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Mark Scheme (Results)

Summer 2016

GCSE Physical Education (5PE01/01)
Unit 1: The Theory of Physical Education

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Summer 2016
Publications Code 5PE01_01_1606_MS

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.
- For questions worth more than one mark, the answer column shows how partial credit can be allocated. This has been done by the inclusion of part marks eg (1).
- 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.

Quality of Written Communication

Questions which involve the writing of continuous prose will expect candidates to:

- Write legibly, with accurate spelling, grammar and punctuation in order to make the meaning clear
- Select and use a form and style of writing appropriate to purpose and to complex subject matter
- Organise information clearly and coherently, using specialist vocabulary when appropriate.

Section A: Computer Marked

Question Number	Answer	Mark
1a **TG**	**A** Physical activity can be fun	**1**
Question Number	Answer	Mark
1b **TG**	**D** Mental	**1**
Question Number	Answer	Mark
1c **TC**	**B** Reduced resting heart rate	**1**
Question Number	Answer	Mark
1d **TG**	**A** Image	**1**
Question Number	Answer	Mark
1e **TG**	**C** Socio-economic	**1**
Question Number	Answer	Mark
1f **TD**	**C** Participation	**1**
Question Number	Answer	Mark
1g **TD**	**B** Strength	**1**
Question Number	Answer	Mark
1h **TF**	**B** Good	**1**
Question Number	Answer	Mark

1i **TF**	**B** A games player slowly jogging back into position	**1**
Question Number	Answer	Mark
1j **TG**	**C** Increased vital capacity	**1**

Section B:

Question 2		Answer	Do not accept	Additional Guidance	Marks	Total
		A **linked** justification that includes **two** of the following reasons why Aron would be a good basketball coach: • Will have a good knowledge of the <u>rules</u> of the game, (1) therefore can pass these on to his performers <u>so</u> they play fairly/know how to play the game (1) • Will have a good knowledge of the <u>tactics</u> (1) <u>therefore</u> can use these increase chance of success of team (1) • Will be skilful (1) <u>therefore</u> will give good demonstrations/be able to show correct technique/pass skills on to others (1) • Will have good communication skills (through team work) (1) <u>therefore</u> will be able to explain clearly to players (1) • Will know the types of drills/practices needed (1) <u>therefore</u> can use these to make sure his performers develop appropriate skills (1) • Will understand physiological/ psychological demands of playing at elite level (1) <u>so</u> can prepare his team	*Played a lot of games;* *Knows what he is doing* *Knowledge/ experience of the sport* *External contacts* *Motivational/ role model*	Accept any other appropriate justification response that <u>links</u> qualities of being a performer to a coach. I.e. one mark for quality of an elite level performer relevant to coaching (1) and one further mark for justification of why this would support coaching role (1) Can gain second marking point without first, provided not linked to incorrect point. I.e. if first marking point is absent/too vague. Cannot credit across bullet points.	**2x2**	**(4)**

		so they can cope mentally/physically (1)	*Knows what it feels like*			

Question 3		Answer	Do not accept	Additional Guidance	Marks	Total
	(a)	Any one representation of the remaining common purpose: • Development of talented performer • Progress talented individuals to elite • Increase talent • Provide opportunities to excel • Talent ID • Increase number at elite level • More medals/<u>international</u> success	*Increase participation* *Retain people in sport* *Improve performance* *Increase success*	Accept reference to talent ID, performance pathways if in context of increasing a talented person's chance of becoming elite.	**1x1**	**(1)**

Question 3		Answer	Do not accept	Additional Guidance	Marks	Total
	(b)	A **linked** description that includes **one** of the following descriptions to increase participation of priority groups: • By increasing access to facilities/resources (1) through cost reduction/special events/targeted sessions/loan of equipment/equiv (1) • By increasing awareness/influencing (1) through form of media/local club links/use of role models/equiv (1)	*Named priority group* *Increase opportunities*	Accept appropriate examples for second marking point. E.g. Build wheelchair ramps (1) to provide disability access (1) Can accept second marking point without first.	**1x2**	**(2)**

