

GCE

# **Physical Education**

Advanced Subsidiary GCE

Unit **G451:** An Introduction to Physical Education

# **Mark Scheme for June 2013**

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.

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#### 1. Annotations

Annotation	Meaning
✓	Correct response
×	Incorrect response
BOD	Benefit of the doubt
REP	Repeat of key point in question or point already awarded
?	Unclear
L1	Level 1
L2	Level 2
L3	Level 3
KU	Knowledge and Understanding
EG	Example/Reference
TV	Too Vague
DEV	Development
SEEN	Noted but no credit given
IRRL	Significant amount of material which does not answer the question

#### 2. Subject-specific Marking Instructions

#### Marking responses 'a – d'; points marked questions

An element of professional judgement is required in the marking of G451. Correct answers should always be rewarded irrespective of whether or not they appear on the mark scheme. If you are in doubt about the validity of any answer then consult your Team Leader (Supervisor) by phone, scoris messaging or e-mail.

#### Marking response 'e'; levels of response marked question

It is quite possible for an excellent and valid answer to contain knowledge and arguments which do not appear in the indicative content on the mark scheme. Each answer must be assessed on its own merits according to the generic descriptors and discriminators.

The levels of response descriptors are cumulative, ie a description at one level builds on or improves the descriptions at lower levels. Not all qualities listed in a level must be demonstrated in an answer for it to fall in that level.

#### Marking response 'e'; levels of response marked question - continued

Candidates will take different approaches to achieve within the same level. Some will adopt a less focused approach but demonstrate a wide range of knowledge others may adopt a more focused approach using a narrower range of well-developed knowledge.

Approach to marking levels of response questions:

- read the candidate response in full;
- working from the top down and using a *best-fit* approach, refer to the generic descriptors and discriminators to determine the level;
- re-read the answer, annotating credit worthy aspects of the response in relation to knowledge, understanding, development, examples, etc:
- confirm or revise initial decision re level;
- determine the mark within the level as per the guidance in 10 (above and below), with reference to the discriminators, and, again, using a *best-fit* approach.

Descriptor	Award mark
Consistently meets the criteria for this level	At top of level
Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
On the borderline of this level and the one below	At bottom of level

## Section A – Anatomy and Physiology

Q	uestic	on	Answe	r Marks	Guidance	
1	(a)		4 marks for 4 from:	4	Use professional judgement in and 4	spellings of muscles in pt 3
					Accept	Do not accept
			1. Hinge		1 Synovial hinge	Synovial on own
			2. Extension		2	
			3. Rectus Femoris / Vastus Lateralis/ Vastus Medialis / Vastus Intermedius	3 Quads with correctly named muscle (must be first if list)	Quadriceps on own	
			Biceps Femoris/Semimem Semitendinosus	ibranosus/	4 Hamstrings with correctly named muscle (must be first if list)	Hamstrings on own

(b)	(i)	3 marks for 3 from: Mark first three attempts only	3	Mark first 3 attempts only	
		, and an		Accept	Do not accept
		Skeletal or muscle or muscular pump		1 Muscular contractions around veins	Muscular contractions or muscles on own
		2. (Pocket) valves		2	massiss on own
		3. Respiratory (muscle) pump		3	Pulmonary pump / Respiratory muscles on own
		4. Smooth muscle		4 Veno-constriction / increased venous tone / increased sympathetic stimulation (of veins)	OWII
	(ii)	3 marks for 3 from: Submax 2 for points 1–5 Must hit pt 6 and/or pt 7 for max	3		
		·		Accept	Do not accept
		(Increased volume of blood entering the heart)  1 causes the (walls of the) atria to stretch		1	
		2. (which) stimulates the <b>SA node</b> to increase heart rate or firing rate or rate of impulses		2	Increased heart rate on own
		causes the (walls of the) ventricles to stretch /     causes increased EDV or end diastolic volume		3 causes walls of the	
		(which) causes a stronger force of contraction or increased contractility (of ventricle walls) / causes		heart to stretch 4	
		decreased ESV or end systolic volume 5. increase in stroke volume or SV or cardiac output or Q		5 more blood pumped out of the heart per beat = BOD	Increase in CO
		6. increase blood or oxygen supply <b>to muscles</b>		6	More blood or oxygen around body
		7. increases endurance / delays fatigue or OBLA or lactate threshold / increases intensity of performance / increases removal or decreases levels of lactic acid or carbon dioxide or CO <sub>2</sub>		7	Better or improved quality of performance

Question	Question Answer M			Guidance
(c) (i)	2 marks for 2 from: Mark first two attempts only	2	Mark first two attempt	s only
	1. Linear motion (created when) a body moves with all parts moving at the same velocity or same speed in the same direction / the cyclist's head or torso or arms or helmet or bike frame moves in a straight or curved line		Accept Theoretical description ONLY if linked to "body" or "object" or eq't.	Do not accept Names of motion on own / EG of type of motion from cycling without description e.g. linear motion – bike frame / Theoretical description if linked to "cyclist" or "bike" on own
	2. Angular motion (created when) a body or part of a body moves in a circle or part of a circle around a (fixed) point / the cyclist's leg moves around the (hip) joint or axis / the pedals or wheels or spokes on the bike move around a (fixed) point		2 when a body turns about an axis	Cyclist or bike on own  Moves at an angle / Moves in a circular motion / Cyclist or bike on own
	3. <b>General motion</b> (created when) there is a combination of linear and angular motion / the body of the cyclist moves in a straight line and the legs move around a pivot or eq. / the frame of the bike moves in a straight line and the wheels move around a fixed point or eq.		3	Cyclist or bike on own

