

**GCE** 

# **Physical Education**

Advanced GCE A2 H554

Advanced Subsidiary GCE AS H154

# **Mark Scheme for the Units**

January 2010

H154/H554/MS/10J

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## **Advanced Subsidiary GCE Physical Education (H154)**

#### MARK SCHEME FOR THE UNITS

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# **G451 An Introduction to Physical Education**

Section	n A – Anatomy and Ph	nysiology		Accept	Do not accept
Answer	r <b>all</b> parts of the question				
1 (a)	Use your anatomical and physiological knowledge to complete the table below for the athlete's elbow during the upward phase of the bicep curl.  3 marks, 1 for each element of the table completed correctly. Accept first answer only				
	- marke, i fer caen				
	Joint	Joint Type	Movement	Agonist	Antagonist
	Elbow	1. Hinge or synovial hinge (synovial on own – TV)	2. Flexion	Biceps Brachii	3. <u>Tricep(s) Brachii</u>
	<ol> <li>mark. Accept first answer only.</li> <li>eccentric or isotonic eccentric (isotonic on own = TV)</li> <li>Name one muscle in the trunk acting to maintain good posture and core stability during the biceps curl.</li> <li>mark. Accept first answer only.</li> </ol>				
	-	•			
	5.multifidis / transvers	se abdominis / rectus abdominis / (	(external) obliques / (in	ternal) obliques / erector spi	nae / sacrospinalis /.
	(abdominals on own - (rectus abdominals/al	= TV) bdominus rectus = BOD)			
				5.1	marks in total for question 1(a)

- Anatomy and Physiology	Accept	Do not accept	
Using a serve in tennis, explain Newton's three laws of motion.  5 marks. Sub max 2 if laws are stated but not applied.  *Explanation must be clearly linked with the correct law.*	Additional guidance: Serve starts when player takes position and ends who pponent hits the return or the ball hits the net		
law of inertia or Newton 1 states a body will remain in a state of uniform motion or at rest unless an (external) force acts upon it.	Candidates who write N1or law of inertia and give the		
law of inertia or Newton 1 states  (ball) the tennis ball will remain in the server's hand until s/he applies a force to the ball to toss it /  (ball) the tennis ball will continue to travel vertically upwards or downwards (from the toss) until the force of the racket head changes its direction /  (player) the tennis player needs to apply a force to the ground to allow them to stretch up or jump to hit the ball.	example of tennis that is embedded within the definition of the law = 2 marks.		
law of acceleration or Newton 2 states the acceleration or rate of change of momentum or velocity of an object is proportional to the force (and takes place in the direction in which the force acts.)	rate of change of speed = BOD Candidates who write N2 or law of acceleration and give the example of tennis that is embedded within the definition of the law = 2	speed or velocity of ball (without mentioning change) = TV	
law of acceleration or Newton 2 states (ball) the harder the player hits the ball the faster it will travel (in the direction it has been hit) / (player) the greater the force applied to the ground the faster or further the player will jump into the air.		(for ball) the <b>further</b> it will travel	
law of reaction or Newton 3 states for every action there is an equal and opposite reaction.	Candidates who write N3 or law of reaction and give	'action reaction' as explanation	
law of reaction or Newton 3 states  (ball) the racket strings apply a force to the ball and the ball will apply an equal and opposite force to the strings or vice versa /  (player) to jump to hit the ball, the player applies a downward or action force on the ground that applies an upward (reaction) force on the player /  (player) to jump to hit the ball, the player applies a force on the ground that applies an opposite force on the player	the example of tennis that is embedded within the definition of the law = 2 marks.		
	Using a serve in tennis, explain Newton's three laws of motion.  5 marks. Sub max 2 if laws are stated but not applied.  *Explanation must be clearly linked with the correct law.*  law of inertia or Newton 1 states a body will remain in a state of uniform motion or at rest unless an (external) force acts upon it.  law of inertia or Newton 1 states (ball) the tennis ball will remain in the server's hand until s/he applies a force to the ball to toss it / (ball) the tennis ball will continue to travel vertically upwards or downwards (from the toss) until the force of the racket head changes its direction / (player) the tennis player needs to apply a force to the ground to allow them to stretch up or jump to hit the ball.  law of acceleration or Newton 2 states the acceleration or rate of change of momentum or velocity of an object is proportional to the force (and takes place in the direction in which the force acts.)  law of acceleration or Newton 2 states (ball) the harder the player hits the ball the faster it will travel (in the direction it has been hit) / (player) the greater the force applied to the ground the faster or further the player will jump into the air.  law of reaction or Newton 3 states for every action there is an equal and opposite reaction.  law of reaction or Newton 3 states (ball) the racket strings apply a force to the ball and the ball will apply an equal and opposite force to the strings or vice versa / (player) to jump to hit the ball, the player applies a downward or action force on the ground that applies an upward (reaction) force on the player / (player) to jump to hit the ball, the player applies a force on the ground that	Using a serve in tennis, explain Newton's three laws of motion.  5 marks. Sub max 2 if laws are stated but not applied.  *Explanation must be clearly linked with the correct law.*  Iaw of inertia or Newton 1 states a body will remain in a state of uniform motion or at rest unless an (external) force acts upon it.  Iaw of inertia or Newton 1 states (ball) the tennis ball will remain in the server's hand until s/he applies a force to the ball to toss it /  (ball) the tennis ball will continue to travel vertically upwards or downwards (from the toss) until the force of the racket head changes its direction / (player) the tennis player needs to apply a force to the ground to allow them to stretch up or jump to hit the ball.  Iaw of acceleration or Newton 2 states the acceleration or rate of change of momentum or velocity of an object is proportional to the force (and takes place in the direction in which the force acts.)  Iaw of acceleration or Newton 2 states (ball) the harder the player hits the ball the faster it will travel (in the direction it has been hit) / (player) the greater the force applied to the ground the faster or further the player will jump into the air.  Iaw of reaction or Newton 3 states for every action there is an equal and opposite reaction.  Iaw of reaction or Newton 3 states for every action there is an equal and opposite force to the strings or vice versa / (player) to jump to hit the ball, the player applies a downward or action force on the ground that applies an upward (reaction) force on the player / (player) to jump to hit the ball, the player applies a force on the ground that	

#### Additional guidance:

<sup>&#</sup>x27;law of inertia - the harder the player hits the ball, the faster it will travel' = 0 marks = (N1 identified but application = N2, which has not been identified)
'law of inertia – a body will remain in a state of rest in hand unless a force acts upon it' = 1 mark for point 1 = (law identified but not applied to tennis serve)
'law of inertia – a tennis ball remains in player's hand until they apply a force to toss the ball' = 2 marks = application embedded within definition of N1 – hits point 1

and point 2)

Section A	– Anatomy and Physiology	Accept	Do not accept
1 (c)	Give three mechanisms which maintain venous return during exercise.		
	6 marks		
Mechanis	ms - sub max 3. Mark first three answers only.		
1	skeletal or muscular or muscle pump		
2	(pocket) valves		
3	respiratory (muscle) pump	Accurate descriptions	
4	smooth muscle		
5	gravity from above the heart		gravity on own
	Explain how the increase in blood flow affects cardiac output.		
	sub max 3		
Frank-Sta	rling's law (of the heart)		
6	more blood returning to the right atrium or heart		increase in blood flow/ increased venous return = Rep
7	increased stretch of the myocardium or heart wall (during ventricular diastole) / increased end diastolic volume	EDV or end diastolic volume	
8	causing greater force of contraction (during ventricular systole) / decreased end systolic volume	ESV for end systolic volume	
9	(as SV = EDV-ESV) stroke volume increases/more blood pumped out of the heart per beat	SV for stroke volume	
10	cardiac output = heart rate x stroke volume	Q or CO for cardiac output	
11	(therefore) cardiac output increases		
12	(more blood returning to the right atrium or heart) directly <b>stimulates</b> or <b>triggers</b> the SA node or causes <b>increased</b> firing rate of SA node (which increases heart rate)		pacemaker
		6 marks	s in total for question 1 (c)

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		Accept	Do not accept
• •	ne neural mechanisms which cause heart rate to change <u>during</u> exerci Sub max 2 for points 1-4	se.	reference to adrenalin
1. (chemo)	chemoreceptors detect <b>increase</b> in (pp)CO <sub>2</sub> or acidity or lactic acid or lactate or <b>decrease</b> in (pp)O <sub>2</sub> or pH (of the blood)		change on own
2. (proprio)	proprioceptors detect movement		
3. (baro)	baroreceptors detect <b>increase</b> in (blood) pressure or / baroreceptors detect stretch of the arterial or blood vessel walls		
4. (thermo)	thermoreceptors or temperature receptors detect <b>increase</b> in <u>blood</u> temperature		
			1
5. (CCC)	information sent to the cardiac control centre or CCC (in the medulla oblongata)		
6. (sympathetic)	(via the) sympathetic nervous system or SNS	autonomic or autogenic nervous system or ANS or sympathetic system or sympathetic control = BOD	
7. (nerve)	(impluses sent) down the (cardiac) accelerator nerve (to the SA node)		
8. (SA node)	to stimulate the SA node / increase firing of the SA node		pacemaker
8. (SA node)	to stimulate the SA node / increase firing of the SA node	4 marks i	pacemaker n total for ques

Section A - A	Anatomy and Physiology				
1 (e)	Discuss the positive and negative effects on the skeletal system of	of young people performing:			
	Contact sports				
	High impact sports				
	Activities involving repetitive actions.				
	10 marks – Levels marked question				
Level 3	A comprehensive answer:	Discriminators from L2 are likely to include:			
	detailed knowledge & understanding	balanced discussion of <b>both</b> positive and negative			
8-10 marks	effective analysis/critical evaluation and/or	aspects			
	discussion/explanation/development	successful development of some specific conditions i.e.			
	clear and consistent practical application of knowledge	osteopororsis, osteoarthritis, growth plates, joint			
	accurate use of technical and specialist vocabulary	stability, posture and alignment			
	high standard of written communication.				
Level 2	A competent answer:	Discriminators from L1 are likely to include:			
5-7 marks	<ul> <li>satisfactory knowledge &amp; understanding</li> <li>analysis/critical evaluation and/or discussion/explanation/development attempted with some success</li> </ul>	<ul> <li>both positive and negative aspects covered although more detail may be evident in one</li> <li>reference to some specific conditions i.e. osteopororsis, osteoarthritis, growth plates, joint</li> </ul>			
	some success in practical application of knowledge	stability, posture and alignment			
	technical and specialist vocabulary used with some accuracy				
	written communication generally fluent with few errors				
Level 1	A limited answer:				
	basic knowledge & understanding				
0-4 marks	<ul> <li>little or no attempt to analyse/critically evaluate and/or discuss/explain/develop</li> </ul>				
	little or no attempt at practical application of knowledge;				
	• technical and specialist vocabulary used with limited success;				
	<ul> <li>written communication lacks fluency and there will be errors, some of which may be intrusive</li> </ul>				
1 (e)	Indicative content: Candidate responses are likely to include: (relevan	nt responses not listed should be acknowledged)			
Care must be	taken not to credit effects on the muscular system. i.e. watch out t	for sprain (ligament) = OK but strain (muscle) = IRR			