		• Make it easier for priority groups to attend (1) by increasing access/equiv (1)				
Question 4		**Answer**	**Do not accept**	**Additional Guidance**	**Marks**	**Total**
		A **linked** description of use of RT by a 800m runner: • If someone overtakes/opponent speeds up (1) they need to respond quickly by running faster (1) • If something unexpected happens/something went wrong/competitor <u>falls</u> in front of the 800m runner (1) so they can take evasive action (1) • If the runner trips (1) they need to quickly correct their movement so they do not fall/can get up quickly (1)	*Responses linked to the start of the race as in question.* *Responses linked to pre-planned race tactics, e.g. dip for line, increased speed at bell*	*Description should include a clear stimulus (1) and relevant response (1)*	**1x2**	**(2)**

Question 5		Answer	Do not accept	Additional Guidance	Marks	Total
	TA	A **linked explanation** about why a cyclist would use a bike in training. • Because training should match/mimic the needs of the activity/be specific to their sport (1) so they improve the correct muscles/component of fitness (1). He will also be able to practise his cycling technique/skills (1) • Because training should match/mimic the needs of the activity/be specific to their sport (1) so they improve the correct muscles/component of fitness (1), **for example, he would work on his CV endurance / muscular endurance / gastrocnemius, quadriceps and hamstrings (1)** • Because training should match/mimic the needs of the activity/be specific to their sport (1) so he can practise his cycling technique/skills (1), **for example used to using the gears during hill climbs.**	*Get experience using a bike (too vague, requires detail of 'experience')* *Body part/ areas of body/leg* *Individual needs* *Examples not specific to cycling, e.g. general statement re increasing leg strength/ fitness.*	Do not accept description of specificity – must name principle or define for first marking point Can credit second and third bullet points without reference to first Accept relevant specific examples for second and third marking points, e.g. improving leg speed on the bike, e.g. toughen hands so no blisters in event/get used to riding position	**1x3**	**(3)**

Question 6		Answer	Do not accept	Additional Guidance	Marks	Total
	(a)	Individual needs Or Individual differences Or Individual needs/differences Or Individual differences/needs	*Individuality* *Individual* *Specificity*		**1x1**	**(1)**
	(b)	Rest **and** recovery		*Must have both parts, i.e. reference to recovery as well as rest.*	**1x1**	**(1)**

Question 7		Answer	Do not accept	Additional Guidance	Marks	Total
		A **linked explanation** of how the FITT principle overlaps with PO that makes reference to the following. Progressive overload means to gradually increase workload **OR** FITT stands for frequency, intensity, time and type (1) ☐ by increasing either frequency/ intensity/time overload is created (1) providing this is a gradual increase this will be progressive overload (1)	Injury	*Accept appropriate example to demonstrate <u>overload</u> (second marking point).* *Accept appropriate example to demonstrate <u>progressive</u>*	**1x3**	**(3)**

				nature of overload (third marking point).		

Question 8		Answer	Do not accept	Additional Guidance	Marks	Total
	(a)	Achievable **Accept phonetic spelling**	*Achievement* *Achieves* *Accessible*		**1x1**	**(1)**
	(b)	Time-bound Time-phased	*Time-line* *Time frame* *Time* *Time based*		**1x1**	**(1)**
	(c)	Any one of the following: (S, A, R) - Gives an aim/focus/something to work towards/provides a <u>clear</u> target; (M, A, R) - Motivates/increases confidence if progressing/helps you to maintain training/more determined; (M) - Allows a check on progress/see improvement/ aids amendment to training/planning.	*Goal* *Responses related to general improvement in performance, as this would be down to training programme* *Feel good*		**1x1**	**(1)**