Que	estion	)		Answer	Marks		Guidance
Que	(c)			narks for 2 from:	Marks 2	Accept Correct description of law without name if in the correct order 1 change of speed	Do not accept  Law of Acceleration on own /
			1.	<b>Newton 2:</b> The <b>acceleration</b> or rate of <b>change of</b> momentum or velocity of an object is proportional to the (size of) force (and takes place in the direction in which the force acts)		= BOD	F = ma on own / Momentum or velocity or speed on own (without reference to change) / The larger the force applied the greater the acceleration of a body = TV
			2.	<b>Newton 3:</b> For every action there is an equal and opposite reaction		2 every force has an equal and opposite force	Law of Reaction on own

Que	estion	)	Answer	Marks	Gı	uidance
	(c)	(iii)	<ul> <li>1 mark for 1 from:</li> <li>1. racket strings apply a force to the ball, the ball applies an equal and opposite force to the strings or vice versa /</li> </ul>	1		act situation with equal and om both bodies <u>at the same</u>
			a games player jumps and applies a (downward or		Accept	Do not accept
			<ul> <li>action) force on the ground that applies an equal or upward or opposite or reaction force on the player /</li> <li>a ball applies a force on the crossbar that applies an equal and opposite force on the ball /</li> <li>an athlete/swimmer pushes against the blocks, the same force will be applied back to the athlete/swimmer in the opposite direction /</li> </ul>		any other suitable example.	Brief example without attempt at explanation e.g. bouncing a ball on own / ball hitting a crossbar on own
			<ul> <li>when a footballer strikes the ball, the same force will be applied on the player's foot in the opposite direction /</li> </ul>			
			<ul> <li>when a trampolinist lands, the same force will be applied on the person, propelling them upwards</li> </ul>			

		Accept	
		Ассері	Do not accept Prevents heart disease or CHD / Opposites, i.e. a lack of exercise causes
<ol> <li>(cardiac) hypertrophy / bradycardia or decreased (resting) heart rate / increased efficiency or strength of heart or stroke volume or SV / athlete's heart / improved heart or vascular function</li> </ol>		1 more blood leaving heart <b>per beat</b>	Increased cardiac output or Q
<ol> <li>helps prevent cholesterol or plaque or fatty deposits forming in arteries / helps prevent atherosclerosis or narrowing of arteries</li> </ol>		2 reduced cholesterol on own = BOD / helps prevent blockages or clogging up of arteries = BOD	
<ol> <li>helps prevent arteriosclerosis or hardening of arteries / maintains elasticity of arteries or artery walls</li> </ol>		3	Keeps arteries flexible
4. helps prevent heart attack or myocardial infarction or angina		4	
5. increase in HDLs or High Density Lipoproteins		5	
6. decrease in LDLs or Low Density Lipoproteins		6	
7. helps prevent blood clots forming / reduce blood viscosity		7	
8. reduce body weight or obesity or body fat / maintains healthy body weight		8	
9. reduce blood pressure or hypertension		9	
	heart rate / increased efficiency or strength of heart or stroke volume or SV / athlete's heart / improved heart or vascular function  2. helps prevent cholesterol or plaque or fatty deposits forming in arteries / helps prevent atherosclerosis or narrowing of arteries  3. helps prevent arteriosclerosis or hardening of arteries / maintains elasticity of arteries or artery walls  4. helps prevent heart attack or myocardial infarction or angina  5. increase in HDLs or High Density Lipoproteins  6. decrease in LDLs or Low Density Lipoproteins  7. helps prevent blood clots forming / reduce blood viscosity  8. reduce body weight or obesity or body fat / maintains healthy body weight	heart rate / increased efficiency or strength of heart or stroke volume or SV / athlete's heart / improved heart or vascular function  2. helps prevent cholesterol or plaque or fatty deposits forming in arteries / helps prevent atherosclerosis or narrowing of arteries  3. helps prevent arteriosclerosis or hardening of arteries / maintains elasticity of arteries or artery walls  4. helps prevent heart attack or myocardial infarction or angina  5. increase in HDLs or High Density Lipoproteins  6. decrease in LDLs or Low Density Lipoproteins  7. helps prevent blood clots forming / reduce blood viscosity  8. reduce body weight or obesity or body fat / maintains healthy body weight	heart rate / increased efficiency or strength of heart or stroke volume or SV / athlete's heart / improved heart or vascular function  2. helps prevent cholesterol or plaque or fatty deposits forming in arteries / helps prevent atherosclerosis or narrowing of arteries  3. helps prevent arteriosclerosis or hardening of arteries / maintains elasticity of arteries or artery walls  4. helps prevent heart attack or myocardial infarction or angina  5. increase in HDLs or High Density Lipoproteins  6. decrease in LDLs or Low Density Lipoproteins  7. helps prevent blood clots forming / reduce blood viscosity  8. reduce body weight or obesity or body fat / maintains healthy body weight

