

# Physical Education

Advanced Subsidiary GCE AS H154

## Mark Schemes for the Units

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**June 2009**

**H154/MS/09**

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

### MARK SCHEMES FOR THE UNITS

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# Unit G451 'An Introduction to Physical Education'

				Additional Guidance		
Section A – Anatomy and Physiology				Accept	Do not accept	
1 (a)	Use your anatomical and physiological knowledge to complete the table below for the player's right knee 5 marks, 1 for each element of the table completed correctly					
Joint	Joint Type	Movement	Agonist	Antagonist	Type of contraction	Predominant Muscle Fibre
Knee	1 Hinge <i>(synovial on own =Vg)</i>	Extension	2. Rectus Femoris <u>or</u> Vastus Medialis <u>or</u> Vastus Lateralis <u>or</u> Vastus Intermedius <i>(give credit if in first two attempts)</i>	3. Biceps Femoris <u>or</u> Semimembranosus <u>or</u> Semitendinosus <i>(give credit if in first two attempts )</i>	4. Concentric <i>(isotonic on own = Vg)</i>	5. Fast Glycolytic / FG / Type IIb / 2b / Fast twitch <u>±</u> any of above <i>(do not accept fast twitch on own. Mark first attempt)</i>
<b>5 marks in total for question 1(a)</b>						
1 (b)	Describe how the conduction system of the heart controls the cardiac cycle. Correct phase of conduction system must link to correct phase of cardiac cycle / Conduction system must be in correct order					
1 (atrial diastole)	Atria fill with blood during atrial diastole or relaxation phase / repolarisation occurs			<b>Additional Guidance</b>		Diastole on own Resting stage
2 (ventricular diastole)	(pressure builds in the atria) blood travels (passively) into the ventricles during ventricular diastole or relaxation phase of ventricles			<b>CS1: links with Contraction of the atria (points 4 &amp; 5)</b>  <b>CS2 and CS3: link Contraction of the ventricles (point 8)</b>  <b>CS1, CS2, CS3 must be in order</b>		Diastole on own
3 (SA Node) <b>CS1</b>	Sinoatrial node or S A node or SAN initiates or sends an impulse					Pace maker for SA node SA nerve Heart is myogenic = Vg
4 (atrial systole)	....impulse spreads across atria causing atrial systole or contraction of both atria / atrial depolarisation					Systole on own
5 (remaining blood)	This causes the remaining blood in the atria to be pushed (actively) into the ventricles					
6 (AV node) <b>CS2</b>	....impulse reaches AV or atrio ventricular node or AVN					AV nerve
7 (B of H)	.... impulse distributed or continues down the bundle of His /					

P fibres) <b>CS3</b>	impulse distributed throughout or to the purkinje or purkyne fibres		
8 (ventricular systole)	....this causes ventricular systole or depolarisation or contraction of both ventricles (from the bottom upwards)		Systole on own
<b>5 marks in total for question 1(b)</b>			
<b>1 (c)</b>	<b>Describe how the mechanisms of neural control cause changes to the mechanics of breathing during exercise. 5 marks: 1 mark per point. Neural control and inspiration must be visited for max. No requirement to visit expiration.</b>		
<b>Neural control – sub max 3</b>		<b>Accept</b>	<b>Do not accept</b>
1 (chemo.)	Chemoreceptors detect <u>decrease</u> in O <sub>2</sub> or ppO <sub>2</sub> or pH <b>or</b> <u>increase</u> in CO <sub>2</sub> or ppCO <sub>2</sub> or carbonic acid or acidity or lactic acid	Concentration for ppO <sub>2</sub>	
2 (prioprio.)	Proprioceptors detect movement or motor activity		Detect activity
3 (baro.)	Baroreceptors detect <u>increase</u> in pressure		
4 (thermo.)	Thermoreceptors or temperature receptors detect <u>increase</u> in <u>blood</u> temperature		
5 (RCC)	Messages are sent to the respiratory control centre (RCC) or to the inspiratory centre (in the medulla oblongata)		Expiratory Centre or ECC
<b>Inspiration</b>			
6 (nerve stimulation)	Increased stimulation of external intercostals (EIM) via intercostal nerve or diaphragm via phrenic nerve		
7 (EIM & diaph )	<u>External</u> intercostal muscles (EIM) <b>or</b> diaphragm contract <b>harder</b> or <b>more</b> (than at rest)	Diaphragm <b>flattens</b> <u>more</u> than at rest	Inspiratory muscles on own
8 (SCM et al)	Sternocleidomastoid (SCM) or scalenes or pectoralis minor contract		Additional muscles recruited – on own
9 (volume and pressure)	Ribs move up and out <b>more</b> than at rest / volume or area of thoracic cavity <u>increases</u> <b>more</b> than at rest / pressure in thoracic cavity <u>decreases</u> <b>more</b> (than at rest)	lungs &/or chest cavity for thoracic cavity	Lungs increase in size
10 (air in)	<b>More air</b> into lungs / <u>increased depth</u> of breathing (from rest) <b>ONLY AWARD IF LINKED WITH MECHANICS OF INSPIRATION (points 6-9)</b>		O <sub>2</sub> or CO <sub>2</sub> or individual gases
<b>Expiration</b>			
11 (S Rs)	Stretch receptors (in the lungs) stimulate the expiratory centre	Hering-Bruer reflex operates	RCC for expiratory centre
12 (active)	Expiration becomes active (rather than passive)		
13 (additional muscles)	(these are): <u>internal</u> intercostals / obliques / transverse abdominus / rectus abdominus		Abdominals