Question 9		Answer	Do not accept	Additional Guidance	Marks	Total
		A **linked** explanation, credit for correctly naming/describing an appropriate station for the stated component of fitness (agility and speed) and one mark for why station would benefit performance in hockey. E.g. Agility • Running/dribbling in and out of cones/ladders (1) so she can dodge more effectively (1) Speed • A good station would be shuttle runs/sprints between cones (ignore distance) (1), this will help her lose defenders when she is attacking the goal/running on to a through ball (1)	*Definitions of terms* *Named fitness tests as 'stations', eg Illinois agility run, 30/35m sprint test* *Single sprint*	Only credit responses linked to agility/speed Can credit second marking point even if first is incorrect Max 2 marks per component of fitness/station. Accept any other <u>appropriate</u> example for a station provided it will develop agility/speed (First marking point). E.g. shuttle (for agility) provided explanation links to agility by making reference to changing direction at end of shuttle. Accept other appropriate examples of benefits to hockey performance provided they do link stated station with stated component of fitness (second marking point).	**2x2**	**(4)**

Question 10		Answer	Do not accept	Additional Guidance	Marks	Total
		A **linked description** that makes reference to the following means of using interval training for a 10,000m runner and a 100m sprinter to a max 4 marks: • 10,000m runner would use <u>repeated</u> (or equivalent) sets of long work intervals (1) at low/aerobic/moderate/race pace (1) • 100m sprinter would use <u>repeated</u> (or equivalent) short work intervals, (1) at high intensity/sprint/fast bursts/anaerobically (1).	*'Run'* *'With breaks' not equivalent to repeated* *Description of Fartlek* *Longer/lower unless qualified* *Shorter/higher unless qualified*	1 mark for length of work period that is <u>repeated</u> and 1 mark for level of intensity of work period. Only credit second marking point if relevant understanding of interval training is demonstrated 10,000m - Credit specific examples of sets/reps that clearly show repeated duration and intensity e.g. 5 X 1k at race pace, jog/walk 800m then repeat **NB** credit responses describing elite athletes working at high intensity/anaerobic **OR** responses describing fun runners working at low/moderate pace 100m - Credit specific examples of sets/reps that clearly show repeated duration and intensity e.g. sprint 100m, walk back, sprint 100m, walk back, repeat.	**2x2**	**(4)**

Question 11		Answer	Do not accept	Additional Guidance	Marks	Total
		A **linked** explanation that includes **two** of the following explained reasons for carrying out a warm up: • To practice the **skills** used in the game (1) therefore ready to execute these skills in the match/increased accuracy of skill performance (1) • To increase **flexibility**/mobility/ give a better range of movement/<u>increase muscle</u> <u>temperature</u> (1) so can execute effective/correct techniques/skills (1) • Reduce possibility of **cramp** (1) so do not need to temporarily stop playing (1) • To <u>increase</u> pulse rate/<u>raise</u> pulse/ <u>increase</u> **heart rate**/ <u>increase</u> blood flow/ <u>increase</u> oxygen delivery (1) so ready to work at <u>high</u> intensity/<u>muscles</u> can work <u>hard</u> /ready for <u>higher</u> level of exercise (1) • To reduce **anxiety**/increase confidence/concentration/focus/mentally	*Warm up muscles Stretch* *Loosen joints* *Less likely to get injured* *Gets blood flowing/pumping* *Lactic acid* *Motivation*	One mark for reason (first marking point), second mark for appropriate <u>link to benefit for performance/play</u> (second marking point) Maximum two marks for 'reasons'. Can gain second marking point without first PROVIDED there is an attempt to link to first marking point. I.e. no credit for simply saying 'to perform technique correctly'. However, could gain credit for 'to stretch (0) so can perform technique correctly' (1). **OR** 'to get blood flowing' (0), so ready to play at high intensity (1).	**2x2**	**(4)**

		prepare (1) so standard of play is not affected at start of game/ they can think about tactics/ game play (1)	*To win*			

Question 12		Answer	Do not accept	Additional Guidance	Marks	Total
		A **linked** description of the relationship between exercise and rest that includes **two** of the following points: • During rest (muscle) **repair** takes place (1) therefore without rest will be subject to injury/overuse (1) • During rest **energy** (stores) are replaced (1) therefore without rest would not have correct energy levels to work/be fatigued/couldn't perform at their best (1) • During rest **adaptations** take place (1) therefore need rest to increase fitness (1)	*Tired (unless in context of depleted energy)*	Can credit second marking point without first. Accept response from exercise perspective Accept specific component of fitness/hypertrophy	**1x2**	**(2)**