(e)* Levels of Response	
Level 3 (8–10 marks)	At Level 3 responses are likely to include:
<ul> <li>A comprehensive answer:</li> <li>detailed knowledge and understanding</li> <li>effective analysis/critical evaluation and/or discussion/explanation/development</li> <li>clear and consistent practical application of knowledge</li> <li>accurate use of technical and specialist vocabulary</li> <li>high standard of written communication.</li> </ul>	<ul> <li>detailed knowledge of the effect of being at altitude on the respiratory system</li> <li>knowledge of partial pressure and diffusion gradient</li> <li>effective discussion of the influence of being at altitude on endurance performance or sub-max intensity</li> <li>at the top of level:</li> <li>discussion of the influence of altitude on other exercise intensities</li> </ul>
Level 2 (5–7 marks) A competent answer:  satisfactory knowledge and understanding analysis/critical evaluation and/or discussion/explanation/development attempted with some success some success in practical application of knowledge technical and specialist vocabulary used with some accuracy written communication generally fluent with few errors.	<ul> <li>At Level 2 responses are likely to include:         <ul> <li>satisfactory knowledge of the effect of being at altitude on the respiratory system</li> </ul> </li> <li>satisfactory discussion of the influence of being at altitude on physical activity</li> <li>and/or satisfactory discussion of long term training effects</li> </ul>
<ul> <li>Level 1 (1–4 marks)</li> <li>A limited answer:</li> <li>basic knowledge and understanding</li> <li>little or no attempt to analyse/critically evaluate and/or discuss/explain/develop</li> <li>little or no attempt at practical application of knowledge;</li> <li>technical and specialist vocabulary used with limited success</li> <li>written communication lacks fluency and there will be errors, some of which may be intrusive.</li> <li>(0 marks) No response or no response worthy of credit.</li> </ul>	At Level 1 responses are likely to include:  basic knowledge of the effect of being at altitude on the respiratory system  the influence of being at altitude on physical activity discussed with limited success  mand/or long term training effects discussed with some success

Question	Answer	Marks	Guidance			
(e)*	Indicative content: Candidate responses are likely to include: (relevant responses not listed should be acknowledged) Numbered points = knowledge/understanding Bullet points = likely to be development					
	PRE-ACCLIMATISATION (= negative) The effect of altitude on the respiratory system					
	<ol> <li>Decrease in atmospheric pressure / air thinner         <ul> <li>causes increase in breath frequency or ventilation rate or minute ventilation or pulmonary ventilation</li> <li>hyperventilation</li> <li>causes an increase in water loss</li> </ul> </li> <li>Decrease in pressure of oxygen (in atmospheric air compared to sea level) / less oxygen (in the air compared to sea level)</li> <li>Decrease in efficiency of (external) respiration or the respiratory system</li> <li>decrease in efficiency of (external) respiration or the respiratory system</li> <li>decrease in efficiency of (external) respiration or concentration gradient (at the alveoli or between the alveoli and blood)</li> <li>less O<sub>2</sub> diffuses into the blood or capillaries / decreased gaseous exchange (between alveoli and blood)</li> <li>less O<sub>2</sub> combines or associates with haemoglobin / haemoglobin is less saturated at lungs / decease in ppO<sub>2</sub> in the blood</li> <li>Less oxygen is transported in the blood / less oxygen is transported or delivered to the working muscles</li> <li>Decrease in efficiency of internal respiration</li> <li>shallower or reduced or smaller O<sub>2</sub> diffusion or concentration gradient at the muscle or between the blood and muscle</li> <li>decrease in O<sub>2</sub> dissociation (from haemoglobin to myoglobin)</li> <li>less O<sub>2</sub> diffuses into the muscle cell / decreased gaseous exchange between the blood and muscle</li> <li>Increase in chemoreceptor stimulation</li> <li>chemoreceptors detect lower O<sub>2</sub> level or lower ppO<sub>2</sub></li> <li>information sent to RCC or respiratory control centre (in medulla oblongata)</li> <li>inspiratory centre and expiratory centre stimulated</li> <li>(leading to) increased depth and rate of breathing</li> <li>Can lead to hypoxia / working under hypoxic conditions</li></ol>		Pt 2 — accept decrease in partial pressure or decreased concentration of oxygen			

Question	Answer	Marks	Guidance
	PRE-ACCLIMATISATION (PERFORMANCE WHILE AT ALTITUDE)		
	The influence of altitude on the performance of different intensities of physical activity.		
	(Sub-max exercise intensity = negative)		
	9. Aerobic or endurance or sub-max intensity performance deteriorates		
	can not train at the intensity possible at sea level		
	can not train for as long as possible at sea level		
	detraining or reversibility will occur		
	10. VO <sub>2</sub> max or aerobic capacity is reduced		
	increase in lactic acid or anaerobic work / slower removal of lactic acid		
	early fatigue or OBLA or lactate or anaerobic threshold		
	e.g. cyclists in the Tour de France		
	11. Low intensity exercise less affected		
	e.g. mountain walking		
	(Max exercise intensity = mixed)		
	12. (Some) Anaerobic or power-based or high intensity performances are unaffected		
	13. (Some) Anaerobic or power-based or high intensity performances benefit from lower air resistance or lower		
	atmospheric pressure or thinner air		
	e.g. throwing events : discus or javelin will travel further		
	e.g. jumping events: triple jump or long jump will travel further		
	e.g. sprinting events : sprinters can run faster		
	14. (Some) In anaerobic or high intensity or speed endurance activities - performance deteriorates		
	decreased tolerance to or buffering of lactic acid		
	<ul> <li>increased levels of lactic acid inhibits or denatures enzyme action</li> </ul>		
	<b>e.g</b> . 200m or 400m or 800m		

