OCR
Oxford Cambridge and RSA

GCE

Physical Education

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

Advanced Subsidiary GCE

Mark Scheme for June 2016

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

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

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

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

Annotations used in the detailed Mark Scheme (to include abbreviations and subject-specific conventions)

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

Subject-specific Marking Instructions

Marking responses 'a – d'; points marked questions

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

Marking response 'e'; levels of response marked question

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

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

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

Approach to marking levels of response questions:

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

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>1</td><td>(a)</td><td>(i)</td><td>3 marks for 3 from: Mark first response in box only

1. Hinge
2. Gastrocnemius / Soleus
3. Tibialis Anterior</td><td>3</td><td><table><tr><th>Accept</th><th>Do not accept</th></tr><tr><td>1.</td><td></td></tr><tr><td>2.</td><td></td></tr><tr><td>3.Anterior Tibialis</td><td></td></tr></table></td></tr>
<tr><td></td><td></td><td>(ii)</td><td>3 marks for 3 from: Mark first three only

1. Increased temperature of the muscle

2. Greater force or speed of muscular contraction/ increased contractility

3. Increased elasticity or increased flexibility or increased range of movement (of the joint or tissues)
4. Reduced viscous resistance / reduced viscosity of muscles
5. More efficient muscular contractions / greater economy of movement
6. Increased speed of nerve transmission

7. Greater speed of (muscle) relaxation

8. Increased motor unit recruitment / improved motor unit coordination
9. Increased coordination between antagonistic pairs
10. Increased enzyme activity / energy production</td><td>3</td><td><table><tr><th>Accept</th><th>Do not accept</th></tr><tr><td>1.</td><td>Muscle warms up</td></tr><tr><td>2. Faster / quicker / strength of contraction</td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td>6. Speeds up impulses in motor neurones</td><td></td></tr><tr><td>7.</td><td>Bigger or larger contractions</td></tr><tr><td>8. Increased synchronisation of impulses</td><td></td></tr><tr><td></td><td></td></tr></table></td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>1</td><td>(b)</td><td></td><td>5 marks for 5 from:

1. Air moves from high to low pressure
2. The diaphragm flattens or contracts with greater force
3. The <u>external</u> intercostal muscles contract with greater force
4. Additional muscles are recruited/used or sternocleidomastoid / scalenes / pectoralis minor / trapezius are recruited/used
5. The rib cage moves up <u>and</u> out further (than at rest)
6. Volume of the thoracic cavity/ lungs increases more (than at rest)
7. Pressure of the thoracic cavity / lungs decreases more (than at rest)
8. More air enters the lungs / increased depth of breathing / increased volume of air inspired</td><td>5</td><td>
<table>
<tr><th>Accept</th><th>Do not accept</th></tr>
<tr><td>1. Partial Pressure</td><td></td></tr>
<tr><td>2,3,5,8 Any reference to increase</td><td>Reference to quicker contractions.</td></tr>
<tr><td>3.</td><td>Reference to quicker contractions.</td></tr>
<tr><td>4.</td><td></td></tr>
<tr><td>5.</td><td></td></tr>
<tr><td>6. Chest cavity = BOD</td><td>Expand</td></tr>
<tr><td>7. Chest cavity = BOD</td><td></td></tr>
<tr><td>8.</td><td>Oxygen
air goes into lungs FASTER</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>1</td><td>(c)</td><td></td><td>4 marks for 4 from:

1. Increase in venous return / more blood enters the right atrium
2. The right atrium stretches
3. (Which causes the) SA node to increase rate of firing.
4. Increasing end diastolic volume (EDV)
5. More blood enters the left ventricle which will cause it to stretch / recoil with more force after stretch.
6. (This in turn) increases the stroke volume / forces more blood out per beat.
7. Temperature increases which increases heart rate
8. (Increased Temperature) increases the speed of nerve impulses</td><td>4</td><td><table><tr><th>Accept</th><th>Do not accept</th></tr><tr><td>1.</td><td>More blood enters heart.</td></tr><tr><td>2.</td><td></td></tr><tr><td>3. SA node increases stimulation.</td><td></td></tr><tr><td>4.</td><td></td></tr><tr><td>5.</td><td>DNA Starling’s Law</td></tr><tr><td>6.</td><td></td></tr><tr><td>7.</td><td></td></tr><tr><td>8.</td><td></td></tr></table></td></tr>
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<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>1</td><td>(d)</td><td></td><td>5 marks for 5 from:

1. Gas or oxygen moves from a high (partial) pressure / pp or concentration to low (partial) pressure or concentration
2. (During exercise) the muscles use more oxygen
3. Increased oxygen dissociation from <u>haemoglobin</u> / more oxygen unloads from <u>haemoglobin</u> / oxygen dissociation curve shifts to the right / Bohr’s shift
4. There is a lower partial pressure or pp or concentration of oxygen in the muscle (cell)
5. There is a high or the same partial pressure or pp or concentration of oxygen in the capillary or blood.
6. There is a greater concentration or pressure or diffusion gradient of oxygen between the capillary and the muscle (cell).
7. There is an increase in body/muscle/blood temperature
8. There is an increase of carbon dioxide in the muscle
9. There is an increase in acidity / lactic acid / carbonic acid / decrease in pH.</td><td>5</td><td>
<table>
<tr><th>Accept</th><th>Do not accept</th></tr>
<tr><td>1</td><td></td></tr>
<tr><td>2. Faster use of oxygen = BoD</td><td></td></tr>
<tr><td>3. Bohr Effect</td><td>Bohr Law</td></tr>
<tr><td>4.</td><td>Pressure on own</td></tr>
<tr><td>5.</td><td>Pressure on own</td></tr>
<tr><td>6.</td><td>Pressure on own / concentration or pressure or diffusion gradient without reference to greater</td></tr>
<tr><td>7.</td><td></td></tr>
<tr><td>8.</td><td>Carbon dioxide in blood</td></tr>
<tr><td>9.</td><td></td></tr>
</table>
</td></tr>
</table>

(e)* Levels of Response	
Level 3 (8 – 10 marks) A comprehensive answer: • detailed knowledge & understanding • 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	**At top of L3 responses <u>are likely</u> to include:** **At the top of this level** detailed knowledge of positives and negatives with reference to how specific types of activity (impact, contact and/or repetitive actions) can affect skeletal and muscular systems of young people **with examples**. **Discriminators from L2 <u>are likely</u> to include:** a detailed knowledge of **and** an even balance of positives and negatives **with development**.
Level 2 (5 - 7 marks) A competent answer: • satisfactory knowledge & understanding • analysis/critical evaluation and/or discussion/explanation/development attempted with some success • some success in practical application of knowledge • technical and specialist vocabulary used with some accuracy • written communication generally fluent with few errors	**At top of L2 responses <u>are likely</u> to include:** **At the top of this level** satisfactory knowledge of **both** positive **and** negative effects of physical activity **or** a **strong** emphasis on either positive or negative. **Discriminators from L1 <u>are likely</u> to include:** a satisfactory knowledge of either positive and / or negative effects of physical activity on the skeletal and muscular systems **with development**.
Level 1 (1 - 4 marks) A limited answer: • basic knowledge & understanding • little or no attempt to analyse/critically evaluate and/or discuss/explain/develop • little or no attempt 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	**At top of L1 responses <u>are likely</u> to:** **At the top of this level** basic knowledge of either positive and / or negative effects of physical activity on the skeletal and muscular systems **with some development**. **At bottom of L1 responses <u>are likely</u> to:** any mention of **an** effect of activity on the skeletal and muscular systems.
[0 marks] No response or no response worthy of credit.	