14 (volume and pressure)	Ribs move down and in <b>more</b> (than at rest) / volume or area of thoracic cavity <u>decreases more</u> (than at rest) / pressure in the thoracic cavity <u>increases more</u> (than at rest)		
15 (air out)	<b>More air</b> out of lungs / <b>increased rate</b> of breathing (from rest) <b>ONLY AWARD IF LINKED WITH MECHANICS OF EXPIRATION (points 11-14)</b>		O <sub>2</sub> or CO <sub>2</sub> or individual gases
<b>5 marks in total for question 1 (c)</b>			
<b>1 (d)</b>	<b>Give two ways in which oxygen is transported in the blood. 2 marks for first part of question, 1 mark per point.</b>		
1	(Combines) with or in haemoglobin / as oxyhaemoglobin or HbO <sub>2</sub>		Carried in red blood cells = V <sub>g</sub>
2	(Dissolved) in blood plasma		
<b>2 marks in total for first part of question</b>			
	<b>Describe the effect of smoking on the transport of oxygen in the blood. 3 marks for second part of question, 1 mark per point.</b>		
3 (CO)	Smoking produces (high levels of) carbon monoxide		Cigarettes contain carbon monoxide
4 (gas ex)	less efficient gaseous exchange / decreased diffusion gradient of O <sub>2</sub> or between O <sub>2</sub> in alveoli and O <sub>2</sub> in blood		Build up of tar in alveoli = less gaseous exchange
5 (affinity)	haemoglobin has a greater affinity for CO than O <sub>2</sub> / carbon monoxide has a greater affinity for haemoglobin than oxygen	Hb for haemoglobin	
6 (less O <sub>2</sub> )	Less O <sub>2</sub> is transported in the blood / Less O <sub>2</sub> is absorbed or carried (by the haemoglobin) / haemoglobin is not fully saturated with O <sub>2</sub> / P <sub>O2</sub> (P <sub>P</sub> O <sub>2</sub> ) decreases in the blood		Less room for O <sub>2</sub> in Hb
<b>3 marks in total for second part of question</b>			

		Additional Guidance
<b>1 (e)</b>	<b>Evaluate critically the impact of endurance activities on the cardiovascular system. 10 marks – Levels marked question</b>	
<b>Level 3 8-10 marks</b>	<b>A comprehensive answer:</b> <ul style="list-style-type: none"> <li>• detailed knowledge &amp; understanding</li> <li>• effective analysis/<b>critical evaluation</b> and/or discussion / explanation / development</li> <li>• clear and consistent practical application of knowledge</li> <li>• accurate use of technical and specialist vocabulary</li> <li>• high standard of written communication.</li> </ul>	<b>Discriminators from L2 <u>are likely</u> to include:</b> <ul style="list-style-type: none"> <li>• impact of aerobic adaptations developed well</li> <li>• Good knowledge of CHD</li> <li>• (and perhaps) an understanding of how endurance activities can protect against coronary heart disease</li> </ul>
<b>Level 2 5-7 marks</b>	<b>A competent answer:</b> <ul style="list-style-type: none"> <li>• satisfactory knowledge &amp; understanding</li> <li>• analysis/<b>critical evaluation</b> and/or discussion / explanation / development attempted with some success</li> <li>• some success in practical application of knowledge</li> <li>• technical and specialist vocabulary used with some accuracy</li> <li>• written communication generally fluent with few errors</li> </ul>	<b>Discriminators from L1 <u>are likely</u> to include:</b> <ul style="list-style-type: none"> <li>• reference to aerobic adaptations</li> <li>• reference to CHD</li> </ul>
<b>Level 1 0-4 marks</b>	<b>A limited answer:</b> <ul style="list-style-type: none"> <li>• basic knowledge &amp; understanding</li> <li>• little or no attempt to analyse/ <b>critically evaluate</b> and/or discuss</li> <li>• little or no attempt at practical application of knowledge;</li> <li>• technical and specialist vocabulary used with limited success;</li> <li>• written communication lacks fluency and there will be errors, some of which may be intrusive</li> </ul>	