Question	Answer	Marks	Guidance
	POST-ACCLIMATISATION (= positive): The effect of altitude on the <u>respiratory</u> system		
	<ul> <li>15. (after 4-6 weeks) altitude training increases efficiency of respiratory system / respiratory adaptations or acclimatisation occurs</li> <li>increased number or surface area of alveoli</li> <li>capillarisation or increased capillary density at alveoli or muscles</li> <li>increased capacity for gaseous exchange or diffusion at alveoli or muscles</li> <li>increased release of EPO or erythropoietin</li> <li>increased haemoglobin or red blood cell or erythrocyte content</li> <li>increased oxygen carrying capacity of blood /increased oxygen to muscles</li> </ul>		
	<ul> <li>increased strength of respiratory muscles e.g. diaphragm or intercostals or SCM or scalenes or(etc)</li> </ul>		
	<ul> <li>increased lung volumes or capacity or depth of breathing or tidal volume</li> <li>The influence of altitude on the performance of different intensities of physical activity.</li> <li>(PERFORMANCE ON RETURNING TO SEA LEVEL)</li> <li>(Sub-max exercise intensity = positive)</li> <li>16. Aerobic or endurance or sub-max intensity performance improves</li> <li>17. VO<sub>2</sub> max or aerobic capacity is increased         <ul> <li>increase in aerobic work / decrease in anaerobic work</li> <li>delayed fatigue or OBLA or lactate or anaerobic threshold / can work for longer</li> <li>e.g. distance runners performing at sea level after a period at altitude</li> </ul> </li> <li>(Max exercise intensity= mixed)</li> <li>18. (Some) Anaerobic or power-based or high intensity performances are unaffected</li> </ul>		
	Anaerobic or max intensity performance <b>improves</b> muscles have increased buffering capacity or increased tolerance to lactic acid or increased capacity		
	to remove lactic acid / can work at a higher intensity for longer  Other possible discussion may include:  altitude considered over 1500m above sea level  2000-2500m is optimal altitude for acclimatisation  minimum of 28 days needed for acclimatisation  LHTL or Live High Train Low more beneficial (than training at altitude)  sea level training intensities can be maintained  use of altitude or hypoxic tents  disadvantages of being at altitude on recovery times / benefits of adaptations on recovery times  reference to asthma or smoking		
	Total	30	

## **Section B – Acquiring Movement Skills**

Question	Answer	Marks	Guid	ance
2 (a)	<ol> <li>4 marks for 4 from:         Award mark when an explanation omits reference to slower/quicker         (number of stimuli) more stimuli or choices or alternative responses or decisions – then RT slower/longer         </li> <li>(type of skill) if skill open or complex or externally-paced - then RT slower/longer</li> <li>(PRP) If 'sold dummy' or given 'fake pass' / if psychological refractory period (PRP) or single channel hypothesis active - then RT slower/longer</li> <li>(distractions/selective attention) if there are distractions or noise / if performer unable to selectively attend / when social inhibition impedes decision making - then RT slower/longer</li> <li>(age)if too old or too young – then RT slower/longer / at optimum age – then RT quicker/shorter</li> <li>(gender) if female - slower/longer RT than males (generally)</li> <li>(height/hands-feet) the longer the neural pathways or taller the person – then RT slower/longer / RT of hands shorter or quicker than of feet / using dominant limb – then RT quicker/shorter</li> </ol>	4	Accept ref to reaction time=BOD (as it affects response time) /  Opposites 1.  2.  3.  4.  7.	Do not accept Lists of factors with no attempt at explanation

Question	Answer			Guidance	
	8.	(warm up/temperature) if warm up completed – then RT quicker/shorter / If muscle or body temperature too high or too low - then RT slower/longer		9.	
	9.	(environment) environmental conditions with explanation / (e.g.) windy conditions can impede perception or confuse - RT slower/longer		9.	
	10.	(intensity/warning) if stimulus intense or if S-R bond very compatible or predictable / if warning given (e.g. 'on your marks') – then RT quicker/shorter		10. brightness/loudness for intensity	
	11.	(arousal) if arousal or alertness or motivation or anxiety too high or too low - then RT slower/longer / at optimal arousal – then RT quicker/shorter		11.	
	12.	(experience/anticipation) the more experienced the performer – then RT quicker/shorter if negative past experience - then RT slower/longer / if positive past experiences - then RT quicker/shorter / with (good) anticipation or expectation – then RT quicker / shorter		12. Stage of learning if accurately linked with RT longer or shorter	
	13.	(drugs/tiredness) alcohol or drugs or tiredness - then RT slower/longer (or quicker/shorter depending on type of drug)		13.	
	14.	(personality) (some argue that) extroverts have quicker/shorter RT than introverts (BOD)		14.	
	15.	(fitness/skill) the fitter or healthier or more skilful the person is / if in autonomous phase or if motor programmes established - then RT quicker/shorter		15. reference to disability if explained	

Question Answer	Marks	Guid	ance
Answer   Correct)   Answer	ts 4	Acceptalternative suitable attempts at description.  Reference to sport or skills (which can lead to BAHLs)  1. egs of rewards as either strategy or description e.g. certificate to increase confidence (✓) OR reward such as give a certificate (✓)  2. Praise etc as either strategy or description/s e.g. positive reinforcement to raise confidence (✓) OR positive reinforcement such as praise (✓)  3. Annoyer etc as either strategy or description e.g. negative reinforcement when healthy behaviour shown (✓) OR negative reinforcement by withdrawing unpleasant stimulus(✓)  4. tell them off / withdraw privileges etc as either strategy or description e.g. punish when unhealthy behaviour shown (✓) OR punish such as withdraw privileges (✓)	Bo not accept  "so they are motivated" – as description / Same factor as both strategy AND description / Extrinsic/intrinsic motivation Same factor as both strategy AND description  Same factor as both strategy AND description  Reinforcement on own  Same factor as both strategy AND description  Reinforcement on own  Same factor as both strategy AND description  Reinforcement on own  Same factor as both strategy AND description  red card' as description of punishment for BAHL

 ı		1
5. Educate /inform / tell them (description-)about healthy lifestyles or health benefits / about dangers of smoking etc / information must be relevant to young peoples' needs / young people must be able to relate to info	5.	
6. Goal or target setting (description) that is SMART or achievable / can raise confidence / can give aim or direction or success or incentive or something to work towards	6.	
7. (make participation) fun / enjoyable / engaging / interesting / put on taster sessions / use variety of activities (description) enjoyment / to achieve or feel confident or want to continue / don't get bored / to avoid drive reduction / put on taster sessions / use variety of activities / different to what they've done before / social interaction / with friends	7. Fun / enjoyment etc as either strategy or description e.g. make activities fun so young people enjoy them	Same factor as both strategy AND description
8. Peers (pressure) / friends / make social (description) to conform or be part of group / want to continue / social interaction / be with friends	8.	Same factor as both strategy AND description  Peers or friends or family on own
<ol> <li>significant others / role models         (description) someone to look up to or copy or be         inspired by or aim to be like / to gain or maintain         interest / participation more likely if young people can         identify with role model</li> </ol>	9.	