Section A – Anatomy and Physiology			
Numbered points = knowledge and understanding Bullet points = likely to be	e development of kn	owledge	
	Contact sports	High Impact sports	Repetitive actions
POSITIVE EFFECTS	e.g. rugby, American	n football, Aussie rules netball, basketball, some events in track and field, gymnastics	e.g. run, row, swim, constantly practise technique i.e. tennis serve etc
<ul> <li>1. stronger or healthier bones / increase in peak bone density or calcium deposits</li> <li>reduced risk of osteoporosis</li> <li>osteoporosis is the weakening of bones or loss of bone density</li> <li>making bones more prone to fractures or damage</li> <li>reduced risk of damage to growth plates</li> <li>weight bearing activities are best to improve bone health.</li> </ul>	<b>√</b>	~	<b>√</b>
<ul> <li>2. healthier joints / increase in thickness of articular or hyaline cartilage</li> <li>greater ability to absorb shock so reduced risk of injury</li> <li>reduced risk of developing osteoarthritis in later life</li> <li>osteoarthritis is a degenerative disease due to loss of articular or hyaline cartilage at the ends of long bones</li> </ul>	<b>√</b>	✓	✓
<ul> <li>3. stronger ligaments (stronger tendons = BOD)</li> <li>increased joint stability</li> <li>less risk of injury or joint trauma</li> <li>e.g. sprains, dislocations etc</li> <li>joint trauma can lead to osteoarthritis in later life</li> </ul>	<b>√</b>	<b>√</b>	<b>✓</b>
4. better lubrication of joints by synovial fluid	<b>√</b>	<b>✓</b>	<b>✓</b>
<ul> <li>5. decreased mechanical strain on joints due to exercise helping to manage weight as part of an active, healthy, balanced lifestyle</li> <li>reduces risk of osteoarthritis</li> <li>prevents sedentary lifestyle that can be linked with osteoporosis in later life</li> </ul>	✓	✓	✓

Credit description of condition once only e.g. if description of OA credited for positive it cannot be credited for negative.

NEGATIVE EFFECTS	Contact	High	Repetitive
NEGATIVE EFFECTS	sports	Impact	actions

Section B: Acquiring Movement Skills				Accept	Do not accept
6. increased risk of damage to articular/hyaline cartilage		$\checkmark$	$\checkmark$		
or increased risk of wear and tear on articular cartilage					
increased risk of joint trauma					✓
e.g. sprain, dislocation (cartilage or meniscus) tear etc					
which can lead to osteoarthritis in later life					
<ul> <li>osteoarthritis - degenerative / loss of articular/hyaline cartilage at t</li> </ul>	he ends of long bones				
7. increased risk of ligament being stretched or torn / sprain / (tendon tear	= BOD)	$\checkmark$	$\checkmark$		
decreased joint stability		·			
8. increased risk of damage to growth plates or immature bone		$\checkmark$	$\checkmark$		<b>✓</b>
<ul> <li>plate of cartilage or immature bone is at the end of long bones or to and diaphysis</li> </ul>	petween the epiphysis				
the growth plate closes towards the end of adolescence					
e.g. Tom Daley – limited number of platform dives a day					
9. increased risk of an impact or acute injury/ break or fracture		<b>√</b>	<b>√</b>		
e.g. or dislocation or sprain or (meniscus) tear or joint separation i	.e. acromioclavicular or	•	·		
ac joint					
eg Rooney metatarsal					
<ul> <li>after break bone is stronger</li> </ul>					
<ul> <li>the safest types of physical activity is aerobic or submaximal or</li> </ul>	r low to medium intensity				
10. increased risk of overuse or chronic injury					$\checkmark$
e.g. tendinitis or tennis or golfer's or thrower's elbow or <u>stress</u> frac					
Osgood schlatter syndrome or chondromalacia patella or runner's	knee				
11. increased risk of inflamed bursa or bursitis					$\checkmark$
bursa is a fluid filed sac					
<ul> <li>which cushions and lubricates the joint where friction is likely to</li> </ul>					
e.g. effects relevant to the knee joint	e.g. effects relevant to th	ie shoulder j	joint		
hinge joint and so injury prone	shallow joint and so prone to dislocation				
at particular risk of damage to ligaments	<ul> <li>ball and socket joint but much less stable than the hip</li> </ul>			р	
e.g. anterior/posterior cruciate, medial/lateral collateral	<ul> <li>head of humerus ver</li> </ul>	ery loosely fit	ts into gler	noid fossa d	of scapula
risk of meniscus tear- very common in impact & contact sports				Section	A Total [30]

2 (a)	Identify a motor skill in sport and justify its classification on the open closed continuum.  Explain which practice methods would be most appropriate for this skill.  6 marks - a motor skill must be identified  If motor skill is wrongly classified (e.g. a free throw is an open skill) do not carry error forward - mark justif		
	cation for open classification/Open because: Sub max 3 E.g. A pass or shot in hock	cey / sailin	ng
1.	the environment or others affect the skill / environment is unstable or changing or unpredictable / performer has to adapt to changing environment		
2.	predominantly perceptual / needs a lot of perception or judgement or interpretation		
3.	there is much information to process/ the skill is more complex / lots of decision making		
4.	the skill is externally paced / the speed or timing of the skill is dictated or controlled by others		
OR Ju	stification for closed classification/Closed because: Sub max 3 E.g. swimming strokes / gymnastics m	ovements	s e.g. vault
5.	the environment or others do not affect the skill / environment is stable or unchanging or predictable		
6.	predominantly habitual / the same pattern of movements is repeated.		
7.	there is little information to process / the skill is simple / fewer stimuli / fewer responses.		
8.	the skill is internally or self paced / the performer controls the speed of the skill.		
	ation of practice methods: Sub max 3 NB practice method must be stated to gain mark		
Practic	e methods for open skills		1
9.	varied practice should be used to motivate / to build interest or schema / give different experiences /		varied prac
	simulates game situation		on own
	actice methods for closed skill:		
10.	fixed practice should be used to form habits / to develop motor programmes		
Practic	e methods for open OR closed skills		
11.	distributed practice should be used to allow for recovery / feedback / coaching		
12.	Whole part whole for open skills to correct faults or give specific coaching		
13.	massed practice should be used to form habit /to develop motor programmes		
14.	ı		
15.	whole part whole or part practice should to develop or improve (weak) subroutines		
16.	whole practice should be used to give idea or understanding or a mental picture or holistic view of skill		
17.	(progressive) <b>part</b> practice should be used to give early success / to motivate or give confidence / to help understanding the skill / for more complex skills / if skill is dangerous / to increase safety	6 marks question	in total for a 2 (a)

2 (b)	Explain the role of mental practice in the performance of movement skills.  4 Marks	
		Do not accept
1.	(helps) <b>create</b> a mental picture of the skill / helps performer to visualise performance	It is visualisation It is imagery It is rehearsal A description of MR A practical example alone 'a sprinter goes over a picture in her mind' 'a sprinter might visualise the start of the race.'
2.	Helps understanding of requirements.	, ,
3.	Helps visualise fault correction.	
4.	Activates nervous impulses / cuts down on reaction time.	
5.	Helps to discard irrelevant information / maintains focus or selective attention.	
6.	Visual representation <b>remembered</b> better/ helps performer remember what skill should look like	
7.	Can organise information for storage/increase storage capacity.	
8.	Can improve confidence /can increase optimism.	
9.	Helps to control arousal levels.	
		4 marks in total for question 2 (b

2 (c)	2 (c) Learning and performing movement skills often involves the use of the memory process.			
	Describe the multi-store memory <u>process</u> when performing movement skills.  4 marks			
		Accept	Do not accept	
1.	(involves the) short-term sensory store or STSS <b>and</b> short-term memory or STM <b>and</b> long-term memory or LTM	Only if in correct order/		
		accurate diagram in correct order		
For p	pints 2-5, emboldened points <b>and</b> description required for each mark			
2.	(involves the) short-term sensory store or STSS			
	selective attention happens / important information is filtered in / irrelevant information is filtered out			
3.	(Involves the) short-term memory or STM			
	organises or chunks information / encodes information to LTM			
4.	(Involves the) long-term memory or LTM			
	stores or remembers information or patterns of movement <b>indefinitely</b> / decodes information (to STM) / stores motor programmes (used to perform movements) / associates (current) performance with previous performances (to recognise strengths and weaknesses)			
5.	Memory process affects or influences perception / helps judge or interpret what needs to be done (to perform the movement)			
		4 marks in	total for question 2 (c)	

1	(example )award when practical example is <b>clearly</b> linked with <b>a</b> theory point						
	Under arousal a golfer drives but fails to hit the green/drives short a sprinter slow out of blocks as not stimulated enough a rugby tackle may be half hearted – and attacking player runs through	Optimal arousal a golfer needs moderate arousal to drive effectively and hit the green/target area a sprinter is quick out of the blocks and therefore most likely to perform well a rugby player makes clean, effective tackle	Over arousal in golf can cause loss in technique so performance can be lowered/drives too long/wide sprinter may false start due to excessive stimulati rugby player may have lack of control when tackli high tackle giving away a penalty				
Sub m	ax 5 for points 2-5						
^	Optimum point		Additional guidance				
Performance	Arousal Perted U hypothesis theory of arousal		Both axes must be named correctly				
3	as arousal increases so does performance bu	it only up to a point or optimum level / optimum	performance at moderate levels of arousal				
4	if arousal is too high or performer highly arous	sed then performance will decrease/ under arou	sal leads to poor performance				
5	theory is modified depending on personality o performs well) with high arousal	f performer / extrovert performs well with high a	rousal / introvert underperforms (or extrovert				
6		skill of performer / performer in cognitive stage n low(er) levels of arousal / performer in autonomic aut					
7	theory is modified depending on the nature of or simple skills performed most effectively at I	the task / fine or complex skills performed mos nigh(er) levels of arousal	t effectively at low(er) levels of arousal / gros				
8	iniverted o does not explain sudden decreas	cs in performance					