1 (e)	<b>Indicative content:</b> Candidate responses are likely to include: (relevant responses not listed should be acknowledged)
<b>Care must be taken not to credit reference to respiratory adaptations (except gaseous exchange – see blood vessel section)</b>	
<b>Numbered points</b> = knowledge / understanding <b>Bullet points</b> = likely to be development of knowledge	
<b>Indicative Content</b>	
<b>Endurance Activities</b>	
<ol style="list-style-type: none"> <li>1. e.g. jogging, cycling, swimming, rowing etc</li> <li>2. carried out 3+ times per week</li> <li>3. 30 minutes + each time</li> <li>4. working at sub-maximal or low or medium intensity or below OBLA working at 60% or 60% to 85% of maximal heart rate / aerobic exercise</li> <li>5. (doing above) will cause aerobic adaptations of the cardiovascular system (that benefit health and fitness) or <b>increase</b> efficiency of the cardiovascular system</li> <li>6. (doing above) will provide a high level of protection against CHD or will lower chance of heart disease</li> </ol>	
<b>Also:</b>	
<ol style="list-style-type: none"> <li>7. leading a healthy, active lifestyle will protect against CHD</li> <li>8. ..and help to <b>maintain</b> a healthy cardiovascular system</li> </ol>	
<b>Endurance activities and aerobic adaptations</b>	
<b>(Heart adaptations)</b>	
<ol style="list-style-type: none"> <li>9. (myocardial or cardiac or heart) hypertrophy / increase in strength or elasticity of the myocardium or heart <ul style="list-style-type: none"> <li>• increased stroke volume or SV</li> <li><b>e.g.</b> from as low as 55ml to as high as 120ml at rest (guideline only)</li> <li><b>e.g.</b> from as low as 80ml to as high as 220ml during maximal exercise (guideline only)</li> <li>• increased EDV due to greater stretch of the myocardium</li> <li>• decreased ESV due to more forceful contraction of myocardium</li> <li>• increased <b>maximal</b> cardiac output or <b>max Q</b></li> <li><b>e.g.</b> from as low as 14l/min to as high as 40l/min (guideline only)</li> <li>• decreased resting heart rate</li> <li>• bradycardia or resting heart rate below 60bpm</li> </ul> </li> </ol>	



**(Blood Vessel adaptations)**

10. reduction in blood pressure
11. increased efficiency of coronary circulation
  
12. capillarisation or vascularisation at alveoli and muscle cell
  - allows for greater gaseous exchange during external or internal respiration
  
13. increased elasticity of arterial walls or better vasoconstriction or vasodilation
  - increased efficiency of vascular shunt mechanism

**(Blood adaptations)**

14. increased blood volume
15. increased haemoglobin density or more red blood cells
  
16. increased oxygen carrying capacity in the blood
  - steeper diffusion gradient of oxygen between the blood and the muscles or at the site of internal respiration

**(overall)**

- increased :  $\text{VO}_2$  max / aerobic capacity / endurance capacity
- delayed OBLA

**Lack of endurance activities**

17. sedentary lifestyle or lack of endurance activities can damage the cardiovascular system or lead to CHD or heart disease
18. CHD is any condition that is detrimental to the efficiency of the cardiovascular system
  
19. arteriosclerosis
  - a condition where the walls of the coronary arteries become thicker or hard or less elastic
  - this prevents vasoconstriction and vasodilation of arterioles
  - less efficient vascular shunt mechanism
  
20. atherosclerosis
  - most common cause of CHD
  - the accumulation of fatty deposits or cholesterol or plaque or atheroma on the walls of the coronary arteries
  - leads to a narrowing of the lumen that can be easily blocked by a blood clot
  - leads to stroke or heart attack or myocardial infarction

21. heart attack or myocardial infarction

- a sudden and severe restriction or complete blockage of oxygen supply to the
- will usually cause permanent damage to the heart wall

22. angina

- a pain in the chest caused by the partial blockage of a coronary artery
- causes a lack of oxygen to the myocardium

23. **further discussion of other CHD risk factors:**

**e.g.** - hypertension or high blood pressure

- systolic bp above 140mmHg and/or diastolic bp above 90mmHg

**e.g.** -smoking; poor diet, stress, hereditary, diabetes etc

#### GLOSSARY OF TERMS

OBLA = onset of blood lactate accumulation

CHD = coronary heart disease

EDV = end diastolic volume

ESV = end systolic volume

Q = cardiac output

Hg = mercury

LDL = low density lipoprotein

HDL = high density lipoprotein

#### Endurance activities and Protection against CHD

(endurance activities reduce risk of CHD because of:)

24. reduced blood cholesterol or blood lipids

25. reduced LDL cholesterol

- LDL cholesterol is high in blood lipids that build up on the walls of coronary arteries
- causes atherosclerosis and arteriosclerosis

26. increased HDL cholesterol

- HDL cholesterol is low in blood lipids
- it will remove LDL cholesterol from the walls of the coronary arteries
- this reduces the risk of atherosclerosis and / or arteriosclerosis

(this in turn)

- reduces the risk of angina or heart attack or myocardial infarction
- less chance of fatty deposits building up on the walls of the coronary arteries and restricting or stopping the flow of oxygen to the myocardium

**27. BUT if endurance activities are risky if carried out with CHD or by an unfit or old or untrained or obese person**

- blood pressure will increase to dangerous levels
- increased risk of heart attack or myocardial infarction
- increased risk of chest pain due to angina
- increased stress placed on the cardiovascular system