Question Answer Marks	Guidance
(c) 6 marks for 6 from 1. (Law of) Effect 2. (Law of) Exercise 3. (Law of) Readiness (Law of Effect – effect on SR bond/learning) 6 Ac 1. 2. 3. Only accept when linked	Cept Do not accept  Ot description with correctly ed law  DNA description of effect on SR bond without correctly named law

Question	Answer	Marks	Guidance		
(d)	6 marks for 6 from: 3 max for explanation/s without egs or egs without	6	It must be clear/obvious which element of model is being explained		
	explanation/s  1. (Input from display) environment or information e.g. players / ball		Accept Same or different eg/s throughout 1. surroundings	Do not accept	
	2. <b>(Sense organs)</b> receive or detect take in stimuli or information / vision or eyes / audition or ears / proprioception or kinaesthesis / info from muscles, tendons & joints		2.	information from the senses	
	<ul> <li>e.g. eyes see ball coming</li> <li>(Perceptual mechanism) interpretation / judgement /selective attention / making sense of sensory information or the situation /</li> <li>e.g. recognise object as a ball /focus on ball / interpretation of the spin etc /</li> </ul>		3. work out what you want or need to do considers past experience/s / Looks at options available (BOD)	perceive situation on own	
	decision making / selecting or forming motor plan or programme / involves memory or DCR process e.g. decision (to move hands) to catch ball 4. (Effector mechanism) transfers or transmits		elements of memory process  4.	'muscles told what to do'=TV	
	decision or information or motor programme or impulse (from brain) to muscles  e.g. sent (via nervous system) to limb/s  5. (Muscular system) muscle movement (to catch		5. carries out movement		
	ball)  e.g. arm muscles move arm into position  6. (Response) end product or movement or outcome e.g. ball is caught		6.		

(e)* Levels of Response	
Level 3 (8–10 marks)	At Level 3 are likely to include:
A comprehensive answer:	
<ul> <li>detailed knowledge and understanding</li> </ul>	all types of guidance
<ul> <li>effective analysis/critical evaluation and/or</li> </ul>	effective evaluation of most types of guidance
discussion/explanation/development	use of guidance in relation to skills and lifestyle successfully
<ul> <li>clear and consistent practical application of knowledge</li> </ul>	attempted
<ul> <li>accurate use of technical and specialist vocabulary</li> </ul>	at the top of level:
high standard of written communication.	effective evaluation of all types of guidance
Level 2 (5–7 marks)	At Level 2 are likely to include:
A competent answer:	
<ul> <li>satisfactory knowledge and understanding</li> </ul>	<ul> <li>satisfactory evaluation of most types of guidance</li> </ul>
<ul> <li>analysis/critical evaluation and/or</li> </ul>	use of guidance in relation to lifestyle attempted
discussion/explanation/development attempted with some	use of guidance in relation to skills attempted
success	
<ul> <li>some success in practical application of knowledge</li> </ul>	
<ul> <li>technical and specialist vocabulary used with some accuracy</li> </ul>	
<ul> <li>written communication generally fluent with few errors.</li> </ul>	
Level 1 (1–4 marks)	At Level 1 responses are likely to include:
A limited answer:	
<ul> <li>basic knowledge and understanding</li> </ul>	Iimited evaluation of types of guidance
<ul> <li>little or no attempt to analyse/critically evaluate and/or</li> </ul>	use of guidance in relation to skills only or lifestyle only
discuss/explain/develop	attempted
<ul> <li>little or no attempt at practical application of knowledge</li> </ul>	
<ul> <li>technical and specialist vocabulary used with limited success</li> </ul>	
<ul> <li>written communication lacks fluency and there will be errors,</li> </ul>	
some of which may be intrusive.	
(0 marks) No response or no response worthy of credit.	

Question	Answer	Marks	Guidance
(e)*	Indicative content: Candidate responses are likely to include: (relevant responses not listed should be acknowledged) Numbered points = KU  1. Visual guidance  Bullet points = likely devt of knowledge	10	
	<ul> <li>(description) demonstration / learner watches model / pictures / charts / video / DVD /</li> </ul>		
	court or pitch markings / markers / guidance lines / boxes		
	e.g. (skill) accept any suitable skill example		
	e.g. (BAHL) accept any suitable BAHL example		
	Bandura's model		
	+ve Evaluation - visual		
	2. builds mental picture / gives visual representation / lets learner know what 'skill' or 'behaviour looks like		
	3. increases understanding of movement requirements or healthy living		
	corrects errors / motivates		
	e.g. (skill) accept any suitable skill example		
	e.g. (BAHL) accept any suitable BAHL example		
	4. effective in early or cognitive phase of learning		
	5. effective if relevant aspects of skill emphasised		
	6. effective if copying role model or significant other		
	7. effective if copying someone of similar ability or same gender		
	-ve Evaluation - visual		
	8. not effective if wrong model or poor demo or poor practice or poor lifestyle shown (which may		
	be copied) / demo must be correct for desired performance or behaviour (to be copied)		
	static displays lose impact		
	e.g. (skill) accept any suitable skill example		
	e.g. (BAHL) accept any suitable BAHL example		
	9. demo mustn't be too complex or detailed / not effective if overload occurs		
	10. no feedback – so less effective for autonomous learners		
	so correct SR bonds not reinforced		
	so incorrect SR bonds not weakened		
	11. should be followed by or linked with verbal guidance		