2 (e)	<ul> <li>Using practical examples, explain the process of observational learning when it is used for acquiring movement selearning to follow an active and healthy lifestyle. Refer to Bandura's model in your answer.</li> <li>marks – Levels marked question</li> </ul>				
Level	A comprehensive answer:	Discriminators from L2 are likely to include:			
3	detailed knowledge & understanding	four parts of the model addressed:     i.e. attention/retention/meter reproduction/metivation			
8-10	effective analysis/critical evaluation and/or discussion/explanation/development	<ul><li>i.e. attention/retention/motor reproduction/motivation</li><li>valid movement and BAHL examples given</li></ul>			
marks	clear and consistent practical application of knowledge	valid movement and by the examples given			
	accurate use of technical and specialist vocabulary				
	high standard of written communication.				
Level	A competent answer:				
2	satisfactory knowledge & understanding				
	analysis/critical evaluation and/or				
5-7 marks	discussion/explanation/development attempted with some				
IIIai NS	success     some success in practical application of knowledge				
	<ul> <li>some success in practical application of knowledge</li> <li>technical and specialist vocabulary used with some accuracy</li> </ul>				
	<ul> <li>written communication generally fluent with few errors</li> </ul>				
Level	A limited answer:				
1	basic knowledge & understanding				
	little or no attempt to analyse/critically evaluate and/or				
0-4	discuss/ <b>explain</b> /develop				
marks	little or no attempt at practical application of knowledge;				
	• technical and specialist vocabulary used with <b>limited success</b> ;				
	<ul> <li>written communication lacks fluency and there will be errors, some of which may be intrusive</li> </ul>				

2 (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 of knowledge

#### Indicative content:

- 1. Demonstration watching demonstration/watching the model
  - (accurate development of demo. point)

#### 2. Attention

- 3. performer cues in to or selectively attends to or focuses or concentrates (on aspects of display or demonstration)
  - **role models** or high status performers or significant others draw focus / role model educate or encourage or shows how to follow an active and healthy lifestyle / degree of attention is influenced by attractiveness or status of model
  - **key points** highlighted / verbal guidance used to highlight key aspect of demo
  - e.g. (movement skill) focus on or watch the arm action of a successful performer's tennis serve
  - e.g. (BAHL) watching or seeing a role model or significant other who does not smoke / or whose alcohol intake is moderate
  - e.g. (BAHL) watching a successful tennis player who follows a healthy lifestyle
  - e.g. (BAHL) regular participation in sport by popular people encourages observer to follow active lifestyle

#### 4. Retention

- 5. observer needs to remember the demo or movements or behaviours watched
  - repetition of the demonstration or role model's movements or behaviours will aid memory / demo or information should be repeated
  - e.g. (movement skill) coach repeats or gets another athlete to repeat demo of triple jump or other skill
  - **e.g**. (BAHL) information about importance of not smoking / moderation in alcohol consumption is repeated so learner remembers key information
  - use of mental rehearsal or imagery can help (observer retain demonstration)
  - e.g. (movement skill) imagining the movement of arm action in a tennis serve may help retention/performer mentally rehearses serve
  - symbolic coding by using key/catch phrases can help retention of demonstration
  - e.g. (movement skill) use of phrases such as 'clean palm, dirty neck' (Shot Putt)
  - e.g. (BAHL) catch phrases such as 'change for life' or 'five a day'

#### 6. Motor reproduction

- 7. observer must be capable of performing the skill / or information must be at a level relevant to performer / performer must be able to match demonstration
  - observer must have **physical** capacity to perform skill or follow lifestyle choices
  - performer must have **mental** capacity to understand skill or lifestyle choices
  - **e.g.** (movement skill) a young child will not be able to perform a slam dunk (basketball) / must have leg strength to complete all three phases of triple jump/ lower school performers must understand components of triple jump
  - e.g. (BAHL) learners must understand the benefits of not smoking / of a balanced diet

#### 8. Motivation -

- 9. observer must have drive to or want to learn to copy model
  - use of praise or positive reinforcement (to encourage drive to copy model)
  - **e.g.** (movement skill) coach praises or positively reinforces successful copying of tennis serve / coach uses praise or positive reinforcement to encourage copying of demonstration
  - **e.g.** (BAHL) parents praise or support your healthy or lifestyle / role model praises learner for not smoking / moderating alcohol consumption / for exercising / badge given for eating healthily or exercising
  - e.g. (BAHL) learners must have mental willpower to stop smoking/moderate alcohol consumption
  - 10. Matching performance performer imitates demonstration

#### Further discussion might include:

- 11. copying more likely if behaviour is socially acceptable/follows social norms
  - e.g. (movement skill) if sportsmanship shown by tennis player / if tennis player always does thorough warm up
- 12. copying more likely if behaviour or skill is considered to be **relevant** (to needs)
  - Observer will try to copy model if they can see how copying (the behaviour or skill) will positively affect performance or lifestyle
  - e.g. (movement skill) observer / player wants to play tennis or improve tennis serve or get fitter
  - e.g. (BAHL) observer / player wants to follow an active lifestyle to make friends
- 13. copying more likely if observer can identify with model or demonstrator
  - Same sex / age / race / ability model will encourage copying
  - e.g. (movement skill) female observer more likely to try to copy serve of female demonstrator
  - e.g. (BAHL) male observer more likely to want to copy active lifestyle of male demonstrator
- 14. reference to bobo dolls experiment

Section B Total [30]

wever, people ntify reasons arks deskbound) work)	epted that physical activity is part of a healthy lifestyle. le lead more sedentary lifestyles now than in the past. s for increasingly sedentary lifestyles in the UK today.  more desk or office jobs / less manual work / exercise now a choice not necessity more time at work / long hours at work /		Lack of money or facilities or motivation Lack of opportunity, provision, esteem. /due to recession
work)	exercise now a choice not necessity		
,	more time at work / long hours at work /		
andanta)	work increasingly demanding / concentrating on careers		'Lack of <b>time</b> ' on own
gadgets)	labour saving gadgets or machines / accept suitable example e.g. sit-on mowers /TV channel controls		
cars)	widespread car use / children driven to school		
technology)	technology / computer use / shopping on-line / computer games		
parents)	parents don't exercise / limited role modelling		
concern)	children don't play outside / fear of allowing children to play out		
TV)	More TV channels / people watch sport on TV / people watch rather than participate		
are the phys	sical activity recommendations for active lifestyles?		
5 a week)	(adults) 30 mins 5 times a week		Any alternatives
moderate)	Moderate level / able to speak during exercise / feel	Sub max level Aerobic level	
children)	for <b>children</b> or young people 60 minutes a day	for <b>children</b> 5 or 6 or 7 x 60 mins per week	60 mins a day on own
high mpact)	for children (at least) twice a week higher impact activities should be included (e.g. skipping or jumping		
T & k	oncern)  TV)  are the physics is a week) hoderate) hildren)	parents don't exercise / limited role modelling concern)  children don't play outside / fear of allowing children to play out  W)  More TV channels / people watch sport on TV / people watch rather than participate  are the physical activity recommendations for active lifestyles?  a week)  (adults) 30 mins 5 times a week  Moderate level / able to speak during exercise / feel breathless / recover within 10 mins of stopping  children)  for children or young people 60 minutes a day  for children (at least) twice a week higher impact activities	parents don't exercise / limited role modelling oncern) children don't play outside / fear of allowing children to play out  (V) More TV channels / people watch sport on TV / people watch rather than participate  are the physical activity recommendations for active lifestyles? (s) (adults) 30 mins 5 times a week (adults) 30 mins 5 times a week (noderate) Moderate level / able to speak during exercise / feel breathless / recover within 10 mins of stopping (hildren) for children or young people 60 minutes a day (adults) for children (at least) twice a week higher impact activities

Section activities		Cultural studies relating to pa	rticipation in physical	Accept	Do not accept	
3 (b)	in Outdoor	difference between Outdoor Education by young people. mark for difference	Recreation and Outdoor Educ	ation and explain why there i	s limited regular participation	
Differe	ence:	Outdoor Rec.	Outdoor Ed - need direct co	mparative point for 1 mark		
1.	(difference)	for enjoyment or fun in own time / when participant chooses / leisure time / hobby  Organised or lead by self or non-specialists	for learning in school or college time/ extracurricular / if compulsory in a school Organised or lead by school or OEd centre or specialists	Organisation: accept reference to different levels of formality. So, informally v formally arranged OEd more structured or	OEd – for education = REP ORec – not serious	
explai Sub n	•		n in Outdoor <u>Education</u> by you	organised	lack of staff on own	
3.	(funding)	lack of staff expertise of qualificost of or lack of transport or sinsufficient funding to employ need for voluntary contribution for out of school activities	specialist equipment /		OEd is expensive / due to money / 'can't afford it' / lack of funding on own	
4.	(risk)	teachers reluctant to take on responsibility / staff uneasy with risk factors / lack of parental consent / complex risk assessment / health and safety / media highlighting tragedies or risks or possible problems			not safe	
5.	(distance)	distance from facilities / school natural environment or to specific	•		access to facilities on own	
6.	(time)	not enough time / restrictions curriculum / exam work	on time table / pressure on			
7.	(facilities / equipment)	need for <b>specialist</b> or appropeg. no canoes	riate facilities or equipment /	'correct' facilities	no space /'lack of facilities' on own/don't have resources	
8.	(NC)	not compulsory part of NC			not on NC	
				5	marks in total for question 3 (b	

Section		al studies relating to participation in physical	Accept	Do not accept
3 (c)	In the UK variou Describe the wo 5 marks - sub m	pic Association (BOA)		
Home	Country organisa	tions - Sub max 3		
1.	(participation)	(works to) increase participation or get more people involved (in sport) / promote community sport or active communities / make countries 'active sporting nations'./ start, stay, succeed / tries to reduce dropout	Builds foundation of Sports development pyramid. (so helps more people to excel)	
2.	(campaigns)	accept any relevant campaign e.g. '(Get) Active', 'Sporting champions', 'Sport Action Zones'.	Other valid HC campaigns should be accepted	
3.	(govt support)	supports government targets / e.g. supports PESSCL strategy	PESSYP	works with schools
4.	(funding lottery)	provides or distributes <b>lottery</b> or <b>government</b> funding / invests in community sport		provides funding on own Funds or provides equipment or facilities
5.	(promotion)	Promotes or encourages volunteering / coaching / leadership / officiating (to get people involved)		supports coaches
6.	(target groups)	targets priority groups (e.g. disabled or elderly)		
7.	(cooperation)	works with other organisations (e.g. NGBs/ HE/FE / local govt/YST/UK Sport/ LOCOG) /shares good practice / encourages co-operation or partnerships between organisations / promotes network of clubs, coaches, facilities and volunteers	Works with sports colleges	
8.	(2012)	works to ensure that London 2012 leaves a sporting legacy.		
9.	(excellence)	responsible for funding elite performers in <b>some</b> sports (e.g. squash / netball)		funds elite performers on own
10.	(information)	provides information or expertise or advice (e.g. on coaching/facilities/sports development)		
11.	(playing fields)	Protects community playing fields		

## G451 Mark Scheme January 2010

Section	n C: Socio-Cultu	ıral studies relating to participation in physical activity	Accept	Do not accept
The Br	itish Olympic As	ssociation (BOA) - Sub max 3		
12.	(promotion /2012)	promotes Olympic Games / develops Olympic Movement / organises Olympic day / promotes public relations / involved with organising London 2012		
13.	(bids)	works on Olympic bids		
14.	(sponsors)	appoints or works with official sponsors for 2012 Games / fund raises	attracts sponsorship	Sponsors athletes
15.	(Team GB organisation)	Helps select Team GB /supports or prepares or manages or organises Team GB / provides workshops or training for Team GB (e.g. on motivation or performance lifestyle)	Organises Britain's involvement in the Olympics	
16.	(camps)	provide pre-Games training camps		
17.	(cooperation)	Works with IOC/other <b>named</b> organisations e.g. UK Sport		Works with other organisations on own
				5 marks total for question 3 (c)