**Section A Total [30]**

Section B: Acquiring Movement Skills		Additional Guidance	
		Accept	Do not accept
2 (a)	<p>The learning of movement skills is often divided into phases.            Identify the three phases of learning movement skills. Using practical examples, describe each phase.            6 marks - 2 marks max for each phase. Descriptive point must be accompanied by a suitable practical example.</p>		
1.	<b>Cognitive phase</b>		Beginner / novice / first
2.	Demonstration e.g. ....		
3.	Leads to a mental picture (being formed) / Mental Rehearsal / understanding what needs to be done e.g. ....		
4.	trial and error / lots of mistakes e.g. ....		
5.	Movement (often) lacks fluency or rhythm / movement jerky e.g. ....		
6.	Needs conscious thought on technique e.g. ....	...on skill/ movt	
7.	Unable to use intrinsic feedback / only extrinsic feedback effective e.g. ....		
8.	<b>Associative phase</b>		Middle / learning phase
9.	Matching or associating mental model with actual performance e.g. .... Motor programmes begin to be formed e.g. ....		
10.	Practice or rehearsal occurs e.g. ....		
11.	Uses knowledge of results (KR) or knowledge of performance (KP) / kinaesthesia or kinaesthetic or intrinsic feedback can be used e.g. ....		
12.	More trial and error / learning from or fewer mistakes e.g. ....	More consistent / effective	
13.	Increased fluency or rhythm / movement less jerky e.g. ....	More efficient	
14.	Some never leave this stage e.g. ....		The longest phase
15.	<b>Autonomous phase</b>		Last / third / expert/ automatic / Longest phase
16.	Accurate or well grooved or consistent or habitual e.g. ....		
17.	Fluent or rhythmic e.g. ....		
18.	Little conscious control needed/ automatic / spare attentional capacity (can focus on tactics or strategy) e.g. ....		
19.	Able to use intrinsic or kinaesthetic feedback effectively e.g. ....		
20.	May return to associative phase / need to keep practising (to stay in this phase) e.g. ....		
<b>6 marks in total for question 2 (a)</b>			

		Accept	Do not accept
2 (b)	Describe and explain the effectiveness of TWO different types of guidance given for learning movement skills. 4 marks, 2 marks max for each type of guidance. MUST MARK FIRST TWO ATTEMPTS ONLY. MUST IDENTIFY TYPES OF GUIDANCE FOR DESCRIPTION MARK TO BE AWARDED.		
<b>Visual guidance</b>			
1	<b>Description:</b> demonstrations / pictures / charts / video / DVD / court or pitch markings / markers / guidance lines / boxes or other suitable example		
2	<b>Explanation:</b> <b>Effective</b> because it: builds a mental picture or gives visual representation / increases understanding of movement requirements <b>Not effective</b> if: wrong model or poor demo shown / poor practice shown which may be copied		
<b>Verbal guidance</b>			
3	<b>Description:</b> instructions / talking through it / telling or advising you what to do		
4	<b>Explanation:</b> <b>Effective</b> because it: builds on knowledge gained by visual guidance / gives information to improve performance / give strategies to help understanding / helps understanding of tactics <b>Not effective</b> if: too much information given / information overload occurs		
<b>Manual guidance</b>			
5	<b>Description:</b> physical support or help / moving joints or limbs through movement / manipulation of body by coach		
6	<b>Explanation:</b> <b>Effective</b> because it: gives confidence / encourages correct proprioception or kinaesthesia / increases safety in potentially risky activities (e.g. trampolining) <b>Not effective</b> if: too much help given because it can limit proprioceptive experience/s / used for too long as performer becomes reliant / for autonomous stage of learning		
<b>Mechanical guidance</b>			
7	<b>Description:</b> use of equipment or apparatus or aids / e.g. <b>using</b> twisting belts or arm bands or scrum machine or tackle pads or stabilisers on a bicycle or other suitable example		
8	<b>Explanation:</b> <b>Effective</b> because it: gives confidence / encourages correct proprioception or kinaesthesia / increases safety in potentially risky activities (e.g. trampolining) <b>Not effective</b> if: too much help given because it can limit proprioceptive experience/s / used for too long as performer becomes reliant		
<b>4 marks in total for question 2 (b)</b>			

		Accept	Do not accept
2 (c)	<p>The learning of motor programmes is important in developing effectiveness in performing physical activities. Give an example of a motor programme and describe how it is <u>formed</u> and <u>stored</u>.</p> <p>4 marks, 1 mark for a suitable example and 3 marks for how it is formed / stored.</p> <p><b>Must hit point 1 and 2 for max.</b></p>		
1	<p><b>(Example):</b> A well learned motor skill (programme) of candidate's choice e.g. tennis serve / place kick in rugby / square cut in cricket / golf drive / lay-up shot in basketball / forward roll / over-arm throw or other <b>specific</b> physical skill</p>	<p>General terms if qualified; Hitting or striking or throwing or kicking or catching <b>a ball</b> = BOD</p>	<p>sport in general e.g. Football</p> <p>General terms if not qualified; e.g. shot / throw / hitting or striking or throwing <b>on own</b> = Vg</p>
2	Stored in long-term memory		
3	Linking sub routines		made up of subroutines chunking
4	Through rehearsal or practise or overlearning		
5	By reinforcement or feedback / creating S-R bond / watching a role model		
6	If outcome is meaningful or important or required or performer is motivated		
<b>4 marks in total for question 2 (c)</b>			

		Accept	Do not accept
2 (d)	<b>Discuss the ways in which operant conditioning can contribute to the learning of positive behaviours associated with a balanced, active and healthy lifestyle. 6 marks, 1 mark per point. Sub max 4 from * points</b>		
1	*S-R bond formed or strengthened		
2	* .....through (positive) reinforcement or praise or reward or enjoyment or fun (when healthy behaviour is shown)	(positive) feedback	
3	suitable example of positive reinforcement (e.g. badge given for eating healthily or exercising or having fun following a healthy diet)		
4	*Shaping or guiding or modifying behaviour		
5	* .....by manipulating or changing the environment		
6	suitable example of manipulating environment (e.g. removing coke machines from school grounds / limiting unhealthy choices from menu)		
7	*Trial and error / having a go / experimenting		
8	suitable example of trial and error (e.g. try out activities / school offers varied activity programme or varied menu)		
9	*Education or medical advice or guidance (about following a healthy lifestyle can modify behaviour)		
10	suitable example of the above (e.g. doctor tells you to exercise)		
11	* role models or parents or significant others (are most likely to modify behaviour)		
12	suitable example of the above (e.g. watching your parents follow an active lifestyle and wanting to copy them)		
13	*when benefits are felt or seen (reinforcement more likely)		
14	suitable example of benefits (e.g. following an exercise programme and becoming fit or feeling energised or improving body shape)		
		<b>6 marks in total for question 2 (d)</b>	