Question			Answer	Marks	Guidance
			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		
	(e)*		**POSITIVE**		
			EG Contact Sports those involving collisions between bodies / structures of the body (eg rugby / ice hockey / Aussie Rules/ hurling)		
			EG Impact Sports those including any downward pressure of the feet on the ground. (eg running /long / triple jump/ basketball / cricket bowling)		
			EG Repetitive Action Sports those involving movements at specific joints which are repeated many times during the performance (eg tennis / squash / badminton / javelin / swimming/ etc)		
			1. Increased Bone Density • Collagen / calcium deposits within the bone will increase • This in turn strengthens the bone helping to prevent injury • Protecting against stress fractures/ growth plate injuries /shin splints /Osgood Schlatters		
			2. **Can help prevent osteoporosis** (especially in teenagers susceptible to the disease) • Osteoporosis is reduced bone mass and deterioration of bone tissue • Normally associated with older people but can affect younger people • Bones in hip, spine or wrist are most commonly affected		
			3. Increased health or stability of the joints • Ligaments or tendons or muscles around joint strengthen • Helps prevent breaks, stress fractures, dislocations or sprains e.g Strengthening the rotator cuff muscles (supraspinatus, infraspinatus, subscapularis, teres minor) helps prevent dislocation of shallow shoulder joint.		
			4. Reduced risk of Osteoarthritis • Articular cartilage is a smooth, tough structure which covers the end of long bones • Articular cartilage thickens / joints are better cushioned / better able to withstand shock • Increased production of synovial fluid • It helps to reduce friction between bones **5. Increased Posture and Alignment** • The increase in strength / tone of core stability muscles **e.g** (multifidis / transverse abdominus) • Can prevent excess pressure on lumbar area of the lower back • Strong core stability associated with good posture		

			6. **Participation can maintain or reduce weight** / • can put less stress on the skeletal system / reduce risk of skeletal injuries • Can help maintain a BAHL in later life • Can help prevent a sedentary lifestyle		
			7. Increased muscle tone / hypertrophy of muscle / Increased strength of muscles • Increased contractility of muscles • Increased nerve transmission of muscles • Increased structures within muscle cells • Increased speed / force of contraction / relaxation in fast twitch muscle fibres • Increased aerobic development of slow twitch muscle fibres • Increased anaerobic development of fast twitch muscle fibres		
			NEGATIVE		
			8. Poor technique **can cause wear and tear on cartilage**. • Can lead to formation of bone spurs or friction between bone surfaces	Acute or Chronic Injury	
			9. Increase risk of Osteoarthritis • (Caused by) deterioration of articular cartilage • Caused by high impact or repetitive action sports • Can cause a loss of synovial fluid • Osteorarthritis most common in young people in weight bearing joints like knee, hips and ankles • Causing pain, swelling and limiting joint movement. • May result in surgery		
			10. Increased risk of part/ full bone fractures • More likely in contact sports Eg tibia / fibula in football / collar bone or a/c joint in rugby		
			11. **Can cause stress fractures**. • Hairline crack in the bone • Commonly associated with tibia/fibula or metatarsals • Can occur for both high impact sports **eg** triple jump, netball		
			12. Increased risk of Growth Plate Injuries • The (delicate) area between the shaft and each end of a long bone • The growth plate is the weakest area of the bone • Any sudden force through the bone from high impact sport **eg** high jump, basketball (lay up / rebound) • Overuse injuries common in racket sports, cricket etc. where one action is practised continually		

			13. Periostitis OR Shin splints Inflammation of the periosteum of the tibia. Caused by running on hard surfaces or rapid increase high impact training		
			14. Osgood Schlatters • Painful swelling • Where the patella ligament attaches to the tibia • High impact sports put adolescents at risk		
			15. Lateral Epicondylitis OR Tennis Elbow • Inflammation where the tendon attaches to the humerus • Tendinitis **eg** extensor carpi radialis brevis muscle attaches to the lateral epicondyle of the humerus		
			16. Medial Epicondylitis OR Golfer's Elbow • Inflammation where the tendon attaches to the humerus • eg the tendon of the wrist flexor muscles attach to the medial epicondyle of the humerus		
			17. Muscle Tears / Bruising from contact sports • From hyperextension of joints • Haematoma		
			18. Muscle Strains • Grade 1 – 5% of muscle • Grade 2 – up to 50% muscle • Grade 3 – complete rupture		
			19. Bursitis • Inflammation of the bursa • Bursa is a fluid filled sac that cushions a joint where friction is likely to occur Eg subpatellar bursa in knee joint		
			20. Ligament Tears • Knee joint particularly susceptible • Decreases joint stability • Eg anterior cruciate ligament / medial / lateral collateral ligaments / dislocations		
			21. Benefits of taking part in physical activity outweigh the negatives • Most negatives concerned with contact sports or bad techniques • Participation in low / moderate impact sports will promote BAHL • Over training in repetitive action sports can be detrimental **22. An active lifestyle far more beneficial than sedentary lifestyle**		

Section B Acquiring Movement Skills

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>2</td><td>(a)</td><td></td><td>

3 marks for 3 from: Sub max one mark for each phase. Sub max one mark for description with no practical example.