Question	Answer	Marks	Guidance
12.	<ul> <li>Verbal guidance</li> <li>(description) instructions / talking it through / telling or advising or explaining to learner what to do / feedback</li> <li>e.g. (skill) accept any suitable skill example</li> <li>e.g. (BAHL) accept any suitable BAHL example</li> </ul>		
13.	<ul> <li>Evaluation - verbal</li> <li>builds on knowledge gained by visual guidance / good when used with visual guidance</li> <li>corrects errors / motivates / to learn basic body position (cognitive)</li> <li>helps to focus on key aspects or important cues</li> <li>effective or best for competent or more advanced or autonomous learners</li> </ul>		
	not effective if too much negative feedback or criticism given some skills are too complex for verbal guidance alone  e.g. (skill) accept any suitable skill example  e.g. (BAHL) accept any suitable BAHL example		

Question		Answer	Marks	Guidance
	22.	Manual guidance		
		<ul> <li>(description) physical support or help (by teacher or coach) / moving joints or limbs through</li> </ul>		
		movement / physically manipulating body		
	23.	Mechanical guidance		
		<ul> <li>(description) using equipment or apparatus (to help performance and/or participation)</li> </ul>		
		e.g. twisting belts / arm bands or floats / scrum machine / stabilisers / belay ropes or other eg		
				Deinte 04.00
	+ve	Evaluation – manual and mechanical		Points 24-32 can be credited
	24.	effective in early or cognitive phase of learning		for both manual
		<ul> <li>corrects errors / learn (basic) body position (cognitive)</li> </ul>		and mechanical
	25.	gives confidence		
	26.	may encourage or motivates people to take up or continue exercising		
	27.	encourages correct proprioception or kinaesthesis or timing / helps give a feel for the movement		
		e.g. gives right feeling of movement when beginning exercising on a bike or other suitable e.g.		
	28.	increases safety in potentially risky activities / good for practising dangerous skills		
		e.g. (skill) accept any suitable skill example		
		e.g. (BAHL) accept any suitable BAHL example		
		Evaluation manual and mechanical		
	29.	Not effective if: too much help given / used for too long /		
	20	performer can become over-reliant / remove asap to avoid over-reliance     per limit propriesentive or kinggethetic experience/s		
	30. 31.	can limit proprioceptive or kinaesthetic experience/s learner must trust coach		
	32.			
	32.	difficult to use manual/mechanical guidance for BAHL		
	33.	learner may be uncomfortable with proximity of coach (manual)		
	33.	learner may be uncomfortable with proximity of coach (manual)		

Section C – Socio-Cultural Studies relating to participation in physical activity

	Marks	Guidance
5 marks for 5 from:  1. (Stratford) regeneration or renewal or upgraded amenities for (deprived) area / (increased) sense of community or social integration in local area  2. (facilities) legacy of world class or specialist facilities / upgrading of (existing) facilities  3. (participation) increased participation (in sport and physical activity) / more balanced active and healthy lifestyles / improved health or fitness  4. (infrastructure) new or improved infrastructure / new or better communications or transport network / upgraded stations or airports  5. (economy) good for economy / business or profit (from tourism) / new businesses created  6. (employment) employment opportunities / job creation / skill development (for local people)  7. (disability) greater respect for disability sport /reduced discrimination or stereotyping  8. (SW / NB) shop window effect / showcasing of UK or London / world saw (best of) UK / nation building / increased prestige or status or image or esteem of UK  9. (pride) national pride or patriotism	5	Accept Do not accept  1. 're-urbanisation' of worn-down area=BOD / housing (from Olympic village)  2. Named world class facility e.g. Olympic Stadium / velodrome Legacy on own  3. Less sedentary lifestyles  4. better road or rail network health service  5. Tourists spent money=BOD  6.  7.  8. other showcased areas e.g. Weymouth

Question	Answer	Marks	Guidance		
(b)	Answer  4 marks for 4 from:  1. (money) lack of money for club membership or kit or equipment or fares other suitable example  2. (facilities) lack of facilities or clubs or activities  3. (transport) 'can't get there' / no transport / distance from 'activity' / no access  4. (choice/esteem) don't like exercise / not motivated / prefer 'other things' / lack of confidence or esteem / self conscious / don't think any good  5. (friends/family/RMs) friends or family don't participate / peer pressure not to participate / 'no-one to go with' / lack of role models  6. (time) commitment to study or part-time jobs / 'busy doing' other things  7. (risk) risk of or not allowed out at night / don't feel safe walking home  8. (tired) tired after school or college or work  9. (religion) due to religious or cultural beliefs or norms  10. (school) negative or limited school experience  11. (health/disability) poor health / disability  12. (weather) 'typical British' or unfavourable weather	Marks 4	Accept Barriers that are outlined rather than identified  1.  2. "lack of local facilities"=Pt 2 (not 2+3)  3. Can't drive  4. egs of 'other things' e.g. computer use / feeling of 'not looking good' when exercising / don't like to sweat  5.  6.  7.  8.  9. e.g. of religious or cultural of social barrier  10. e.g. of negative school experience  11. examples of poor health or disability  12.	Do not accept Lack of opportunity or provision on own too expensive /lack of money on own Lack of coaches  Lazy / Esteem or confidence on own / Embarrassment on own Out of 'comfort zone' Friends or peer pressure on own  no time on own  Risk on own  Tired on own / too much pressure on own Religion on own  School on own  Weather on own	