		Additional Guidance
2 (e)	<p><b>Describe the types of transfer that can occur when learning and performing movement skills. Using practical examples, explain the effects of transfer on the learning of movement skills.</b></p> <p><b>10 marks – Levels marked question</b></p>	
Level 3 8-10 marks	<p><b>A comprehensive answer:</b></p> <ul style="list-style-type: none"> <li>• detailed knowledge &amp; understanding</li> <li>• effective analysis/critical evaluation and/or discussion / <b>explanation</b> / development</li> <li>• clear and consistent practical application of knowledge;</li> <li>• accurate use of technical and specialist vocabulary</li> <li>• high standard of written communication</li> </ul>	<p><b>Discriminators from L2 <u>are likely to</u> include:</b></p> <ul style="list-style-type: none"> <li>• At least <b>four</b> different types of transfer are effectively described</li> <li>• Both learning <b>and</b> performing have been covered</li> <li>• Clear understanding of difference between pro-active and retroactive transfer</li> <li>• At the <b>top of this level</b> explanations <b>might</b> include links to <b>schema</b> and <b>variable practice</b></li> </ul>
Level 2 5-7 marks	<p><b>A competent answer:</b></p> <ul style="list-style-type: none"> <li>• satisfactory knowledge &amp; understanding</li> <li>• analysis/critical evaluation and/or discussion / <b>explanation</b> / development attempted with some success</li> <li>• some success in practical application of knowledge</li> <li>• technical and specialist vocabulary used with some accuracy</li> <li>• written communication generally fluent with few errors</li> </ul>	<p><b>Discriminators from L1 <u>are likely to</u> include:</b></p> <ul style="list-style-type: none"> <li>• At least <b>three</b> different types of transfer have been referred to <b>or two</b> described effectively</li> <li>• The effects of transfer have only been partially explained</li> <li>• There are few if any links to variable practice or schema</li> </ul>
Level 1 0-4 marks	<p><b>A limited answer:</b></p> <ul style="list-style-type: none"> <li>• basic knowledge &amp; understanding</li> <li>• little or no attempt to analyse/evaluate critically and/or discuss / <b>explain</b> or develop</li> <li>• little or no attempt at practical application of knowledge</li> <li>• technical and specialist vocabulary used with limited success</li> <li>• written communication lacks fluency and there will be errors, some of which may be intrusive</li> </ul>	

2 (e)	<b>Indicative content:</b> Candidate responses are likely to include: (relevant responses not listed should be acknowledged) <b>Numbered points</b> = knowledge / understanding <b>Bullet points</b> = likely to be development of knowledge
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	<p><b>1. Positive Transfer</b>  <b>Description</b>  2. Where one skill / movement helps the learning (and performance) of another  <b>Explanation of effects:</b></p> <ul style="list-style-type: none"> <li>• Encourages similar S-R bond between two skills / transfer of SR bond from one skill to another</li> <li>• Helps develop correct motor programme</li> <li>• Effective if similar elements of both skills are highlighted by coach / identical elements theory</li> <li>• Best if previous skill is well learned</li> <li>• Similarities in processing requirements will increase possibility of transfer</li> <li>• Highlight transferrable elements</li> <li>• Ensure practise conditions reflect competition conditions</li> </ul> <p><b>3. Negative Transfer</b>  <b>Description</b>  4. Where one skill / movement hinders the learning (and performance) of another  <b>Explanation of effects:</b></p> <ul style="list-style-type: none"> <li>• Performer can respond incorrectly to similar stimuli eg tennis player playing squash plays forehand with stiff wrist rather than correct squash technique</li> <li>• Hinders stimulus response compatibility</li> <li>• Performer can confuse subroutines or elements between two skills</li> <li>• Differences in kinaesthetic feedback can cause confusion in the learner</li> <li>• Avoid teaching conflicting skills close together (e.g. in same week or term)</li> <li>• Ensure original skill well learned to avoid negative transfer</li> <li>• Occurs when performer is required to produce a new response in a well known situation</li> <li>• Negative transfer can de-motivate the performer or learner</li> </ul> <p><b>5. Proactive Transfer</b> (skill from past affecting learning now)  6. Where a <b>previously</b> learned skill affects the (current) <b>learning and/or performance</b> of another skill  <b>(award BOD if 'helps' or 'hinders' used rather than affects)</b></p> <ul style="list-style-type: none"> <li>• Proactive transfer can be positive or negative  <b>(e.g. a tennis player takes up badminton - the <b>previously</b> learned smash in tennis affects the <b>current</b> learning of the overhead clear in badminton (can be positive or negative))</b></li> </ul>
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	<p>7. <b>Retroactive Transfer</b> (learning now affecting a previously learned skill)</p> <p>8. Where the current learning of a new skill affects the <b>performance</b> of a previously learned skill  <b>(award BOD if ‘helps’ or ‘hinders’ used rather than affects)</b></p> <ul style="list-style-type: none"> <li>• Retroactive transfer can be positive or negative</li> <li>• Negative retroactive transfer less likely with highly skilled performers eg Andy Murray’s tennis would not be adversely affecting by him playing recreational squash or badminton</li> </ul> <p><b>(e.g. a tennis player takes up badminton - the <b>current</b> learning of the badminton overhead clear affects the previously learned smash in tennis (can be positive or negative))</b></p> <p>9. <b>Bilateral Transfer</b></p> <p>10. This is transfer from limb to limb (e.g. arm to arm / leg to leg)  <b>(NB – do not credit arm to leg or equivalent side to side =BOD)</b></p> <ul style="list-style-type: none"> <li>• Bilateral transfer can be positive or negative</li> </ul> <p><b>(e.g. goal keeper diving to left and right / footballer kicking with both feet / basketballer left and right hand lay-up shot)</b></p> <p><b>General – inc. variability of practice / schema theory:</b></p> <ul style="list-style-type: none"> <li>• (it could be argued that) all learning is based on transfer</li> <li>• Transfer involves learning through the influence of skills with similar response requirements</li> <li>• Judgement or perception of environment can be affected by transfer</li> <li>• Transfer helps develop or <b>update motor programmes</b></li> <li>• Transfer helps the building of <b>schema</b> or experiences stored in the LTM for future application or modification of motor programmes</li> <li>• When first skill is well learned, opportunities for expanding <b>schema</b> are increased</li> </ul> <p><b>(e.g. a well grooved top spin forehand in tennis offer more opportunity for transfer to a cross court forehand)</b></p> <ul style="list-style-type: none"> <li>• <b>Variable practice</b> helps to encourage transfer / need to vary practice to give a wide range of experiences that can be drawn upon from training to the ‘real game’</li> </ul>
	<b>Section B Total [30]</b>