(Cognitive)

1. Making a mental picture /watching a demonstration or mental rehearsal / understanding what needs to be done /needs conscious thought on technique. – eg tennis player thinks about the movements he has to do to perform a serve.
2. Unable to use intrinsic feedback /only extrinsic feedback effective / reliant on verbal/visual cues. -eg hockey player relies on her coach to tell her how to hit the ball effectively.
3. Movement lacks fluency / rhythm or movement is jerky / trial and error / many mistakes -eg footballer has a go at trying to shoot the ball and then learns from his mistakes.

(Associative)

4. matching or associating a mental model/ picture with actual performance. - eg A rugby player attempts a drop kick and sees whether it matches the demonstration/is correct
5. motor programmes begin to be formed / practice or rehearsal occurs. - eg A player will practice repeatedly a drop shot in badminton.
6. kinesthesis or kinaesthetic or intrinsic feedback used /more detailed feedback used / uses knowledge of results (KR) or knowledge of performance (KP) -eg a goalkeeper can sense that he needs to change the direction of his jump
7. Increased fluency/ less jerky / fewer mistakes - e.g. the gymnast shows fluent movements in their routine / fewer mistakes

(Autonomous)

8. (almost) automatic / accurate / well grooved / fluent / overlearned/ consistent / habitual / motor programmes stored or formed -e.g. a basketball player habitually shoots accurately to score points
9. little conscious control is needed / spare attentional capacity/ skills can be adapted/refined -e.g. a midfield football player can dribble the ball but be aware of the movements of other players
10. Able to use intrinsic / kinaesthetic feedback to adjust / make improvements (effectively). -eg a golfer can alter her style of swing during a drive

</td><td>3</td><td>

Phases must be correctly named to gain marks.
Accept any relevant practical example for given phase.
E.g. A gymnast in the cognitive phase tries to form the pattern of the somersault movement in her head before the practice
(= 1 mark for showing one characteristic of the cognitive phase)

<table>
<tr><th>Accept</th><th>Do not accept</th></tr>
<tr><td>1. Thinking about the movement</td><td>Beginner or novice phase</td></tr>
<tr><td>2.</td><td></td></tr>
<tr><td>3.</td><td></td></tr>
<tr><td>4. More consistent / effective/ efficient</td><td>Middle learning phase</td></tr>
<tr><td>5.</td><td></td></tr>
<tr><td>6.</td><td></td></tr>
<tr><td>7.</td><td></td></tr>
<tr><td>8.</td><td>Expert / third / longest / not thinking about it</td></tr>
<tr><td>9. Sub-conscious control /adjustments</td><td></td></tr>
</table>

</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>2</td><td>(b)</td><td>(i)</td><td>3 marks for 3 from:
Sub-Max one mark for named motor skill and correct classification

1. Simple e.g. running etc. / complex e.g. Lay-up shot in basketball, tennis serve, etc.

2 marks for justification:
(If classification is for simple)
2. One or few stimuli to process or limited information to process or limited cognitive demand / or limited perceptual requirements / low perceptual load
3. One / few decisions to make
4. Skill with few subroutines

(if classification is for complex)
5. Many stimuli /lots of information to process /perceptual requirements / high perceptual load
6. Many decisions to make / timing required
7. Skill with many subroutines</td><td></td><td>
<table>
<tr><th>Accept</th><th>Do not accept</th></tr>
<tr><td>1. BOD for classification of motor skill if supported by reasonable justification.</td><td>Easy skill / Name of sport</td></tr>
<tr><td>4</td><td>Can’t be split into sub-routines</td></tr>
<tr><td>7</td><td>Can be broken into sub-routines</td></tr>
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<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td></td><td>(ii)</td><td></td><td>4 marks for description of practice methods. Must be related to classification given in 2bi.