Question 13		Answer	Do not accept	Additional Guidance	Marks	Total
		A **linked** explanation that includes **two** of the following explained reasons for banning PEDs: Give an **unfair** advantage/ cheating (1) - because they cause the body to **adapt** making it **better suited** to their activity than just training alone **OR** - any accurate **specific** example, e.g. steroids increase training potential (1) Are **harmful** to health/ potential health risks (1) - because there can be **long term negative** side effects **OR** - any accurate specific example, e.g. steroids can lead to infertility/cancer	*Poor role model/reputation for sport* *Illegal* *Make them better at their sport – too vague* *Death as alternative to harmful to health* *Bad for your body*	Reasons must relate to **unfair** advantage and **harmful to health** – 1 mark for each of these points. Remaining two marks (1 per explanation) for accurately linked point. Accept 'considered cheating' as an **alternative** to 'unfair advantage' *Accept alternatives such as 'dangerous/life-threatening' as alternatives to harmful to health*	**2x2**	**(4)**

Drug	Health Risk
Anabolic Steroids	Liver damage, CHD Testicular atrophy, which leads to a decrease in sperm count (infertility) Skin problems, acne Mood swings, increased aggression Premature baldness Increase chance of heart attack High blood pressure
Beta Blockers	Slowing heart rate (therefore oxygen delivery, drop in performance in endurance events). Low blood pressure Sleep disturbance leading to tiredness Nausea and diarrhoea Depression
Diuretics	Dehydration Nausea, headaches Dizziness Heart/ kidney failure
Narcotic analgesics	Nausea/sickness Anxiety/depression Kidney/liver damage Addiction Concentration loss Further damage to injury (due to masking of pain) Loss of concentration, balance, coordination

Drug	Health Risk
Peptide hormones	**Human Growth hormone (HGH) risks:** Arthritis Heart failure Abnormal growth in feet and hands Diabetes
	Erythropoieten (EPO) risks: Increased thickness of the blood Blood clots/strokes/deep vein thrombosis Increased risk of heart attack or stroke

Stimulants	Insomnia Anxiety Aggression Heart rate irregularities Irritability High blood pressure		

Question 14		Answer	Do not accept	Additional Guidance	Marks	Total
		A **linked explanation** of how LDL increases BP that makes reference to the following. ☐ LDL attaches to walls of arteries/causes increase in plaque/fat in arteries/ blocks/ clogs (1) this restricts/blocks blood flow/reduces the size of the lumen (which causes heart to work harder) (1)	Veins Decreases size of blood vessel	Accept blood vessels/arterioles	**1x2**	**(2)**

Question 15		Answer	Do not accept	Additional Guidance	Marks	Total
		A **linked explanation** of why oxygen debt is associated more with 100m sprint than 15- minute walk that makes reference to the following. ☐ The 100m sprint is anaerobic (without oxygen) (1) - <u>therefore</u>, doesn't use oxygen during the event/<u>so</u> no time to use oxygen for energy (1) - <u>therefore</u>, needs <u>extra</u> oxygen after the event/<u>so</u> repays oxygen <u>after</u> the event(1) - <u>whereas</u> during the 15-minute walk oxygen is readily available (so no oxygen debt is built up) (1)	*Definitions of oxygen debt* *The 100m sprinter will have oxygen debt (as in question)*	*Do not credit the same point (or its reverse) twice.* *Accept reverse argument from 15minute walk perspective.* *E.g. The 15-minute walk is aerobic (1) <u>therefore</u> there is enough oxygen for use during the activity (1) <u>therefore</u> a shortfall is not developed during the activity (1), <u>whereas</u> oxygen is needed after the 100m sprint <u>to</u> replenish energy stores/<u>for</u> recovery (1).*	**1x4**	**(4)**