<b>Section C: Socio-Cultural studies relating to participation in physical activity</b>			<b>Additional Guidance</b>	
			<b>Accept</b>	<b>Do not accept</b>
<b>3 (a)</b>	<b>What is meant by each of the following: sportsmanship; gamesmanship; perceived risk?</b>			
<b>(i)</b>	<b>3 marks, 1 mark per point</b>			
1	(sportsmanship)	fair play / playing to the letter <b>and spirit</b> of the rules or game / playing to the written and unwritten rules / gentlemanly behaviour or conduct / showing respect for others or to opponent / Being gracious in victory and defeat		Playing by the book / not cheating / Etiquette / respect on own / sticking to the rules / keeping true to the game / example on own e.g. shaking hands after game
2	(gamesmanship)	stretching or bending the rules or pushing the rules to the limit (to gain an unfair advantage) / playing to the written but not the unwritten rules		breaking or not following rules /cheating / gaining an advantage / acting aggressively / example on own e.g. time wasting
3	(perceived risk)	Imagined or controllable risk or hazard or threat / no real danger / no actual risk		danger / dangerous play / example on own e.g. abseiling feels risky but is safe if all safety procedures are followed
<b>3 (a)</b>	<b>Identify <u>three</u> components of a healthy balanced lifestyle</b>			
<b>(ii)</b>	<b>1 mark, must identify 3 components to gain ONE mark - Mark first three responses only</b>			
	<b>Annotate correct response with 'KU' – 3 'KU's = 1 mark</b>			
4	(healthy balanced lifestyles)	Physical well-being / physical exercise / being (physically) fit / injury or illness prevention / sufficient rest or sleep a nutritious or balanced or healthy or good diet / not smoking or taking (illegal) drugs / moderation in alcohol consumption / personal hygiene / mental well-being / control of or low or no stress or pressure / stress relief / mental well-being or good mental state/ 'free' time / work-life balance / hobbies / emotional or social well-being / social life / <b>positive</b> relationships	Wellness / being in good mental condition /	Hydration / drinking enough water / Life that has equilibrium
<b>4 marks in total for question 3 (a)</b>				

<b>3 (b) Identify possible reasons for lack of participation in physical activity by young people. 5 marks, 1 mark per point.</b>				
			<b>Accept</b>	<b>Do not accept</b>
1	(provision)	Lack of equipment or facilities or kit or (local) clubs / lack of money / low income / too expensive		Lack of opportunity or provision on own / / too much pressure on own / lack of coaches
2	(choice)	Don't like exercise / do other things / don't want to / negative attitude	Lack of enjoyment or motivation	lazy
3	(confidence / ability)	Lack of confidence / low self esteem / no good or don't think any good / don't like to show body / self-conscious	feel don't look good when exercising / don't like sweating	
4	(access)	Can't get there / no transport / distance from facilities		'too far away' on own
5	(risk)	Risk of being out at night / risk of injury		
6	(tired)	Tired or lethargic after school or college or work		
7	(time)	No time / commitment to part-time jobs or study		
8	(friends / family / religion)	Lack of friends who participate / peer pressure (not to participate) / 'no-one to go with' / parents or family members don't participate or encourage / lack of role models / religious or cultural beliefs	accurate examples of religious or cultural or social barriers e.g. clothing	
9	(school)	Negative <b>school</b> experience put/s them off / <b>schools</b> offer limited range of activities	Accept any relevant aspect of a negative school experience	
10	(health / disability)	Poor health / obesity / asthma or other suitable health related example / accept any suitable factor relating to disability		
11	(weather)	Unfavourable weather		