Question	Answer	Marks	Guidance		
(c) (i)	<ol> <li>3 marks for 3 from:</li> <li>(rugby) from England /(adapted) from rugby</li> <li>(grid iron) Originally called 'grid iron'</li> <li>(Ivy league) Developed in 'Ivy League' universities</li> <li>(Frontier) reflected 'frontier or pioneering spirit' / reflected toughness of early (pioneering) settlers</li> <li>(rules) limited or no (common) rules (at first)</li> <li>(dangerous) dangerous / violent / (serious) injury / (some) deaths / banned by some unis due to danger</li> </ol>	3	Accept 1. 2. 3.originally played at Yale or Harvard or Princeton or other named Ivy League uni 4. 5. 6.	Do not accept  Mob football /public schools  Grid iron on own  Rules brought in  Banned on own	
(ii)	<ol> <li>(Golden triangle) (attractive to spectators and so) attractive to sponsors or advertisers or TV or media / profit for sponsors or advertisers or TV or media /part of 'golden triangle'</li> <li>(TV rights) payment from TV Rights</li> <li>(nature of game) commercial breaks 'part of game' / game designed for or suits TV or advertising</li> <li>(franchises) teams run as franchises or businesses / teams 'bought and sold' / NFL as group or cartel of companies</li> <li>(capitalism) USA is capitalist / game reflects capitalism</li> <li>(SB) Super Bowl has huge commercial opportunities / Super Bowl has worldwide coverage / reference to advertising costs at Super Bowl</li> </ol>	3	1. Huge media or TV coverage / huge amount of sponsorship or advertising  2.  3.  4.  5.  6.	Popular or attractive on own / profit on own / golden triangle on own  Teams privately or publicly owned  capitalism on own / game makes profit or money Super Bowl on own / Super Bowl is highly commercialised	

Question	Answer	Marks	Gui	Buidance		
(d)	5 marks for 5 from: Modern technology can impact on performance in sport as:  1. performance or skill or fitness or speed improved	5	Accept only when supported by any suitable example / A different example needed	Do not accept the following as examples:     massage/ hypnosis/     imagery		
	<ul> <li>e.g. body suits (athletics/swimming) / graphite or titanium equipment / modern footballs that allow better swing or curve / streamlined cycling helmets</li> <li>2. training enhanced</li> <li>e.g. tyre towing / elastic cord / supplements</li> <li>3. recovery improved</li> </ul>		for each point  1. ref improved fitness or skill component/s e.g. strength or kinaesthesis  2.	imagery		
	e.g. medical products such as artificial ligament or joint replacement / 'illegal' pharmacological aids or drugs / compression wear / ice baths		3.			
	4. fairer outcomes / honesty or accuracy enhanced / helps officials make decisions / avoids arguments e.g. goal line tech / third or TV umpire / Hawk-Eye / timing devices e.g. starting blocks		4.			
	<ol> <li>inclusion or participation increased</li> <li>e.g. carbon fibre blades / artificial legs / wheelchairs / surfaces that allow play all year</li> </ol>		5.			
	6. <b>safety</b> increased <b>e.g.</b> gum shields / cricket head gear / landing mats		6.			
	7. <b>comfort</b> increased <b>e.g.</b> clothing / equipment design such as footwear		7.			
	<ol> <li>analysis or understanding increased (for coaches or participants or spectators)</li> <li>e.g. DVD or other playback equipment / interactive pundits' screens / refs or umpires 'miked up' for all to hear</li> </ol>		8.			
	entertainment or interest (for crowd) increased     e.g. TMO / Hawk-Eye		9.			

BUT – modern technology can:	10.	
10. lead to injury or violence  e.g. from bladed boots / due to use of rugby shoulder pads which may make some players feel invincible  11. lead to cheating  e.g. drugs  12. disrupt or slow down 'game'  e.g. time taken for DVD playback  13. be an unfair advantage / be expensive / be dependent on sponsor  e.g. F1 technology / technology not equally available to all such as high tech bikes  14. reduce traditional ethic or nature of sport / can lead to 'win at all costs' ethic  e.g. use of high tech equipment at junior or local level / TV or internet or modern media that has made sport a global 'product'	11.  12.  13. Some countries can't afford modern technology (with eg)  14.	

(e)* Levels of Response			
Level 3 (8–10 marks)	At Level 3 responses are likely to include:		
A comprehensive answer:			
<ul> <li>detailed knowledge and understanding</li> <li>effective analysis/critical evaluation and/or discussion/explanation/development</li> <li>clear and consistent practical application of knowledge</li> <li>accurate use of technical and specialist vocabulary</li> <li>high standard of written communication.</li> </ul>	<ul> <li>detailed description of causes (players &amp; spectators)</li> <li>consistent and effective evaluation of solution/s (P &amp; S)</li> <li> other solutions effectively described/discussed (P &amp; S)</li> <li>both aspects of question (causes &amp; solutions) addressed with appropriate balance</li> </ul>		
Level 2 (5–7 marks) A competent answer:	At Level 2 responses <u>are likely</u> to include:  • satisfactory description of causes (P & S)  • the met at evaluation of calutions (P & S)		
<ul> <li>satisfactory knowledge and understanding</li> <li>analysis/critical evaluation and/or discussion/explanation/development attempted with some success</li> <li>some success in practical application of knowledge</li> </ul>	<ul> <li>attempt at evaluation of solutions (P &amp; S)</li> <li>satisfactory discussion/description of other solutions (P &amp; S)</li> <li>both aspects of question (causes &amp; solutions) addressed, though not necessarily with balance</li> <li>OR:</li> </ul>		
<ul> <li>technical and specialist vocabulary used with some accuracy</li> <li>written communication generally fluent with few errors.</li> </ul>	<ul> <li>detailed description of causes (players &amp; spectators)</li> <li>solutions effectively described/discussed (P &amp; S)</li> <li>both aspects of question (causes &amp; solutions) addressed with appropriate balance</li> </ul>		
Level 1 (1–4 marks) A limited answer:	At Level 1 responses <u>are likely</u> to:		
<ul> <li>basic knowledge and understanding</li> <li>little or no attempt to analyse/critically evaluate and/or discuss/explain/develop</li> <li>little or no attempt at practical application of knowledge;</li> <li>technical and specialist vocabulary used with limited success</li> <li>written communication lacks fluency and there will be errors, some of which may be intrusive.</li> </ul>	<ul> <li>basic description of causes (P &amp; S)</li> <li>little or no evaluation of solutions</li> <li>solutions described in basic / limited way (P &amp; S)</li> <li>unequal balance between question parts,</li> <li>or only one part of question (causes &amp; solutions) answered</li> </ul>		
(0 marks) No response or no response worthy of credit.			