Question 16	Answer		Additional guidance
Image of activity	Risk associated with activity	Risk reduction measure to reduce stated risk	Accept any other appropriate risk or risk reduction measure for each part of the response Risk MUST be relevant to image Accept examples of risks or clear description, e.g. hitting head on the ice/being hit with the stick/puck Risk reduction MUST correctly link to stated risk, e.g. broken rib (1), wear body armour (1); cut finger (1) wear gloves (1). Can still credit clear risk reduction measure if relevant to image even if risk is incorrectly stated. Responses must be in correct 'box', i.e. risks in 'risk column'. In (b) - Same risk/risk reduction measure used in (a) **cannot** be credited twice, i.e.
ICE HOCKEY (a)	Any **one** of the following • Concussion (hit head on ice/getting knocked out) • Bruised ribs (from body check) • Cut (from broken stick/stick in the face/head/skates) • Fracture • Dislocation • Muscle strain/pulled muscle (1)	Any **one** of the following • Official/equiv • Rules/relevant example • Example of relevant protective clothing • Check equipment • Balanced competition • Warm up (1)	
(a) SAILING (b)	Any **one** of the following • Drowning • Capsizing/boat sinking/flooding • Hyperthermia/dehydration • Hypothermia • Concussion/hit by boom • Getting lost at sea • Slipping on the deck (1)	Any **one** of the following • Buoyancy aid/life jacket/strong swimmer • Experienced crew/attention to environmental conditions • Re-hydration/drink plenty of water • Warm clothing • Keep clear of boom when moving/padding on boom ☐ GPS tracking/satellite phone (1)	

			concussion/helmet as instruction stated in question.		

Question 17	Answer	Do not accept	Additional guidance	Marks	Total
(a)	A linked explanation of the procedure before exercising for the first time that includes the following: ☐ **PAR-Q** (1) to ensure no existing medical/health conditions that would be made worse by the session (1) **OR** ☐ **Induction** (1) so that they know how to safely use equipment (1)	*(PAR-Q) - See if he is healthy enough* *(PAR-Q) – check fitness*	*Can credit second marking point without first* Can credit **Informed consent** (1) so the participants know what they would be doing/so they could drop out if they didn't feel it appropriate/centre are not liable for injury (1)	**1x2**	**(2)**

Question 17		Answer	Do not accept	Additional guidance	Marks	Total
	(b)	**Any two** fitness tests to measure power: • Sergeant jump test/vertical jump test • Standing broad jump/Standing long jump/Broad jump test **Accept phonetic spelling**	*Standing jump test* *Tests of other components of fitness, e.g.* *- grip dynamometer test,* *- push up test*	*If alternate named test of power is given can give credit provided validated. E.g. Margaria Kalamen Power Test*	**2x1**	**(2)**

Question 17		Answer	Do not accept	Additional guidance	Marks	Total
	(c)	Accept **<u>any GAMES technique</u>** that demands power E.g. (Activity – Netball) Example – Accelerating to receive the ball/throw a hard pass (1) (Activity – Basketball) Example – Jumping to rebound the ball (1) (Activity – Badminton) Example – Playing a smash (1) (Activity – Football) Example - Taking a penalty/long shot (1) (Activity – Volleyball) Example – Spiking the ball (1) (Activity – Rugby) Example – Drop kick/goal (1) (Activity – Cricket) Example – hitting the ball for a 6 (1)	Techniques from non-game activities, e.g. from athletics Incomplete statement of technique, e.g. passing a ball – this would be too vague as not clearly	*No credit for stating games activity, eg Tennis as too vague* *Must state technique eg. Activity = tennis (0), example = serve (1)* *Accept any technique/skill where power is important in a game – i.e. normally performed with anaerobic/ explosive movement.* *Accept all activities from Group A on the GCSE PE specification* ***<u>(and other games not listed</u> e.g. golf)***	**1x1**	**(1)**