**5 marks in total for question 3 (b)**

			Additional Guidance	
			Accept	Do not accept
<b>3 (c)</b>	<b>Explain the reasons for the continued existence and popularity of surviving ethnic sports today. 5 marks, 1 mark per point. Candidate must explain the point to gain a mark.</b>			
1	(local)	Because they are locally significant or unique to area / Because of (increased) local pride		
2	(annual)	Because they take place annually or on public or bank holidays <b>and so</b> people make a point of going or are free to go or other suitable explanation		
3	(occasional)	Because they are occasional or rare <b>and so</b> interest is maintained or other suitable explanation		
4	(social / festival )	Because they are social or festival or community occasions or celebrations / because of the carnival atmosphere / because they are entertaining or enjoyable / / they bring people together / due to focus on 'pub' or links with drinking or alcohol	because they are fun	because they are rowdy or violent
5	(tradition)	Due to tradition / part of heritage or folklore / celebration of past / pass from generation to generation / medieval customs		traditional on own
6	(isolation / ethnic identity)	Due to isolation or location in rural areas and so ethnic identity maintained / as a retention of ethnic or cultural identity / because part of the culture (of the area)		
7	(Paganism )	Because of Pagan or religious beliefs which require participation		ritual or ceremonial or supernatural
8	(tourism)	Because they attract tourism or visitors or publicity / commercial opportunities / they bring money to area / media interest or coverage		raises awareness of sport
<b>5 marks total for question 3 (c)</b>				

		Additional Guidance		
		Accept	Do not accept	
<b>3 (d)</b>	<b>Describe <u>positive</u> effects that the media can have <u>on sport</u>. 6 marks, 1 mark per point.</b>			
1	(participation)	increased participation (in sport)		
2	(funding)	media attracts sponsors or advertising which brings <b>money to sport</b> / selling of TV rights		increased funding or more money to sport on own / advertise on own
3	(role models)	<b>positive</b> role models promote sportsmanship		role models promoted on own
4	(myths & stereotypes)	myths or stereotypes can be broken (e.g. women can't play football or other suitable example)		
5	(minorities)	minority sports or sports of minority groups highlighted (eg wheelchair basketball or netball or other suitable example)		
6	(entertainment)	media makes sport more entertaining or attractive to spectators / rules or timings or seasons or format or structure changed to suit TV /changes to sport to speed up action or scoring (eg Twenty20 cricket)	excitement generates spectatorism	entertain on own
7	(technology)	impact of (media) technology (eg: slow-motion replays or 'miked' referees or Hawk-eye or video umpires or other suitable example) which helps officials or increases interest or understanding	accept reference to increased entertainment if linked with technology	
8	(status / promotion)	sport promoted / status of sport raised / sport gets good reputation / increases status of certain clubs		advertises club on own / raises awareness of sport
<b>6 marks total for question 3 (d)</b>				

		Additional Guidance
3 (e)	<b>Explain the commercialisation of the Olympic Games since 1984 and how the Olympic Games can be a vehicle for nation building.</b> <b>10 marks – Levels marked question</b>	
<b>Level 3</b> <b>8-10 marks</b>	<b>A comprehensive answer:</b> <ul style="list-style-type: none"> <li>• detailed knowledge &amp; understanding</li> <li>• effective analysis/critical evaluation and/or discussion / <b>explanation</b> / development</li> <li>• clear and consistent practical application of knowledge;</li> <li>• accurate use of technical and specialist vocabulary;</li> <li>• high standard of written communication.</li> </ul>	<b>Discriminators from L2 <u>are likely to include:</u></b> <ul style="list-style-type: none"> <li>• an understanding of the background to commercialism</li> <li>• understanding of the principle of nation building</li> <li>• both parts of question answered well</li> </ul>
<b>Level 2</b> <b>5-7 marks</b>	<b>A competent answer:</b> <ul style="list-style-type: none"> <li>• satisfactory knowledge &amp; understanding</li> <li>• analysis/critical evaluation and/or discussion / <b>explanation</b> / development attempted with some success</li> <li>• some success in practical application of knowledge</li> <li>• technical and specialist vocabulary used with some accuracy</li> <li>• written communication generally fluent with few errors</li> </ul>	<b>Discriminators from L1 <u>are likely to include:</u></b> <ul style="list-style-type: none"> <li>• some knowledge of the principle of nation building</li> <li>• both parts of question have been answered</li> </ul>
<b>Level 1</b> <b>0-4 marks</b>	<b>A limited answer:</b> <ul style="list-style-type: none"> <li>• basic knowledge &amp; understanding</li> <li>• little or no attempt to analyse/evaluate critically and/or discuss or <b>explain</b></li> <li>• little or no attempt at practical application of knowledge</li> <li>• technical and specialist vocabulary used with limited success</li> <li>• written communication lacks fluency and there will be errors, some of which may be intrusive</li> </ul>	