Section	n C: Socio-Cu	Itural studies relating to participation in physical activity	Accept	Do not accept
3 (d)	Give reason	American Football is extremely popular in the USA solutions for the violence and commercialism associated with American about the max 3 from one section.	Football.	1
Violend	ce: Sub ma	x 3		
1.	(frontier spirit)	pioneer or frontier spirit / reflects life of early settlers / gun culture		American Dream reference/rags to riches
2.	(rules)	rules allow or encourage violence / contact or impact sport		
3.	(crowd)	crowd wants violence or a sensational or exciting spectacle		competitive nature of supporters
4.	(winning)	(due to) importance of winning / emotional intensity / high stakes / amount of money involved / professional game / coach 'hire and fire'	'win ethic' / win at all costs / Lombardian ethic/ 'it's all about winning' =BOD	due to sponsorship of players or teams /competitive nature of game / due to links with commercialism
5.	(protection)	protective clothing or armour / de-humanised opponents		
6.	(military)	(pseudo military) language (e.g. platoons, 'bomb,' sack opposition)		
7.	(specialists)	due to specialists within team (e.g. specialist defensive team players such as line backers of defensive tacklers)		
8.	(tradition/ early days)	game traditionally violent / some deaths in early days / in early days president intervened to clean up game		early game had no or few rules
9.	(generic)	frustration with officials or opponents or team mates / provocation or abuse / lack of punishment or deterrent		crowd behaviour/result/score
Commo	ercialism: Su	ıb max 3		
10.	(capitalism)	(links with) capitalism		'all about money'
11.	(sponsors)	opportunity for sponsors or profit making		
12.	· · · · · · · · · · · · · · · · · · ·	game designed for or suits TV / TV or media controls the game / competition for TV Rights / commercial breaks		It is on TV
13.	(franchise /)	teams run as 'franchises or businesses	teams make money	
14.	(Super Bowl)	Super Bowl is a huge commercial event / Super Bowl has worldwide coverage		

3 (e)	Discuss social and cultural factors that affect participation in p	hysical activity in the UK.
	10 marks – Levels marked question	
Level 3	A comprehensive answer:	Discriminators from L2 <u>are likely to</u> include:
	detailed knowledge & understanding	•
8-10 marks	effective analysis/critical evaluation and/or	•
	discussion/explanation/development	•
	clear and consistent practical application of knowledge	
	accurate use of technical and specialist vocabulary	
	high standard of written communication.	
Level 2	A competent answer:	Discriminators from L1 are likely to include:
	satisfactory knowledge & understanding	•
5-7 marks	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	
Level 1	A limited answer:	
	basic knowledge & understanding	
0-4 marks	little or no attempt to analyse/critically evaluate and/or	
	discuss/explain/develop	
	• <b>little or no attempt</b> at practical application of knowledge;	
	technical and specialist vocabulary used with limited	
	success;	
	written communication lacks fluency and there will be	
	errors, some of which may be intrusive	

**3(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 of knowledge

#### (Opportunity)

- 1. time available
  - employment or unemployment / work commitments
- 2. income or money
  - employment or unemployment
  - if you can you afford club membership or afford lessons or equipment etc
- 3. ability or skill or fitness levels / health
- 4. choice / don't want to participate in physical activity / can't be bothered
  - do other things / unaware of health benefits
  - technology / computer use
  - computer games Wii/Xbox positive or negative
  - armchair culture/increasingly sedentary lifestyles/inactive society

#### (Provision) availability of:

- 5. facilities / equipment
- 6. clubs / classes / courses
- 7. coaches or leaders
- 8. transport / access to or from rural areas

#### (Esteem)

- 9. Esteem or confidence
  - links to body image
  - embarrassed due to body shape (which doesn't match TV/media perfection)
  - intimidation
- 10. Stereotyping / myths
  - self-fulfilling prophecy when a minority group accepts society's view or conforms to stereotype
  - e.g. when a working class person accepts that they are unlikely to be a tennis or golf star

#### (Minority groups)

- 11. Discrimination or unfair treatment
- 12. Gender
  - provision of suitable activities / suitable timings / lack of crèche facilities
- 13. Disability
  - specialist facilities or equipment
  - specialist clubs or teams
- 14. Race or religion
  - some groups have negative attitudes towards sport
  - e. g. Asian women may not take part due to sub-cultural values or personal reluctance
- 15. Age young or elderly
  - bad experience at school so put off for life
  - lack of suitable instructors or coaches
- 16. Class
  - class constraints leading to limited access
  - e.g. access to a polo club or a private tennis or golf club

#### (Other)

- 17. Power of media to influence participation
  - unaware of opportunities / poor advertising
- 18. Influence of role models/family /friends
- 19. School experience positive or negative
  - time devoted to sport and PE in school
  - e.g. if at a sports college or independent school
- 20. Weather
  - limitations or restrictions due to climate or weather
  - not as favourable as other countries
- 21. natural landscape/topography
  - e.g. mountains for skiing
- 22. London 2012 impact and influence
- 23. Campaigns
  - Work of Home Country Councils e.g. Sports Council for Wales e.g. a named campaign to promote participation

Section C Total [30]

✓ (Tick)	Tick
x (Cross)	Cross
BOD	Benefit of the doubt
REP	Repeat
?	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

# **G453 Principles and concepts across different areas of Physical Education**

Question Number	Expected Answer						
Section A - I	Histori	cal Studies (Option A1)					
1 (a)	Social and cultural factors influence participation and performance in physical activity.  Explain how socio-cultural factors influenced the characteristics of popular recreation in pre-industrial Britain.  State how one of these factors continues to impact on participation and performance today.  5 marks for 5 of:  sub max 4 for impact of socio-cultural features						
		sub max 1 for h ct of socio-cultural factors on p o-cultural factorssoPopular					
		Socio-cultural factors	Popular rec characteristics				
	1	limited transport and/or communications	local				
	2	illiteracy/no NGBs/uneducated	uncodified/simple rules/limited organisation				
	3	reflection of life and times/harsh society	cruel and/or violent				
	4	seasonal time/free time on Holy Days or annual holidays	occasional/festival				
	5	before industrial or urban revolution/before migration to towns/population centres on village or county town life/lack of technology	rural/natural/simple				
	6	work sometimes became the basis of play (eg. footmen become pedestrians)	occupational				
	7	rags to riches/increase income	wagering				
	8	two class society/feudal system	courtly and popular/upper/gentry class activities and lower or peasant class activities				
	How	factors continue to impact toda	y – credit relevant explanation				
	9 10	Transport eg not having a car se Time eg working long hours so e holidays	unable to get to gym/traditional				
	11	Money eg unemployed so unab membership/wagering to make	money/professional				
	12	Class eg unable to play certain considered to be middle (or upp Education continues to be impo active lifestyle	per) class				

Question Number	Expected Answer	Mark
1 (b)	Nineteenth century public schools were usually fee paying, non local and boarding. Explain the impact of each of these three characteristics on the development of games in nineteenth century public schools. Comment on how one of these characteristics impacts on young people in schools today.	
	<ul> <li>3 marks for 3 of:</li> <li>1 (fee paying) money for facilities/equipment/coaching/staff/transport</li> <li>2 (non-local) mix of activities (from home or from different regions)/start of standardised rules</li> <li>3 (boarding) time to play/impact on standards/games occupied boys outside of classroom/kept them out of trouble Impact same today</li> </ul>	
	Impact today: 1 mark for 1 of:  4 today - accept accurate relevant comment about how one characteristic continues to impact today fee paying – eg affects choice of school/independent v state/can affect quality of facilities for example non-local – eg affects whether boarder or day student/ boarding – eg affects school experience and/or relationships with friends and family	

Question Number	Expected Answer						Mar
1 (c)	schoo partio	ribe the different form ols and compare these cipate in today. rks max for description	e wit	h forms of athletic			
		Then		Similarities with today		Differences from today	
	1	Hare and hounds or paperchase adapted from fox hunting/accept description - dropping of paper or 'scent' for others to follow	2	Cross country or harrier clubs	3	Track and field athletics/sports hall athletics or other suitable contemporary reference/fun runs	
	4	Steeplechase adapted from chase on horse-back /accept description of chase over hedges and fields or cross country	5	Cross country part of some school curricula.  Steeplechase an established track and field event	6	Cross country less popular than 20 yrs ago. Steeplechase limited in schools due to specialist nature and facility needed	
	7	Sports day a social or community or festival occasion (with many spectators) /highly organised or structured/measured tracks/local clubs involved/brass bands etc	8	Sports days still big events in some schools.  Often still house representation. Measured tracks. In junior schools	9	(In state schools) usually part of school day with limited parental or community involvement	
	10		11	Open days including sports days still an opportunity to market school. Still some donations requested/raffles etc	12	Less focussed marketing than in the past	

Question Number	Expected Answer				
1 (d)	Explain the development of public baths in urban industrial				
	communities in the nineteenth century. To what extent do				
	developmental factors from the nineteenth century continue to impact on participation and performance today?				
	A2 level descriptors				
18-20	Level 4:- a comprehensive answer				
	detailed knowledge & excellent understanding				
	detailed analysis and excellent critical evaluation				
	<ul> <li>well-argued, independent opinion and judgements which are well supported by relevant practical examples</li> </ul>				
	very accurate use of technical and specialist vocabulary				
	high standard of written communication throughout.				
	Discriminators from L3 are likely to include:				
	a logical and detailed explanation of relevant factors re post industrial swimming				
	ref today – both participation and performance covered				
	ref today – clear judgements re the extent to which factors				
	<ul> <li>impact today</li> <li>sound structure and balance between parts of the answer.</li> </ul>				
	·				
13-17	<ul> <li>Level 3:- a competent answer</li> <li>good knowledge &amp; clear understanding</li> </ul>				
	<ul> <li>good analysis and critical evaluation</li> </ul>				
	<ul> <li>Independent opinions and judgements will be present but may not</li> </ul>				
	always be supported by relevant practical examples				
	generally accurate use of technical and specialist vocabulary				
	written communication is generally fluent with few errors.				
	Discriminators from L2 are likely to include:				
	logical explanation of number of factors				
	a broad range of factors linked to the development of public baths				
	clear reference to contemporary factors with some attempt at evaluation				
	possible reference to pre-industrial situation to set scene.				
8-12	Level 2:- a limited answer				
	limited knowledge & understanding				
	some evidence of analysis and critical evaluation				
	opinion and judgement given but often unsupported by relevant  practical examples.				
	<ul> <li>practical examples</li> <li>technical and specialist vocabulary used with limited success</li> </ul>				
	<ul> <li>written communication lacks fluency and contains errors.</li> </ul>				
	Discriminators from L1 are likely to include:				
	understanding of more than hygiene ref post industrial development				
	both parts of the question will have been attempted – then and now – but for now both participation and performance may not				
	have been addressed.				