Activities and activity groups

Group A: Outwitting opponents (for example in games activities)		
Amateur boxing	Handball	Polo
American football	Hurling/camogie	Roller/in-line hockey
Association football	Ice hockey	Rugby league
Badminton	Judo	Rugby union
Baseball*	Ju-jitsu	Rounders
Basketball	Karate	Softball
Cricket	Korfball	Squash
Fencing	Lacrosse	Table tennis
Field hockey	Lawn tennis	Tae kwon do
Gaelic football	Netball	Volleyball
* English or Welsh baseball		Water polo

Question 17		Answer	Do not accept	Additional Guidance	Marks	Total
	(d)	A linked explanation that tells us how power could be developed through weight training to a **maximum of 3 marks**. • Weight training with **high loads** (and low reps) (1) • Weights lifted with high speed of movement/**quickly** (1). • Followed by rest period to allow recovery before lifting again (1) • Causes muscle to adapt/increase in size/increase in muscle mass/hypertrophy (1)	*References to increasing strength* *Definition of power* *Build muscle/ Increase muscle*	Accept examples of high loads (low reps) for first marking point ONLY CREDIT FOURTH BULLET IF 1st, 2nd or 3rd bullet achieved. *Accept responses for fourth marking point related to development of fast twitch muscle fibres*	**1x3**	**(3)**

Question 17		Answer	Do not accept	Additional Guidance	Marks	Total
	(e)	A linked explanation that tells us why jogging in a cool down is important to a maximum of 2 marks. • Gradually reduces/ maintains heart rate/breathing rate (1) - to aid the removal of waste products/carbon dioxide/lactic acid/repays oxygen debt (1) **OR** • Provides additional oxygen (compared to rest) (1) - to aid the removal of waste products/lactic acid/repays oxygen debt/restore energy stores (1) **OR** • Aids the removal of lactate/lactic acid (1) reducing risk of delayed onset of muscle soreness/DOMs **OR** • Maintains muscle action/brings heart rate down gradually (1) to ensure venous return/ prevents blood pooling (1)	*Injury prevention* *Cramp*	*Accept other terms to indicate muscle soreness e.g. muscle aches*	**1x2**	**(2)**

Question		Answer
18		Discuss why elite sports performers will make sure they eat a balanced diet.

Indicative content

This is indicative content only; candidates should be credited for all relevant accurate statements related to the question.

A –Simple statements linking a list of items making up balanced diet or what a balanced diet means e.g.

- Minimum of two elements of balanced diet from: Fats, carbohydrates, proteins, vitamins, minerals, fibre and water, **or** macronutrients, micronutrients, fibre and water
- The right mix/ratio/proportions/amounts of the required nutrients in a diet - Require a balanced diet to maintain correct/healthy body weight

B –Simple statements linking food group with function e.g.

- Carbohydrates/fats for energy ('carbs' does not demonstrate required technical language) - Protein for growth/repair
- Vitamins/Minerals to reduce deficiency diseases/maintain health (accept specific examples as simple statements, e.g. calcium/vitamin D for bone density/strength, vitamin C helps heal wounds)
- Water for hydration
- Fibre to aid the digestive system

C – Developed statements linking simple statement re diet to performance e.g.

- Carbohydrates/fats for energy (S) so they can continue to work throughout the activity/not get fatigued (S+) so quality of play is not affected (D)
- Fats for long term energy use (S) so they can continue to provide energy to work aerobically (S+) throughout the activity (D)
- Protein for repair (S) of muscle tears after training (S+) so they can continue with training programme (DS)
- Protein for growth (S) so that adaptations can take place (S+) increasing the strength of the muscle (D)
- Water to remain hydrated (S) preventing dehydration (S+) otherwise exercise becomes more difficult due to elevated heart rate/unable to regulate body temperature (D)
- Calcium for increased bone density (S) making the bone stronger (S+) reducing risk of breaks in contact sports (DS)

Accept other accurate statements demonstrating ability to apply knowledge of aspects of balanced diet to importance when playing sport.

D – Developed discussion points re why a balanced diet is important e.g.