Question	Answer	Marks	Guidance
Question (e)*	Indicative content: Candidate responses are likely to include: (relevant responses not listed should be acknowledged)  Numbered points = knowledge/understanding Bullet points = likely development of knowledge  Causes of violence: Players and Spectators  1. frustration / anger  • with match officials e.g. accept suitable example  • standard of play or own performance e.g. accept suitable example  • score or result e.g. accept suitable example  2. 'cheating' or rule breaking or gamesmanship  e.g. 'diving' or 'sledging' or bad tackle other suitable example  3. importance of result / pressure to win / passion to win / Lombardianism / so much at stake  • emotional intensity / adrenalin flowing / high arousal / "pumped"  • pre-match psyche-up  • position in league or cup or level of competition  • monetary reward  e.g. if World Cup match or Cup Final or other suitable example  4. provocation or abuse or chanting or retaliation or intimidation  • by opponents/from team mates/from crowd	Marks	Points 1-6 can be credited for both players and spectators – but bear in mind 'variety' when awarding level and mark
	·		
	5. lack of or limited punishment or deterrent e.g. accept suitable example		
	<ul> <li>fivalry / local derby / team loyalty / tradition</li> <li>racism or religion</li> <li>pre-match media hype / irresponsible coverage by media in lead up to game</li> <li>e.g. accept suitable example</li> </ul>		

Question	Answer	Marks	Guidance
	Causes of violence: Players (continued)		
	7. (potential) 'weapons'		
	sticks or clubs		
	e.g. as in hockey or ice hockey or baseball or other suitable example		
	8. nature of game / tradition of violence		
	<ul> <li>rules might allow or encourage (certain levels of) violence / body checking or contact as part of game</li> </ul>		
	e.g. ice hockey or rugby or American Football or other suitable example		
	<ul> <li>media or crowd might expect or want a 'hard' or physical 'contest'</li> </ul>		
	9. kit or equipment		
	that de-humanises or protects		
	eg American Football or other suitable example		
	10. anger management problems / psychology or emotion of certain players		
	e.g. Luis Suarez biting Branislav Ivanovic or other suitable example		
	11. drugs / steroids		
	Causes of violence: Spectators (continued)		
	12. alcohol or drugs		
	people lose their 'inhibitions' or become more brave		
	13. <b>overcrowding</b> / poor spectator provision		
	poor policing or stewarding.		
	14. <b>hooligans</b> (at football) / looking for a fight		
	organised violence or fights		
	Iimited alternative outlets for energy		
	eg accept suitable example		
	15. mass culture / tribal nature of event		
	peer pressure		
	<ul> <li>loss of individual identify or diminished responsibility (within crowd) / pack mentality</li> </ul>		
	16. violence on pitch		

Question	Answer	Marks	Guidance
	Possible solutions: Players		
	17. Change or adapt rules		
	18. More severe or more 'painful' <b>Punishments</b> or bans		Accept relevant
	e.g. 10-match ban for Suarez / removal or dropping from teams or leagues or competitions or heavy		alternative
	fines other suitable example		solutions that
	19. Education		candidates
	emphasis on fair play / emphasis on being a role model		suggest
	emphasise harm that can be done by violence		
	20. More or better qualified <b>officials</b> / more authority for officials		
	21. Technology		
	e.g. TMO / DVD playback		
	<ul> <li>for fairer outcomes (and so less frustration or anger)</li> </ul>		
	as used in Rugby Union or goal line technology in Association Football		
	22. Use of Psychology		
	e.g. calming down / anger or stress management		
	Possible solutions: Spectators		
	23. Stricter deterrents or punishments		
	<ul><li>e.g. remove (season) tickets or passports</li><li>24. Control of or ban alcohol</li></ul>		
	searches at gates		
	<ul> <li>early kick off times (before pubs open long) / later opening time (not directly after game)</li> <li>Improve spectator facilities</li> </ul>		
	'all-seater' stadia		
	26. Separation of fans		
	<ul> <li>home and away fans to leave ground separately</li> </ul>		
	27. Use of CCTV or other security measures		
	<ul> <li>to spot or record incidents / to record events (for potential evidence)</li> </ul>		
	28. (more) Police/stewards/security		
	<ul> <li>better training / better relationships with spectators</li> </ul>		
	<ul> <li>sharing of information between police forces or areas within country or between countries</li> </ul>		
	29. Promotion of event as (family) entertainment		
	family sections in stadia		
	provision of entertainment (for children).		
	e.g. mascots / competitions / festivals / 'fun days'		
	30. responsible media coverage		

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