Question Number	Expecte	ed Answer		Mark		
1 (d) continued 0-7	<ul> <li>Level 1:- a basic answer</li> <li>basic knowledge &amp; little understanding</li> <li>little relevant analysis or critical evaluation</li> <li>little or no attempt to give opinion or judgement</li> <li>little or no attempt to use technical and specialist vocabulary</li> <li>errors in written communication will be intrusive.</li> </ul>					
	Indicative Content:  Development of public baths in urban industrial communities					
	1	(size)	Towns grew  • as a result of industrialisation/ overcrowding			
	2	(washing)	Lack of washing facilities     Only wealthy could afford bathrooms in their homes			
	3	(pollution)	Rivers or natural water supplies polluted/ rivers no longer suitable for washing			
	4	(disease)	<ul> <li>Problems of disease or cholera/in first half of 19<sup>th</sup> century there were two major cholera epidemics in England (1832 and 1849)</li> </ul>			
	5	(Wash Houses Act)	Wash Houses Act  Iocal authorities could apply for grants to provide public washing facilities (1846)  public bath houses built/washing facility  prevention of disease/improve public health			
	6	(absenteeism)	Absenteeism from ill health reduced			
	7	(safety)	Public baths safer than rivers			
	8	(class)	First and second class facilities			
	9	(swimming)	Plunge baths for swimming/recreational use			
	10	(local amenity)	baths showed status of town     social reform/part of civilising process			
	11	(facilities)	Most major towns built public bath house         facility might include hot and cold         water baths and/or plunge baths         and/or public wash-house with         laundry and drying facilities			

estion E mber	=xpected	d Answer				
(d)						
ntinued	Extent of 19 <sup>th</sup> century factors on participation and performance today					
	12	(size)	Facilities extensive			
	13	(washing)	pools No impact today/leisure/enjoyment now			
	14	(pollution)	Less impact today     Blue flags on beaches/ cleaner beaches and sea/ less polluted			
	15	(disease/health)	To combat obesity and encourage balanced active healthy lifestyles today  • health spas with relaxation pools etc/combating stress			
	16	(Safety)	Widely believed that all children should learn to swim			
	17	(Class)	Swimming part of NC     Should not affect opportunity     as Govt aims for free swimming for all			
	18	(Competition)	Impact of NGB awards  or initiatives or campaigns for both participation and performance today			
	19 areas	(Local amenity)	Some towns have prestigious facilities which draw people from surrounding areas			
	Also consider					
	20	(Opportunity)	Factors to do with provision such as availability/time, choice/access  • comparatively expensive family activity/(govt supported) free swimming (for U16 and O60s)			
	21	(Provision)	Factors to do with provision such as availability of facilities  • coaching/courses/transport/health clubs			
	22	(School)	Limited school provision			
	23	(Cultural factors)	Cultural factors/ethnicity  • Cultural reasons for participation			
	24	(Role Models)	Role models  • impact of Olympic Games (eg Rebecca Adlington or Michael Phelps)			
	25	(Technology)	Such as hoists for disabled/teaching aids/leisure pools/wave machines			
	26	(Trend)	Trend for: ante-natal swimming or aqua aerobics or parent and baby/toddler swimming			
[ ]	27	(Triathlon)	Increasing interest in triathlon			

Question Number	r '				
Section A -	Compa	rative Studies (Opt	tion A2)		
2 (a)	The dominant values of a country can affect participation and performance in physical activity within that country. Outline the dominant values in both the UK and the USA that can affect participation and performance in physical activity.  5 marks for 5 of Sub max 3 from one section:				
	The UK:				
	1	(democracy)	Democracy		
	2	(teamwork)	Teamwork		
	3	(individuality)	Individuality/each person unique		
	4	(fair play)	Fair play/sportsmanship		
	5	(competitiveness)	Competitiveness/desire to achieve		
	6	(participation)	Participation/(traditionally) taking part more		
			important than winning		
	7	(overcoming	overcoming discrimination/Multi-		
		discrimination)	culturalism/fairness/egalitarianism/equal		
	The	LICA	opportunity/social equality		
	8	(Lombardianism)	Lambardianiam/wip at all acets/traditionally		
	°	(Lombardianism)	Lombardianism/win at all costs/ traditionally winning more important than taking part		
	9	(counter culture	(less dominant) counter culture ethic/taking	1	
	ਁ	ethic)	part more important than winning		
	10	(radical ethic)	(less dominant) radical ethic/taking part and		
		,	winning of equal importance		
	11	(rags to riches)	Rags to riches opportunities/ref American dream/Land of opportunity/work ethic/frontier		
			spirit		
	12	(pluralism)	Pluralism/different ethnic or religious or political groups within one society/the theory that minority groups maintain cultural differences but share power		
	13	(hegemony)	Hegemony (or control or domination or power or authority held by certain group)/key roles or positions held by dominant societal group/WASP domination		

Question Number	Expec	ted Answer		Mark	
2 (b)	Describe strategies and provision for mass participation in physical activity in the USA.  Explain why opportunities for mass participation are considered to be greater in the UK than in the USA.				
		ks for 5 of: ax 3 from either	section:		
	Stra	tegies/provision	in the USA:		
	1	(Title IX)	Title IX/equality of provision/equality of funding		
	2	(role models)	Promotion of role models to encourage participation		
	3	(midnight leagues)	Community provision or initiatives/midnight leagues		
	4	(named initiatives)	Accept named contemporary community initiative/s eg Hook a Kid on golf		
	5	(schools)	School provision/intra-mural sport		
	6	(camps)	Summer camps such as private or state or weight management or hockey		
	7	(little league)	Little league/Pop Warner or Biddy basketball or Peewee baseball or other example of little league/community sports teams		
	8	(gym)	(private) gym/gym at work/jogging culture/country clubs		
	Explanation of greater opportunities in UK:				
	9	(club)	More community or club provision/community or taster days/in USA (mainly) limited to		
	10	(mass participation)	private clubs eg gym culture greater emphasis on excellence/winning in USA/USA selection by professional sport/scholarship increase drop out in USA		
	11	(money)	High level sport less commercial/money to be made from participation as well as spectatorism in UK		
	12	(tradition)	Tradition of participation in UK/tradition of spectatorism in USA/more common to watch than play in USA		
	13	(initiatives)	Government or school or NGB or other initiatives for participation and healthy lifestyles in UK		
	14	(NC)	National curriculum for schools (and subject aims of exams in PE) emphasises participation and healthy balanced lifestyles		
	15	(training)	Training opportunities via NGB or JSLA (CSLA/HSLA)		
	16	(mini games)	Mini versions of major games such as Kwik cricket		
	17	(HCC)	Home country council or target group work to increase participation		
	18	(funding)	Lottery funding/funding from government agencies/other organisations		

Expe	cted Answer		Mark		
Explain the growth and development of association football in Australia. How does this compare with the development of association football in the UK?  5 marks for 5 of: Sub max 3 from Australia or UK					
Gro	owth and devel	opment of football in Australia			
1	(ethnicity)	Game associated with (relatively recent) immigrants			
2	(no accepted)	Australia wanted own game/game not accepted or adopted initially			
3	(concern)	Concern that soccer would become top sport (above rugby code/s and Aussie rules)			
4	(violence)	Spectator and player violence associated with ethnic rivalry (made it widely unacceptable)			
5	(media/spon)	Limited media interest or sponsorship			
Мо	More recently:				
6	(NGB)	Improved leadership or efficiency of governing body/Gov Body has improved image of the game eg teams can no longer have 'home' country ref in name eg Sydney Hellas now Sydney Knights			
7	(ethnicity)	Reduced ethnic troubles as ethnic origin teams no longer recognised			
8	(media/ sponsorship)	Increased media coverage or support or interest or sponsorship/merchandising			
9	(school/ community)	Popular in schools or communities			
10	(AIS - elite)	Supported by AIS			
11	(role models)	Role models/Australian players in European leagues or English Premiership			
12	(success)	(raised profile due to): increased international success of national team/success in (2006) World Cup			
	5 mai Sub ii 2 3 4 5 Mo 6 7 8 9 10	Australia. How does association football  5 marks for 5 of: Sub max 3 from Australia. How does association football  5 marks for 5 of: Sub max 3 from Australia. How does association football  Growth and devel Early days:  1 (ethnicity)  2 (no accepted)  3 (concern)  4 (violence)  5 (media/spon)  More recently:  6 (NGB)  7 (ethnicity)  8 (media/sponsorship)  9 (school/community)  10 (AIS - elite)  11 (role models)	Explain the growth and development of association football in Australia. How does this compare with the development of association football in the UK?  5 marks for 5 of: Sub max 3 from Australia or UK  Growth and development of football in Australia  Early days:  1 (ethnicity) Game associated with (relatively recent) immigrants  2 (no Australia wanted own game/game not accepted or adopted initially  3 (concern) Concern that soccer would become top sport (above rugby code/s and Aussie rules)  4 (violence) Spectator and player violence associated with ethnic rivalry (made it widely unacceptable)  5 (media/spon) Limited media interest or sponsorship  More recently:  6 (NGB) Improved leadership or efficiency of governing body/Gov Body has improved image of the game eg teams can no longer have 'home' country ref in name eg Sydney Hellas now Sydney Knights  7 (ethnicity) Reduced ethnic troubles as ethnic origin teams no longer recognised  8 (media/ Increased media coverage or support or interest sponsorship) or sponsorship/merchandising  9 (school/ community)  10 (AIS - elite) Supported by AIS  11 (role models) Role models/Australian players in European leagues or English Premiership  12 (success) (raised profile due to): increased international success of national team/success in (2006)		

Question Number	Expect	ted Answer		Mark	
2 (c) continued					
	Comparison with development of football in UK:				
	13	(mob game)	(Different) - started as mob or pre-industrial or violent game/earlier development than in Australia		
	14	(public schools)	(Different) - taken into C19th public schools (and cleaned up)		
	15	(Amateurism)	(Similar) - amateurism/amateur at school or local club level		
	16	(working class)	(Different) - became working class game/ the people's game/game of urban industrial Britain/factory teams		
	17	(professionalism)	(Different)- professionalism developed early/opportunity for working class/escape from factory/		
	18	(ethnicity)	(different) growth not linked with ethnicity/linked with class/the game can be a chance for upward social mobility or star status for those from minority groups		
	19	(violence)	(similar) some violence by players and/or spectators sometimes/(similar) work done to limit such troubles BUT not elusively linked to ethnicity		
	20	(media/ sponsorship)	(similar) massive media impact and/or influence/ref golden triangle		
	21	(NGB)	FA a highly efficient business/various campaigns eg 'respect'		