Elite play is physically demanding (S) therefore need to make sure they eat the right foods, in the correct quantities (S+) to allow them to meet the demands of the sport (D)

During match play muscles could be damaged (S) therefore it is essential they eat protein to repair the damage (S+) so they can play the next game/train (D)

A balanced diet is the correct mix of carbohydrates, fats, proteins, vitamins, minerals, water and fibre, (S) if the ratio was incorrect the body could not function at its optimum level (S+) e.g. too much fat would mean additional 'dead weight' to carry slowing the player down /increasing energy usage so they tire more quickly (D).

Nutritional requirements for activity may mean that the performer needs a different ratio of nutrients (S), for example, increased a power athlete may need increased protein intake (S+) compared to an endurance athlete (D).

Accept other accurate statements that discuss why a balanced diet is important in sport.

Level	Mark	Descriptor
Level 0	0	No rewardable material
Level 1	1-2	(i) A number of simple statements that link the items required to make a balanced diet/describe a balanced diet. **(Indicative content area A)** (ii) A number of simple statements that link food groups to function. **(Indicative content area B)** Candidates will produce brief and narrative responses, making a limited number of simple statements, probably with limited reference to the question. Little knowledge and understanding of the range of requirements. Responses produced by candidates will be mostly generalised, and may not fully address the requirement of the question to discuss why an elite sports performer will make sure they eat a balanced diet. Candidates' writing communicates ideas using everyday language, but lacks clarity and organisation. There will be frequent errors in candidates' spelling, grammar and punctuation.
Level 2	3-4	(i) Developed statements, i.e. simple statements that progress to explain the link between the function of the food group and performance in the activity. **(Indicative content area C)** (ii) Developed statements, i.e. simple statements that progress to explain the link between a balanced diet and an aspect of performance. **(Indicative content area D)** (iii) May contain a basic (but accurate) conclusion in line with previous points. Candidates' responses will be mostly accurate and include relevant factual material. Some knowledge and understanding of the requirements of a balanced diet for an elite sports performer. Candidates will have some success in addressing the requirement of the question to discuss why an elite sports performer will make sure they eat a balanced diet. Candidates' writing communicates ideas with accurate use of appropriate terminology, and the organisation of the response shows some direction and control. There will be few errors in spelling, punctuation and grammar.
Level 3	5-6	(i) Developed statements (using relevant examples) balanced and succinct. **(Indicative content areas C and D)** (ii) Probably provides a conclusion based on points raised

		Candidates will offer factually accurate and sustained responses that relate well to the focus of the question and successfully addresses the discursive demands. Sound knowledge and understanding of the requirements of a balanced diet and why it is important for specific sport performance. The discussion will be supported by accurate factual material that is relevant to the question. Both function of food groups and relevance to sporting performance will be evident with appropriate conclusions reached. Candidates' writing communicates ideas effectively using appropriate terminology, and organises material clearly and coherently. Spelling, punctuation and grammar will be accurate throughout the response.

Question		Answer
19		Explain how the skeletal and muscular systems work together to bring about the kicking action shown as the leg moves from position A to position B

Indicative content

This is indicative content only; candidates should be credited for all relevant accurate statements related to the question, e.g. appropriate references to action at the ankle.

A - Simple statements about the use of the skeletal system in movement (knee, hip, ankle) e.g.

- A joint is made where two or more bones meet
- Bones are stabilised at a joint by ligaments
- Movement can/can only occur at a joint
- The knee is a hinge joint (S) therefore allows flexion to extension (S+)
- The range of movement possible at the knee joint is flexion to extension
- The skeleton provides support/keeps us upright
- The hip is a ball and socket joint (S) therefore allows movement in all planes (S+) **B - Simple statements about the use of the muscular system in movement e.g.**
- Muscles contract isotonically to bring about movement
- Muscles work in antagonistic pairs (S) additional mentioning of example and joint (S+)
- The contracting muscle is called the agonist/the relaxing muscle is called the antagonist
- The muscles that move the leg at the knee are the hamstrings and quadriceps

C - Applied Simple (+) statements as require analysis of image rather than just recall of fact

- At A the knee is flexed (S) but at B the knee is extended (S+)
- At A the hip is (hyper) extended (S) but at B the hip is flexed (S+)
- As the knee moves from A to B the quadriceps are the agonist (S), the hamstring is the antagonist (S+)
- As the hip moves from A to B the hip flexor is the agonist (S), the gluteals are the antagonist (S+)

D – Developed statements linking muscular and skeletal systems to movement e.g.

