • Six sprints are completed in total • Time for each sprint recorded (to nearest hundredth of a second) • $\text{Power} = \text{weight} \times \text{dist} \text{ divided by time.}$ 	No marks awarded for simply naming the test	(4)

Question Number	Answer	Additional guidance	Mark
Q18	<p>1 mark per bullet point</p> <ul style="list-style-type: none"> • Protection – for the first few days you rest but then as you begin to move you need to protect the injured area to prevent further damage • Optimal Loading- progressively load the injury to help promote healing • Ice - applying ice can help decrease pain and swelling/ reduce blood flow to the area • Compression the area to try to prevent too much swelling/ reduce blood flow to the area • Elevation – lift the body part to prevent too much blood flow to the area 	No marks for simply naming the stages	(5)

Question Number	Answer	Additional Guidance	Mark
Q19	<p>1 mark per bullet point</p> <p>Performer over rotates</p> <ul style="list-style-type: none"> • Moment of Inertia decreases / distribution of mass is closer to axis of rotation • Rotation speeds up / increase in angular velocity • E.g. Tucking in arms / position of head / hips <p>Performer under rotates</p> <ul style="list-style-type: none"> • Moment of Inertia increases / distribution of mass is further from axis of rotation • Rotation slows/reduces angular velocity • E.g. Performer opens out too early / position of head / hips 	<p>Any other suitable examples can be accepted.</p> <p>A diagram, which is correctly annotated, can be given credit as an example.</p> <p>Points should be linked to either under or over rotation.</p>	(6)

Question Number	Answer	Additional guidance	Mark
Q20	<p>1 mark per bullet point</p> <p>Flight of the ball</p> <ul style="list-style-type: none"> • When an object spins the air molecules in contact with it spin with it. • Air molecules collide with the airflow on one side of the object • This causes a decrease in velocity and a higher pressure on one side of the ball • The pressure difference causes a Magnus effect • This causes the tennis player to be able to apply different types of spin to the ball • Top spin will have low velocity/high pressure above the ball so the Magnus effect will be down. • Back spin will have high velocity /low pressure above the ball so the Magnus effect will be upwards • This can make it more difficult for the opponent to return the ball. • Top spin drops more quickly so it is harder for the opponent to return • Back spin hangs in the air longer, giving time to approach the net. 		(6)

Question Number	Answer	Additional guidance	Mark
Q21	<p>1 mark per bullet point</p> <ul style="list-style-type: none"> • Depletion of carbohydrate stores before carbohydrate loading to allow for more storage. • Increase carbohydrate intake in the days before the race to prevent hitting the wall/running at right pace for longer • Sports drinks and carbohydrate gels to boost glycogen before the race • High carbohydrate meal prior to the race to boost glycogen stores to get them through the race. • Eat protein to allow slower release of carbohydrate • Hydration strategies to ensure optimal water content/hydration • Consumption of caffeine prior to race reduce fatigue perception on CNS. • Beetroot juice to lower blood pressure 	<p>Do not accept anything during or after the race</p> <p>Accept supercompensation instead of carbohydrate loading</p>	(5)

Question Number	Indicative Content	
Q22	<p>AO2 = 4 marks, AO3 = 4 marks Students who only show achievement against AO2 will not be able to gain marks beyond Level 1. Reward acceptable answers. Responses may include, but are not limited to the following. Includes the following indicative content:</p> <ul style="list-style-type: none"> • Encourages personal responsibility and self-monitoring (Ao2) • Helps you to monitor how active you are (or not) (Ao2) • You can track your heart rate and training zones (Ao2) • You can compete against others (Ao2) • Allows you to track calorie expenditure to plan snacks and meals more appropriately (Ao2) • Setting personal goals (Ao2) • Tracking of sleep and rest (AO2) • Can increase motivation to exercise (Ao2) <p>However</p> <ul style="list-style-type: none"> • How accurate are they? (AO3) • Recording the information doesn't necessarily cause a behaviour change (AO3) • Cost (AO3) • Privacy issues (AO3) • Is data user friendly and meaningful (AO3) • Overreliance on access to the device / may limit how much activity is done (Ao3) <p>The indicative content is a guide to the responses candidate may give. Other valid responses which answer the question correctly can be credited as appropriate.</p> <p>The candidate's response must be read in conjunction with the level descriptor below in order to give the appropriate mark. For example, a response that is firmly in the level would receive the middle mark in the level, a response that is just into the level would receive the bottom mark in the level, a response which nearly reaches the next level would receive the top mark in the level preceding it.</p>	(8)
Level	Level Descriptor	Mark
0	<ul style="list-style-type: none"> • No rewardable material 	0
1	<ul style="list-style-type: none"> • There are few links between theory and practice. Isolated elements of knowledge and understanding (AO2). • There is little application of knowledge and understanding of factors that underpin performance 	1-2

	<ul style="list-style-type: none"> and involvement in physical activity and sport (AO2) Limited balancing of ideas against each other (AO3) Limited evaluative statement (AO3). 	
2	<ul style="list-style-type: none"> Makes connections between theory and practice (AO2) Applies a knowledge and understanding of factors that underpin performance and involvement in physical activity and sport (AO2). Examines a wide range of ideas, balancing ideas against each other (AO3). An evaluative statement which is relevant (AO3). 	3-5
3	<ul style="list-style-type: none"> Makes many insightful and significant connections between theory and practice (AO2). Applies an excellent knowledge and understanding of factors that underpin performance and involvement in physical activity and sport (AO2). Critically examines a wide range of issues balancing ideas against each other (AO3). Clear evaluative statement which is thorough and focussed (AO3). 	6-8