2 (d)	Compare the provision for Physical Education and school sport in Australia and the UK. To what extent do cultural factors influence provision for Physical Education and school sport in Australia?  A2 level descriptors	
18-20	<ul> <li>Level 4:- a comprehensive answer</li> <li>detailed knowledge &amp; excellent understanding</li> <li>detailed analysis and excellent critical evaluation</li> <li>well-argued, independent opinion and judgements which are well supported by relevant practical examples</li> <li>very accurate use of technical and specialist vocabulary</li> <li>high standard of written communication throughout.</li> </ul>	
	<ul> <li>Discriminators from L3 are likely to include:</li> <li>reference to negatives (in spite of good provision) eg obesity</li> <li>effective comparisons that are well structured within answer</li> <li>comprehensive coverage of cultural factors that influence provision with analysis/evaluation of relative influence.</li> </ul>	
13-17	<ul> <li>Level 3:- a competent answer</li> <li>good knowledge &amp; clear understanding</li> <li>good analysis and critical evaluation</li> <li>Independent opinions and judgements will be present but may not always be supported by relevant practical examples</li> <li>generally accurate use of technical and specialist vocabulary</li> <li>written communication is generally fluent with few errors.</li> <li>Discriminators from L2 are likely to include:         <ul> <li>good attempts at comparison</li> <li>a greater number of points made/more depth to answer</li> <li>competent coverage of cultural factors that influence provision with an attempt at analysis/evaluation of relative influence.</li> </ul> </li> </ul>	
8-12	<ul> <li>Level 2: - a limited answer</li> <li>limited knowledge &amp; understanding</li> <li>some evidence of analysis and critical evaluation</li> <li>opinion and judgement given but often unsupported by relevant practical examples</li> <li>technical and specialist vocabulary used with limited success</li> <li>written communication lacks fluency and contains errors.</li> <li>Discriminators from L1 are likely to include:         <ul> <li>attempts at comparisons</li> <li>some understanding of links between culture and provision with possible attempts at analysis /evaluations.</li> </ul> </li> </ul>	
0-7	<ul> <li>Level 1: - a basic answer</li> <li>basic knowledge &amp; little understanding</li> <li>little relevant analysis or critical evaluation</li> <li>little or no attempt to give opinion or judgement</li> <li>little or no attempt to use technical and specialist vocabulary</li> <li>errors in written communication will be intrusive.</li> </ul>	

#### **Indicative content**

	PE in Australia:	Similarities with UK:
Positive evidend	ce	
1 (SEPEP)	(SEPEP – sport education and physical education programme) 100 minutes per week for both PE and sport/framework can be adapted by schools	Schools Not similar  • UK has National curriculum
2 (school games)	Intra and Inter school games	<ul><li>Similar in most schools/</li><li>work of SSCOs/ variable provision</li></ul>
3 (options)	Pacific games  Range of options that increase likelihood of participation	Similar in most schools  work of SSCOs/ variable provision
4 (Fundamental Skills Programme)	Fundamental Skills Programme  • basic skills for junior schools/ /skilfulness likely to encourage continued participation	Not similar  work of SSCOs/ non- specialists in junior schools Similar  Active sport/top sport/ dragon sport
5 (PASE)	(PASE - Physical and sport education)  • professional development (INSET) programme for (non-specialist) teachers	Some similarity as INSET available  • BUT less opportunity for PE specific INSET for non-specialists/ pressure on INSET budgets
6 (sport linkage)	<ul> <li>School club links sharing of facilities/pathway for talented children to progress to clubs</li> </ul>	more for interest than necessarily talent
7 (exemplary schools)	<ul> <li>Exemplary schools</li> <li>(with good programmes funded to) share good practice</li> </ul>	<ul> <li>Not similar</li> <li>however - beacon schools or independent schools often highly regarded</li> </ul>
8 (sport/talent search) 9 (awards)	Sports or Talent Search/Talent ID  State awards/awards for achievement  • de Coubertin award for non sporting achievement (eg participation or fair	Similar/Idea copied  • ref Talent ID for 2012  Some similarities with local awards

10 (role models)	Elite athletes as role models	Some similarity/but less structured use of role models/funding does not depend on their work
11(sports leaders)	Sports leaders  • (older students who help teacher/sports leadership part of syllabus/sports leadership include coaching, officiating, leading	CSLA available to some/coaching, officiating/leading part of examination PE
12 (YDP)	Youth development programme – quality Outdoor Ed programme/D of E	D of E/ outdoor education programmes
However		
13 (obesity)	Serious obesity problems	Similar
14 (inactivity)	Problems with inactivity in young people  • Post-16 drop out	Similar
<b>Cultural factors</b>	- influence on provision fo	or PE/Sport in Australia
15 (historical 1)	Copy of UK system	•
	eg house competition	ns
16 (historical 2)	British sports adopted in scl	
17 (geography)	Favourable climate for outd  • high status of swimm favourable climate	oor sports ning in schools due to
18 (O Ed)	High status of O Ed due to	environmental factors
19 (Govt)	School sport high on federa	
	<ul> <li>good support for sch</li> </ul>	ool sport
20 (social	Egalitarian society	
determinants)	<ul> <li>antidiscrimination/sp opportunity, provision</li> </ul>	. ,

Question Number	Expected Answer	Mark
	Sports Psychology (Option B1)	
3	Performers in sport who are doing well in competition are often described as being 'in the zone'. Explain what is meant by the zone of optimum functioning.	
(a)	4 Marks for: (zone of optimum functioning)	
	An emotional/affective response/enjoyment/satisfaction/ fulfilment.	
	2 (Described as) peak flow experience.	
	3 Associated with the elite/very good performers/good performance	
	4 High level of confidence/sports confidence/self efficacy	
	5 Is relaxed/lack of stress response/not anxious	
	6 Ideal/ optimal level of arousal of the performer/high level of motivation that is	
	under control/high level of inner drive/self motivation/optimum level differs between individuals	
	7 Performer has maximum concentration and effort/focussed/has appropriate attentional control/(often) narrow/internal attention/cue utilisation is good	
	8 Movements are automatic/little conscious control/autonomous	[4]
3 (b)	Explain, using practical examples, how goal-setting could be effectively used to improve participation in physical activity.	
	5 Marks for:	
	<ul> <li>(Explanation must involve a reason via example)</li> <li>Goals should be specific/directly linked to an outcome/focussed eg. to improve CV fitness/focus</li> </ul>	
	2 Goals should be measurable/an objective aspect that is measured eg. participate three times per week	
	3 Goals should be achievable/within reach/attainable/realistic/get success eg. choose an activity that I am confident in	
	4 Goals should be relevant/at the right level/challenging eg. join in with friends activities	
	5 Goals should be time-phased/include short and long term objectives eg. go to some taster sessions and then join the activity on a year's subscription	
	6 Goals should be evaluated/use of self-assessment/reviewed eg. make a self assessment about how you feel about the physical activity	
	7 Goals should be recorded/records kept/written account/enables accountability eg. record the times you exercise each week	
	8 Goals should be agreed/shared with all parties/other team members/agreement between coach and athlete/negotiated/accepted eg. agree your goals with the personal fitness trainer	
	9 Goals should be positive rather than negative/motivational/give sense of worth/avoid learned helplessness/exciting eg. try an adventurous activity that is to do with taking part rather than winning.	[5]

Question Number	Expected Answer	Mark
3 (c)	Using practical examples, explain the possible positive and negative effects of an audience on sports' performance.	
	6 marks for:	
	1 Arousal/drive/anxiety increased/over-aroused	
	Dominant response/habit more likely to occur/learned responses automatic/motor programmes are run	
	3 Weaker players/novices performance deteriorates/incorrect dominant response/can lead to learned helplessness	
	4 Good performances from well learned/stronger/elite/correct dominant response produced/can lead to mastery orientation	
	5 Extroverts likely to perform better with an audience/Reticular activating system (RAS) favours extroverts when audience present	
	6 Introverts likely to perform worse with audience present/RAS does not favour introverts	
	7 If audience in familiar setting performance helped/'homefield' advantage/disadvantage if away/unfamiliar/hostile environment	
	8 Anxiety raised by being judged/perceived judgement of others/evaluation apprehension/the nature of the audience/who is in the audience	
	9 Proximity of the audience/how close the crowd are to the player	
	10 Distractions/widening of attentional focus/utilisation of too many cues	
	11 Attention narrows for those who are used to audiences/high levels of ability/ optimum cue utilisation	
	12 Depends on task/gross/dynamic skills helped or fine/complex skills hindered	[6]

F	T
3 (d)	The following is a typical statement made by a young person who has given up
	sport and leads an unhealthy lifestyle: 'I think sport is boring. I am no good at it, I don't enjoy it and I can think of better
	things to do on a Saturday afternoon.
	Using attribution and attitudinal theories, evaluate critically the reasons why this
	young person does not participate in sport. How might you persuade this young
	person to once again take up sport?
	A2 level descriptors
	Level 4:- a comprehensive answer
18-20	detailed knowledge & excellent understanding
10-20	detailed analysis and excellent critical evaluation
	well-argued, independent opinion and judgements which are well
	supported by relevant practical examples
	very accurate use of technical and specialist vocabulary
	high standard of written communication throughout.
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	Discriminators from L3 are likely to include:
	good use of both attribution and attitudinal theories with
	correct psychological terminology
	consistent link to participation
	possible drawbacks of using strategies
	Level 3:- a competent answer
	good knowledge & clear understanding
13-17	good analysis and critical evaluation
	Independent opinions and judgements will be present but may not
	always be supported by relevant practical examples
	generally accurate use of technical and specialist vocabulary
	written communication is generally fluent with few errors.
	Discriminators from L2 are likely to include:
	Discriminators from L2 are likely to include:  • use of both attribution and attitudinal theories with
	psychological terminology
	mostly link to participation
	some relevant reformative strategies identified.
	Level 2:- a limited answer
	limited knowledge & understanding
	some evidence of analysis and critical evaluation
	opinion and judgement given but often unsupported by relevant
	practical examples
	technical and specialist vocabulary used with limited success
8-12	written communication lacks fluency and contains errors.
_	and comments of the control of the c
	Discriminators from L1 are likely to include:
	may not have both attribution and attitudinal theories with
	little psychological terminology
	Iinks to participation rarely made
	few relevant reformative strategies identified.
	Level 1:- a basic answer
	basic knowledge & little understanding
0.7	little relevant analysis or critical evaluation
0-7	little or no attempt to give opinion or judgement
	little or no attempt to use technical and specialist vocabulary
	errors in written communication will be intrusive.