- Bones provide a place for muscle attachment (S), the muscles attach to the bones via tendons (S+) so that when the muscle contracts it pulls on the bone to move it (DS)
- A bone will move when a muscle pulls it (S), but the muscle can only pull a bone because of where it attaches to the bone (S+) via tendons (DS)
- The muscles contract isotonically (S) as the leg moves (S+) to bring about the required movement of the bones at the joint from A to B (DS)
- The leg extends at the knee (as it moves from A to B) (S) due to the contraction of the quadriceps (S+) and the relaxation of the hamstrings (DS)
- The leg extends at the knee (as it moves from A to B) (S) due to the quadriceps acting as the agonist (S+) and hamstrings acting as the antagonist (DS)

- The gluteus maximus and hip flexors work together as an antagonistic pair (S), while the hip flexor contracts the gluteus maximus relaxes (S+) to cause flexion at the hip (DS)
- The gluteus maximus and hip flexors move the leg at the hip from A to B (S), the gluteus maximus relaxes (S+) to allow the hip flexor to contract to flex the hip (DS)

NB. Points should only be credited with the correct technical language: flexion/extension for joint action, contract/relax for muscle action.
Movement at knee, hip and ankle should only be credited once each in terms of DS.

Aide memoir:

Hamstring	Knee flexion	A
Quadriceps	Knee extension	B

Gluteus maximus	Hip extension	A
Hip flexors (Iliopsoas/ Psoas major/Iliacus)	Hip flexion	B

Gastrocnemius (Soleus)	Plantar-flexion of ankle
Tibialis anterior (Anterior tibialis)	Dorsi-flexion of ankle

Level	Mark	Descriptor
Level 0	0	No rewardable material
Level 1	1-2	**(i)** A number of **simple statements** about the use of the skeletal system in movement. **(Indicative content area A)** **(ii)** A number of **simple statements** about the use of the muscular system in movement. **(Indicative content area B)** Candidates will produce brief and narrative responses, making a limited number of simple statements, probably with limited reference to the question. Little knowledge and understanding of the two body systems. Responses produced by candidates will be mostly generalised, and may not fully address the requirement of the question to explain how the kicking action is brought about. Candidates' writing communicates ideas using everyday language, but lacks clarity and organisation. There will be frequent errors in candidates' spelling, grammar and punctuation.
Level 2	3-4	(i) Developed statements, i.e. simple statements of use of the skeletal and/or muscular system with application to the question context. **(Indicative content area C)** (ii) Developed statements, i.e. applied simple statements that progress to explain the use of both systems to bring about movement. **(Indicative content area D)** (iii) May contain a basic (but accurate) conclusion in line with previous points. Candidates' responses will be mostly accurate and include relevant factual material. Some knowledge and understanding of the two body systems and how they bring about movement. Candidates will have some success in addressing the requirement of the question to explain how the skeletal and muscular systems work together to bring about movement. Candidates' writing communicates ideas with accurate use of appropriate terminology, and the organisation of the response shows some direction and control. There will be few errors in spelling, punctuation and grammar.

Level 3	5-6	i) Developed statements (using relevant examples) balanced and succinct. **(Indicative content C and D)** ii) Probably provides a conclusion based on points raised Candidates will offer factually accurate and sustained responses that relate well to the focus of the question and successfully addresses the discursive demands. Sound knowledge and understanding of the analysis of movement. The explanation will be supported by accurate factual material that is relevant to the question with appropriate conclusions reached. Candidates' writing communicates ideas effectively using appropriate terminology, and organises material clearly and coherently. Spelling, punctuation and grammar will be accurate throughout the response.