Question Number	Indicative Content	
Q23	<p>AO1 = 4 marks, AO3 = 4 marks Reward acceptable answers. Responses may include, but are not limited to the following.</p> <ul style="list-style-type: none"> • Environment can be manipulated (AO3) • Athletes can access these close to home / accessibility issues / fits athletes lifestyle (AO1)) • Speeds up recovery (AO1) • Increased oxygen supply / increase pressure (AO1) • Quicker return from injury (AO3) • Cost can be a factor (AO3) • Hyperbaric chambers increase atmospheric pressure which increases oxygen delivery (AO3) • Oxygen tents use hypoxic or hyperoxic gas to decrease or increase oxygen delivery (AO1) • Needs close monitoring (AO1) <p>The indicative content is a guide to the responses candidate may give. Other valid responses which answer the question correctly can be credited as appropriate.</p> <p>The candidate's response must be read in conjunction with the level descriptor below in order to give the appropriate mark. For example, a response that is firmly in the level would receive the middle mark in the level, a response that is just into the level would receive the bottom mark in the level, a response which nearly reaches the next level would receive the top mark in the level preceding it.</p>	(8)
Level	Level Descriptor	Mark
0	<ul style="list-style-type: none"> • No rewardable material 	0
1	<ul style="list-style-type: none"> • Some accurate and relevant knowledge (AO1). • Simple or generalised statements supported by limited evidence (AO1). • Limited balancing of ideas against each other (AO3). • Limited evaluative statement (AO3). 	1-2
2	<ul style="list-style-type: none"> • A good level of accurate and relevant knowledge (AO1) • A line of reasoning is presented and supported by some evidence (AO1). • Examines a wide range of ideas, balancing ideas against each other (AO3). • An evaluative statement which is relevant (AO3). 	3-5
3	<ul style="list-style-type: none"> • A high level of accurate and relevant knowledge (AO1) • Articulates a clear viewpoint with clarity and precision which is well substantiated (AO1). • Critically examines a wide range of issues balancing ideas against each other (AO3). • Clear evaluative statement which is thorough and focussed (AO3). 	6-8

Question Number	Indicative Content	
*Q24	<p>AO1 = 5 marks, AO3 = 10 marks Students who only show achievement against AO1 will not be able to gain marks beyond level 1. Reward acceptable answers. Responses may include, but are not limited to the following.</p> <p>Heat Training:</p> <ul style="list-style-type: none"> • Train in a climate chamber (AO1) • Train in a similar climate (AO1) • Athletes would need to adopt an appropriate hydration strategy (AO3) • Use of appropriate clothing in training (AO3) • Use of ergogenic aids such as ice vests during training or immediately prior to competition (AO3) <p>The indicative content is a guide to the responses candidate may give. Other valid responses which answer the question correctly can be credited as appropriate.</p> <p>The candidate's response must be read in conjunction with the level descriptor below in order to give the appropriate mark. For example, a response that is firmly in the level would receive the middle mark in the level, a response that is just into the level would receive the bottom mark in the level, a response which nearly reaches the next level would receive the top mark in the level preceding it.</p>	15
Band		Mark
0	No rewardable material	0
1	<ul style="list-style-type: none"> • Limited understanding of the factors that underpin performance and involvement in physical activity and sport. This is communicated in a basic way with simple or generalised statements (AO1). • Limited analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). • Little analysis of performance due to limited application of relevant skills and techniques in physical activity and sport (AO3). • Analysis is not used to make a judgement (AO3). 	1-3
2	<ul style="list-style-type: none"> • Attempts some understanding of the factors that underpin performance and involvement in physical activity and sport and organises or expresses ideas with some clarity (AO1). • Attempts some analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). • Attempts to apply relevant skills and techniques in physical activity and sport to analyse performance (AO3). 	4-6

	<ul style="list-style-type: none"> • Analysis may not be used to make a clear judgement (AO3). 	
3	<ul style="list-style-type: none"> • Evidence of some basic understanding of the factors that underpin performance and involvement in physical activity and sport and offers a logical clear writing structure (AO1). • Evidence of some analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). • Some application of relevant skills and techniques in physical activity and sport to analyse performance (AO3). • A judgement may be given but with limited substantiation (AO3). 	7-9
4	<ul style="list-style-type: none"> • Key issues are explored, but not all viewpoints may be addressed. The answer is generally well organised, communicated with clarity but may lack precision (AO1). • Analyses the factors that underpin performance and involvement in physical activity and sport (AO3). • Application of relevant skills and techniques in physical activity and sport to analyse performance (AO3). • Uses analysis to make a clear judgement and supports this with examples (AO3). 	10-12
5	<ul style="list-style-type: none"> • Excellent knowledge and understanding of factors that underpin performance and involvement in physical activity and sport. Communicated in a coherent writing structure with clarity and precision (AO1) • Sophisticated analysis of the factors that underpin performance and involvement in physical activity and sport (AO3) • Uses analysis to make a fully informed judgement and supports this with examples (AO3). 	13-15