## 3 (d) continued

#### Indicative content:

- 1 Attitudes arisen from previous experience
  - Poor experiences reinforced by significant others
- 2. Attitudes affected by beliefs / feelings and behaviour
  - Triadic model
  - attitudes that are stable known as consonance
- 3. Attitudes are shaped via role models
  - More likely to copy significant others
  - Influence of peers and other groups
- 4 Attitudes shaped by cultural reasons / expectations
  - Examples of cultural restrictions
  - Religious beliefs / cultural norms
- 5 Attribution given sport is boring is a belief
  - cognitive element.
- 6 Therefore lack of motivation to participate
  - Could lead to dysfunctional behaviour / leading others down an unhealthy route / bad influence
- 7 Gives a reason that he may be comfortable with/devalues sport
  - low status of sport/he is too good for such trivia
- 8 Attribution (I am no good at it) gives sense of helplessness
  - learned helplessness
- 9 This is an internal stable attribution
  - Weiner's model
- 10 Leads to lack of self-esteem/lack of confidence
  - Links to confidence factors
- 11 Attribution (I don't like it) is an affective/emotional attitudinal element
- 12 Leads to lack of motivation/interest/fear
- 13 (think of better things to do) attributes non participation to lack of meaning /usefulness of sport
  - Counter-cultural attitudes / wanting to be different
- 14 Attribution show behavioural attitude in line with cognitive and affective elements
  - shows consonance/non-participant is happy/comfortable with attributions and attitudes/sees little reason to change
- 15 Attributional retraining
  - · change internal to controllable
  - change stable factors to unstable factors
  - change external to internal factors
- 16 Attitude change
  - via cognitive dissonance theory/changing at least one element of the triadic model/change one or more of cognitive, affective and behavioural elements
  - change their beliefs/value of participation

- 17 Persuasion/persuasive communication
  - needs to be from high status model/role model/significant other
  - message relevance
- 18 Use of positive reinforcement/encouragement
  - developing new S-R bonds/ operant conditioning
- 19 Use of vicarious experiences/watching others who are getting something out of sport
- 20 Give success/less emphasis on competition/make it enjoyable
  - redefine success/raise confidence/self-efficacy
- 21 Lower anxiety/arousal (through encouragement).
  - Arousal affected in different ways / inverted U / catastrophe theories

[20]

	estion nber	Expected Answer	Mark
Sec	tion B - E	Biomechanics (Option B2)	
4	(a)	Identify the three main axes of rotation and give a sporting example for each.	
		3 marks for 3 from: (must have sporting example to gain mark) 1 Longitudinal (top to bottom) eg spinning skater or eq	
		<ul> <li>Transverse (side to side) eg somersault or eq</li> <li>Frontal (front to back) eg cartwheel or eq</li> </ul>	[3]
4	(b)	What is meant by the term centre of mass and how does this help to explain why the Fosbury Flop is the preferred technique for the high jump?	
		<ul> <li>4 marks for 4 from:</li> <li>Submax of 2 marks from</li> <li>(centre of mass)</li> <li>1 CM is the point at which a body is balanced in all directions</li> <li>2 It is the point at which weight appears to act</li> <li>3 Its position depends on the distribution of mass/can change position when body shape changes</li> <li>4 It follows a predetermined flight path/height that CM reaches is predetermined at take off.</li> </ul>	
		Submax of 3 marks from  (Fosbury Flop)  5 Due to arching/hyperextension of back/shape of FF  6 CM can be positioned outside the body  7 Therefore, CM can pass underneath the bar as body goes over it  8 Whereas other techniques/straddle/western roll	
		<ul><li>9 Where CM stays within body</li><li>10 CM has to pass over the bar.</li></ul>	[4]

Question Number	Expected Answer	Mark
4 (c)	If the mass of the tennis player is 80kg, calculate his weight W and the moment of force caused by the weight (Assume the acceleration due to gravity is 10ms <sup>-2</sup> ).	
	Show all your working.	
	State the Principle of Moments and calculate the force F needed by the gastrocnemius and soleus for this system to remain balanced.	
	Explain why this lever system is more efficient than that of the elbow during a bicep curl.	
	6 marks for: (weight) 1 W = mg/W = 80 x 10 2 W = 800 N/newtons.	
	<ul> <li>(principle of moments)</li> <li>3 Moment of Force = Force x (perpendicular)distance from fulcrum/ = 800 x 0.2</li> <li>4 Moment of Force = 160Nm/Newton metres</li> <li>5 Principle of Moments states that Clockwise moments = Anticlockwise moments/ 0.25F = 160/F = 160/0.25</li> <li>6 F = 640N/newtons.</li> </ul>	
	<ul> <li>2 marks from (efficiency of levers)</li> <li>7 Ankle/ball of foot is a class 2 lever whereas the elbow is a class 3 lever/or opposite</li> <li>8 Load/weight is closer to the fulcrum than effort/force of muscle contraction/opposite</li> </ul>	
	9 Therefore, less effort is required to balance an equivalent load /or opposite.	[8]

Question Number	Expected Answer	Mark
4 (d)	Sketch a free body diagram to show the forces acting on a ball with topspin during flight.  Examine the effects of different types of spin on a ball during flight and when bouncing.  Evaluate the advantages and disadvantages of each type of spin in sport.	
	A2 level descriptors	
	<ul> <li>Level 4:- a comprehensive answer</li> <li>detailed knowledge &amp; excellent understanding</li> <li>detailed analysis and excellent critical evaluation</li> <li>well-argued, independent opinion and judgements which are well supported by relevant practical examples</li> <li>very accurate use of technical and specialist vocabulary</li> <li>high standard of written communication throughout.</li> </ul>	
18-20	<ul> <li>Discriminators from L3 are likely to include:</li> <li>free body diagram to show all forces correctly</li> <li>description of effect of all 3 main types of spin on both flight path and bounce of a ball</li> <li>good range of advantages and disadvantages of all types of spin with substantial and relevant examples from sport. Top end of this level will cover advantages and disadvantages of both flight path and bouncing balls.</li> </ul>	
13-17	<ul> <li>Level 3:- a competent answer</li> <li>good knowledge &amp; clear understanding</li> <li>good analysis and critical evaluation</li> <li>independent opinion and judgements will be present but may not always be supported by relevant practical examples</li> <li>generally accurate use of technical and specialist vocabulary</li> <li>written communication is generally fluent with few errors.</li> </ul> Discriminators from L2 are likely to include:	
	<ul> <li>free body diagram showing all forces</li> <li>description of the effect of most of the types of spin on both the flight path and bounds of a ball</li> <li>a range of advantages and disadvantages of most types o spin with some relevant examples from sport. Bottom end of this level may not cover the advantages/disadvantages of spin on eight flight path or bounce of a ball.</li> </ul>	
8-12	<ul> <li>Level 2:- a limited answer</li> <li>limited knowledge &amp; understanding</li> <li>some evidence of analysis and critical evaluation</li> <li>opinion and judgement given but often unsupported by relevant practical examples</li> <li>technical and specialist vocabulary used with limited success</li> <li>written communication lacks fluency and contains errors.</li> </ul>	

Question Number	Expected Answer	Mark
4 (d) continued	<ul> <li>Discriminators from L1 are likely to include:</li> <li>free body diagram shows some of the forces accurately but at the lower end of this level they are shown inaccurately</li> <li>description of the effects of some types of spin on the flight path and bounce of a ball</li> <li>some advantages/disadvantages are covered with limited accuracy. To reach the higher end of this level candidates should make reference to both flight paths and the bounce of the ball.</li> </ul>	
0-7	<ul> <li>Level 1:- a basic answer</li> <li>basic knowledge &amp; little understanding</li> <li>little relevant analysis or critical evaluation</li> <li>little or no attempt to give opinion or judgement</li> <li>little or no attempt to use technical and specialist vocabulary</li> <li>errors in written communication will be intrusive.</li> </ul>	
	Indicative content	
	<ul> <li>(Free body diagram)</li> <li>1 W/weight acting from CM of the ball</li> <li>2 AR/air resistance acting from CM opposite the direction of motion</li> <li>3 Magnus/force acting downwards perpendicular to direction of motion</li> </ul>	
	AR Dof M	
	Magnus/force  W	
	(Effects of spin on flight path)  4 All spins cause non parabolic/asymmetrical flight paths  5 Spin gives stability in flight  6 (Advantage) More accuracy eg Shooting in football  7 (Disadvantage) More predictable flight path which makes it easier for opposition/no spin makes for less predictable flight path eg Ronaldo free kick/volleyball serve	

(Topspin-flight) 8 Topspin makes flight path shorten 9 (advantage) Can hit ball harder and still goes in eg topspin drive in table tennis 10 (advantage) Can confuse opposition where ball will land eg flipper in cricket 11 (disadvantage) Lose distance eg drive in golf 12 Topspin makes ball dip in flight 13 (advantage) Can hit ball higher over obstacles and still go in eg volley over CK in football 14 (disadvantage) If not hit high enough ball hits obstacle eg topspin drive in tennis (Backspin-flight) 15 Backspin makes flight path lengthen 16 (advantage) Hit ball further eg drive in golf 17 (disadvantage) Ball travels too far before landing eg sliced backhand in tennis 18 Backspin makes ball hang in the air 19 (advantage) Gives more time to recover before next shot eg defence in table tennis 20 (disadvantage) Gives opponent more time to attack eg opponent can move into volley in tennis (Side spin-flight) 21 Sidespin makes ball swerve in flight 22 (advantage) Can move ball around obstacles eg free kick around a wall in football 23 (disadvantage) Ball can deviate too far eg slice/hook in golf (Effect of spin on bounce) 24 Spin can cause balls to bounce in unpredictable fashion 25 (advantage) Confuse opponent eg leg break in cricket (disadvantage) Confuse opponent ge leg break in cricket (disadvantage) Confuse opponent back/from attacking eg tennis (advantage) Confuse opponent back/from attacking eg tennis (advantage) Can keep ball lower eg drive in squash/flipper in cricket (Backspin-bounce) 30 Backspin makes ball sit up on bouncing 31 (advantage) Can keep ball lower eg drive in squash/flipper in cricket (Backspin-bounce) 32 (advantage) Easy for an opponent to attack eg tennis (Sidespin-bounce) 33 (disadvantage) Ball car swerve too much after bouncing eg slice serve in tennis 36 (disadvantage) Ball car swerve too much after bouncing eg slice shot in football			
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21 Sidespin makes ball swerve in flight 22 (advantage) Can move ball around obstacles eg free kick around a wall in football 23 (disadvantage) Ball can deviate too far eg slice/hook in golf  (Effect of spin on bounce) 24 Spin can cause balls to bounce in unpredictable fashion 25 (advantage) Confuse opponent eg leg break in cricket 26 (disadvantage) Confuse team mates eg passes with spin in football  (Topspin-bounce) 27 Topspin makes ball shoot forward when bouncing 28 (advantage) Keeps opponent back/from attacking eg tennis 29 (advantage) Can keep ball lower eg drive in squash/flipper in cricket  (Backspin-bounce) 30 Backspin makes ball sit up on bouncing 31 (advantage) Drop shots with backspin make opponent move further eg tennis 32 (advantage) Gives more control over ball on landing eg pitch in golf 33 (disadvantage) Easy for an opponent to attack eg tennis  (Sidespin-bounce) 34 Sidespin does not cause deviation on bouncing 35 (advantage) Ball carries on swerving after bouncing eg slice serve in tennis 36 (disadvantage) Ball can swerve too much after bouncing eg low shot in football		defence in table tennis (disadvantage) Gives opponent more time to attack eg	
24 Spin can cause balls to bounce in unpredictable fashion 25 (advantage) Confuse opponent eg leg break in cricket 26 (disadvantage) Confuse team mates eg passes with spin in football  (Topspin-bounce) 27 Topspin makes ball shoot forward when bouncing 28 (advantage) Keeps opponent back/from attacking eg tennis 29 (advantage) Can keep ball lower eg drive in squash/flipper in cricket  (Backspin-bounce) 30 Backspin makes ball sit up on bouncing 31 (advantage) Drop shots with backspin make opponent move further eg tennis 32 (advantage) Gives more control over ball on landing eg pitch in golf 33 (disadvantage) Easy for an opponent to attack eg tennis  (Sidespin-bounce) 34 Sidespin does not cause deviation on bouncing 35 (advantage) Ball carries on swerving after bouncing eg slice serve in tennis 36 (disadvantage) Ball can swerve too much after bouncing eg [20]	21 22	Sidespin makes ball swerve in flight (advantage) Can move ball around obstacles eg free kick around a wall in football	
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36 (disadvantage) Ball can swerve too much after bouncing eg low shot in football [20]	34 35	Sidespin does not cause deviation on bouncing (advantage) Ball carries on swerving after bouncing eg slice	
	36	(disadvantage) Ball can swerve too much after bouncing eg shot in football	