<b>Indicative content:</b> Candidate responses are likely to include: (relevant responses not listed should be acknowledged)	
<b>Numbered points</b> = knowledge / understanding <b>Bullet points</b> = likely to be development of knowledge	
<b>(explanation of): Commercialisation of the Olympic Games:</b>	
(amateurism)	1. (pre 1970s or 1980s) Olympic Games was amateur or for amateurs / athletes not paid / professionalism frowned upon
(inequality)	2. 'Athletes' from some countries were better funded or supported than others / gap between some countries and others <ul style="list-style-type: none"> <li>• <b>USA</b> – scholarship system</li> <li>• <b>'Eastern bloc'</b> – state funded /</li> <li>• <b>UK</b> – lagged behind / athletes had full or part time jobs or other suitable example/ 'trust funds' set up for UK athletes</li> </ul>
(commitment)	3. (In order to realistically compete) athletes needed to train or commit full time
(scandal)	4. The move from amateurism to professionalism was associated with scandal or was not smooth / 'shamateurism' or fake amateurism
(IOC)	5. IOC initially against commercialisation of Games / after Montreal the IOC allowed more commercial involvement IOC gradually accepted need for commercialism / IOC decisions increasingly linked to funding issues
(Montreal '76 / financial disaster)	6. The Montreal Games (1976) were a financial disaster / host countries under great financial pressure before commercialisation of Games
(LA 1984)	7. Los Angeles (1984) as the turning point or start of commercialisation or was the first highly commercialised Games
(Uberroth)	8. Peter Uberroth employed to commercialise Games or was responsible (for commercialisation of the Games)
(companies)	9. (Private) companies invested in or built the major facilities <ul style="list-style-type: none"> <li>• Since commercialisation the facilities have been more spectacular</li> </ul>
(TOP)	10. Impact of The Olympic Partner (TOP) programme / TOP partners free to display Olympic logo companies became (official) sponsors or suppliers or licenses / Games attractive to sponsors <b>e.g. Coca-Cola/Visa/McDonald's/Panasonic/UPS/Kodak or other suitable example</b>
(Positive Impact)	11. (Many argue that) commercialism has saved or improved the Olympics / commercialism now the norm
(TV rights)	12. TV (or radio companies) charged (for coverage rights)
(TV)	13. The Olympics have become commercialised due to TV / commercialism linked to growing (global) TV audience / impact of 'golden triangle'
(profit for hosting)	14. Countries or cities now see financial value in hosting Games / Olympic Games now a profit maker / companies use the Games to raise profile or make profit <ul style="list-style-type: none"> <li>• Reference to credit crunch and financial issues leading up to future Olympics</li> </ul>

<b>(explanation of): Olympic Games as a vehicle for Nation Building:</b>	
(Nation Building)	<p>15. (Nation Building can increase:) prestige or status or image of country / increased national pride / country gains publicity or is 'put on map' or on world stage or is showcased / world 'looks in' and get a positive view</p> <ul style="list-style-type: none"> <li>• Nation Building for host country (<b>e.g.</b> China)</li> <li>• Nation Building for the country of successful visiting athletes (<b>e.g.</b> Ethiopia)</li> <li>• So increased tourism</li> </ul>
(shop window)	<p>16. Shop-window effect (operates)</p> <ul style="list-style-type: none"> <li>• Those in the host country '<b>look out</b>' and feel appeased or get 'feel good' factor / 'feel-good' factor or appeasement for host nation or home supporters supporting home team</li> </ul> <p><b>e.g.</b> or Sydney 2000 or other suitable example</p>
(political tool)	<p>17. Olympic Games can be used as a political tool / sport and politics linked /sporting success reflects political success / sport a vehicle for achieving increased <b>political</b> stability or popularity / sporting success (said to) reflect power of country</p> <p><b>e.g.</b> of link/s between sport and politics e.g. Munich OGs / Berlin 1936 (Hitler and Jesse Owens)</p>
(China – gov) (Beijing - <b>new China</b> )  (Beijing - <b>economy</b> ) (Beijing - <b>facade</b> )	<p>18. (In China the) government controls and funds (much of) sport / China has centralised system</p> <ul style="list-style-type: none"> <li>• Beijing Olympics (2008) were a 'coming out party' for China / an opportunity for China to show its (alleged) changing (more open) system or (alleged) political reform or show that Communism works / to show its emergence as a world power</li> <li>• Beijing Olympics (2008) were an opportunity for China to show its <b>economic status</b></li> <li>• Beijing Olympics (2008) were an opportunity for China to conceal human rights issues or problems or to (try to) escape from poor human rights record / countries (sometimes) hide behind a facade or behind Olympic success / a false picture can be created</li> </ul>
<b>Section C Total [30]</b>	



# Grade Thresholds

Advanced GCE Physical Education H154 H554  
June 2009 Examination Series

## Unit Threshold Marks

Unit		Maximum Mark	A	B	C	D	E	U
G451	Raw	90	56	50	44	38	32	0
	UMS	120	96	84	72	60	48	0
G452	Raw	80	64	57	50	43	36	0
	UMS	80	64	56	48	40	32	0

## Specification Aggregation Results

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

	Maximum Mark	A	B	C	D	E	U
H154	200	160	140	120	100	80	0

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

	A	B	C	D	E	U	Total Number of Candidates
H154	10.22	23.16	41.36	61.89	82.31	100	11927

## 11927 candidates aggregated this series

For a description of how UMS marks are calculated see:

[http://www.ocr.org.uk/learners/ums\\_results.html](http://www.ocr.org.uk/learners/ums_results.html)

Statistics are correct at the time of publication.

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