Question Number	Expected Answer	Mark
	_	
5 (a)	The recovery process returns the body to its pre-exercise state.  Describe the main processes involved in the alactacid component of recovery.  5 marks in total	
	<ul> <li>The alactacid component occurs first</li> <li>using some of the excess post exercise oxygen consumption</li> <li>process restores the ATP (and) PC stores depleted during exercise</li> <li>The energy for these (reversible) endothermic reactions;</li> <li>is made available by the aerobic breakdown of fats and carbohydrate/uses aerobic system</li> <li>the alactacid component takes between two and three minutes for full recovery</li> <li>and uses up to 4 litres of oxygen/O<sub>2</sub> consumption remains high It takes approximately 30 seconds to resynthesise 50% of PC stores</li> <li>During this component the myoglobin oxygen stores are replenished</li> </ul>	[5]
5 (b)	Explain what is meant by the term metabolic equivalent. How can	
- ()	knowledge of METs be useful to a performer?	
	4 marks in total	
	<ul> <li>Sub max 3 marks – what is meant by</li> <li>MET/metabolic equivalent is a way of expressing energy cost</li> <li>is the ratio of the work metabolic rate to the resting metabolic rate</li> <li>it estimates the energy cost of an activity by amount of oxygen consumed</li> <li>one MET is equivalent to the resting VO2 (3.5 ml/kg/min)</li> <li>one MET is equal to a specific calorific amount (0.0175kcal/kg/min or 1kcl/kg/hr)</li> </ul>	
	<ul> <li>sub max 2 marks – how it helps the performer</li> <li>low intensity activity will be equivalent to small number of METS (eg walking is 2METS)/high intensity activity higher number of METS/to know how hard they are working</li> <li>can calculate the overall energy cost of a training session/workload</li> <li>can adjust diet according to the number of calories burned</li> <li>can use METS to estimate BMR</li> </ul>	[4]

Question Number	Expected Answer							
5 (c)	Carbohydrates are a valuable source of energy. Why is it important for a performer to ensure that they have adequate supplies of carbohydrate? How can a performer make sure that they don't deplete their stores of carbohydrate? 6 marks in total							
	<ul> <li>Sub max 3 marks –why are they important <ol> <li>carbohydrate is the only fuel that can be broken down anaerobically/needed for high intensity work for more than 10</li> <li>carbohydrate can also be broken down aerobically/main fuel for first 20 mins of exercise</li> <li>carbohydrate is needed to ensure the efficient breakdown of fats there are limited stores of carbohydrate in the body</li> <li>carbohydrates contain 4Kcals per gram</li> </ol> </li> <li>sub max 3 marks – how can stores be maintained <ol> <li>performer can eat a high carbohydrate diet</li> <li>performer can carbo-load before an event/glycogen sparing</li> <li>performer can eat a high carbohydrate meal before the event (low GI foods)</li> <li>performer can drink/eat carbohydrates during event eg banana/sports drink</li> <li>performer can replace carbohydrates used immediately after the event (high GI foods/drink)</li> <li>pacing during event/take opportunities to recover</li> </ol> </li></ul>							

5 (d)	Devise a six month training programme that will develop aerobic capacity. Justify your programme by referring to the theory of periodisation and the principles of training.  A2 levels descriptors  Level 4:- a comprehensive answer  detailed knowledge & excellent understanding  detailed analysis and excellent critical evaluation  well-argued, independent opinion and judgements which are well supported by relevant practical examples  very accurate use of technical and specialist vocabulary	
18-20	<ul> <li>high standard of written communication throughout.</li> <li>Discriminators from L3 are likely to include:</li> <li>creation of a detailed and appropriate progressive 6 month programme</li> <li>training aims of each cycle clearly stated</li> <li>excellent justification of programme with reference to both periodisation and training principles</li> <li>appropriate monitoring and evaluation throughout programme included.</li> </ul>	
13-17	Level 3:- a competent answer  good knowledge & clear understanding good analysis and critical evaluation  Independent opinions and judgements will be present but may not always be supported by relevant practical examples generally accurate use of technical and specialist vocabulary written communication is generally fluent with few errors.	
	<ul> <li>Discriminators from L2 are likely to include:</li> <li>creation of a 6 month progressive programme with micro, meso and macro cycles identified</li> <li>overall training aim stated for the programme</li> <li>good justification of the programme with reference to training principles</li> <li>initial evaluation of aerobic capacity used to set goals</li> </ul>	
8-12	Level 2:- a limited answer  Ilimited knowledge & understanding  some evidence of analysis and critical evaluation  opinion and judgement given but often unsupported by relevant practical examples  technical and specialist vocabulary used with limited success  written communication lacks fluency and contains errors.	
	<ul> <li>Discriminators from L1 are likely to include:</li> <li>creation of a 6 month programme with some progression shown</li> <li>some justification of the programme given with reference to training principles</li> <li>general aim of programme given but with no reference to periodisation or monitoring and evaluation.</li> </ul>	

<b>O</b> 100		y 2010
	Level 1:- a basic answer  basic knowledge & little understanding	
	little relevant analysis or critical evaluation	
0-7	little or no attempt to give opinion or judgement	
0-7		
	little or no attempt to use technical and specialist vocabulary	
	errors in written communication will be intrusive.	
	Indicative content	
	(Periodisation)	
	1 Initial assessment	
	<ul> <li>age/current activity levels/PARQ/health screening/aim</li> </ul>	
	2 Fitness testing	
	<ul> <li>multi-stage fitness test to estimate VO<sub>2</sub> max</li> </ul>	
	Cooper 12 minute run based on distance covered	
	PWC170 use of HR	
	3 Macrocycle	
	Long term objective/usually year/could be 6 months for some	
	, , , , , , , , , , , , , , , , , , , ,	
	sports	
	Reach physiological peak at right time	
	<ul> <li>Increase VO<sub>2</sub> max/increase % VO<sub>2</sub> max at which OBLA occurs</li> </ul>	
	Made up of a number of mesocycles	
	4 Mesocycle	
	<ul> <li>Medium term objective/1 to 4 months/depends on</li> </ul>	
	sport/objective	
	<ul> <li>Increase in CV endurance</li> </ul>	
	<ul> <li>Could be pre-season/competitive/off season</li> </ul>	
	Made up of a number of microcycles	
	5 Microcycle	
	Short term objective/1 to 3 weeks/recurrent units	
	Made up of a number of training sessions	
	6 Pre-season	
	Characterised by development of basic all round fitness	
	Progressively increase in intensity/focus on aerobic fitness	
	7 Tapering	
	Close to event training load reduced/recovery periods	
	longer	
	<ul> <li>Ensure fuels/glycogen levels are high for event</li> </ul>	
	8 Competitive season	
	<ul> <li>Maintenance of aerobic fitness levels</li> </ul>	
	<ul> <li>Training sessions reduced to avoid burn out</li> </ul>	
	9 Off/transition season	
	<ul> <li>Rest/low level activity/active recovery/cross training</li> </ul>	
	(Principles of training)	
	10 Specificity	
	<ul> <li>Muscles used/movement patterns/fibre type/energy system</li> </ul>	
	11 Moderation	
	<ul> <li>Prevent injury/allow sufficient recovery/particularly at start</li> </ul>	
	12 Overload	
	Make body work harder/increase stress on the body	
	Increase frequency/intensity/time or distance/type	
	1	[20]

G453		wark Scheme	January 2010
	13	FITT	
		<ul> <li>(F) 2/3+ a week</li> </ul>	
		• (I) 60-80% VO <sub>2</sub> /HR max	
		• (T) 20+ mins/3km+	
	14	Continuous/Fartlek	
		All body exercises	
		Running/swimming/cycling	
		altitude	
	15	Interval training	
		• 1 set of 3-4 reps	
		work interval 3+ mins	
		<ul> <li>work-relief ratio 1:1/0.5</li> </ul>	
	16	Progression	
		<ul> <li>Once adaptations have been made further increases in workload</li> </ul>	n
		<ul> <li>Increase frequency/intensity/time/distance by 10%</li> </ul>	
		Best to increase time/distance as overloading aerobic	
	17	Variance	
		<ul> <li>Different types of training</li> </ul>	
		Different types of exercise	
		<ul> <li>Prevent boredom/overuse injury/maintain motivation</li> </ul>	
	18	Monitoring/evaluating	
		Training diary/regular testing	
		Reversibility	
		Conduction of a gap analysis	

Conduction of a gap analysis

### **Grade Thresholds**

# Advanced GCE Physical Education H154 H554 January 2010 Examination Series

#### **Unit Threshold Marks**

Unit		Maximum Mark	<b>A</b> *	Α	В	С	D	E	U
G451	Raw	90	n/a	53	47	41	35	29	0
	UMS	120	n/a	96	84	72	60	48	0
G452	Raw	105	84	75	66	57	48	39	0
	UMS	140	126	112	98	84	70	56	0

#### **Specification Aggregation Results**

Overall threshold marks in UMS (ie after conversion of raw marks to uniform marks)

_	Maximum Mark	Α	В	С	D	E	U
H154	200	160	140	120	100	80	0

The cumulative percentage of candidates awarded each grade was as follows:

	Α	В	С	D	E	U	Total Number of Candidates
H154	4.95	15.64	39.11	72.67	95.74	100	1010

#### 1010 candidates aggregated this series

For a description of how UMS marks are calculated see: <a href="http://www.ocr.org.uk/learners/ums/index.html">http://www.ocr.org.uk/learners/ums/index.html</a>

Statistics are correct at the time of publication.

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