Mark first two attempts only.

(simple skills)
1. Whole (practice)
2. Practice the complete skill/movement or do not break up skills into parts/sub-routines.
3. Whole part whole
4. A combination of whole and part methods or practising the complete skill then splitting into sub routines to practise and then practising as a complete skill again
5. Massed (practice)
6. (Practice) without rest/recovery intervals
7. Fixed (practice)
8. (Practice) that does not vary / change

(complex skills)
9. Part method
10. Splitting skill up into sub-routines or individual elements
11. Progressive part or chaining
12. Learn one part of the skill before linking/joining with another part
13. Whole part whole
14. A combination of whole and part methods or practising the complete skill then splitting into sub routines to practise and then practising as a complete skill again.
15. Distributed (practice)
16. (Practice) with rest/recovery intervals
17. Varied (practice)
18. (Practice) that changes or uses a different/changing environment</td><td></td><td><table><tr><th>Accept</th><th>Do not accept</th></tr><tr><td>1.</td><td></td></tr><tr><td>2.</td><td>Practising a whole skill</td></tr></table></td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>2</td><td>(c)</td><td></td><td>5 marks for 5 from:
1. Schema are items or sources of information that are used to refine performance/ schema modifies motor programmes/ a generalised set of motor commands or programmes
2. Recall Schema and Recognition Schema
3. Recall Schema is responsible for initiating the movement
4. Recognition Schema responsible for evaluating the movement.
5. (knowledge of initial conditions) is awareness of the environment / own position in the environment/ where performer is in relation to self or others /(awareness of) own body or limb position / whether performer has been in same or similar situation before.
6.(Response specifications) is taking into consideration action or skill requirements / knowing what to do / knowing what speed or power or height etc. to employ
7. (Sensory consequences) is what movement felt like / kinaesthesis / intrinsic feedback or proprioception / knowledge of performance
8. (Response outcomes or movement outcomes) is the knowledge of results / outcome of movement /extrinsic feedback
9. Varying practice / training will help to develop schema or helps to develop more possible responses</td><td>5</td><td><table><tr><th>Accept</th><th>Do not accept</th></tr><tr><td>1.</td><td>Adapting Schema</td></tr><tr><td>2.</td><td></td></tr><tr><td>3.</td><td></td></tr><tr><td>4.</td><td></td></tr><tr><td>5.</td><td>Environment on own</td></tr><tr><td>6.</td><td></td></tr><tr><td>7.</td><td>Feedback on own</td></tr><tr><td>8.</td><td>Feedback on own</td></tr></table></td></tr>
</table>

Question			Answer	Marks	Guidance
	(d)		**5 marks for 5 from:** **Sub-Max of 3 with no reference to BAHL:** **1.** (Copying more likely if behaviour of model/demonstrator is): significant other /role model /socially acceptable/follows social norms or is high status or relevant or admired eg. If high status model eating healthily **2.** If model is skilful or accurate or is successful then observer more likely to copy / reinforcement can aid successful modelling eg regular exercise technique shown by a highly qualified personal trainer **3.** If model knows the (strengths and weaknesses) observer then modelling more likely to be successful. Or is relevant to the performer's needs eg the personal trainer researches the observers likes and dislikes before showing different exercises. **4.** Attention - If model has the full attention of the observer then more likely to be successful / concentrate on model eg The coach demands the attention of his player whilst advising on a balanced diet **5.** The model or demonstrator can be identified with by the observer then copying more likely or same sex / age / race / ability model will encourage copying e.g. male observer more likely to want to copy active lifestyle of male demonstrator **6.** Effective modelling includes using verbal guidance to highlight key aspect of demo or making effective coaching points or provided with positive feedback when copying e.g. listening to someone explaining the benefits of not smoking **7.** Retention - repetition of or practise the demonstration or role model's movements or behaviours will aid memory / demo or information should be repeated e.g. information about importance of not smoking / moderation in alcohol consumption is repeated so learner remembers key information **8.** Model encourages or coaches the use of mental rehearsal or imagery can help (observer retain demonstration) e.g. imagining how regular exercise can help health	5	Accept practical examples as explanatory points. NB: Practical examples are not required to gain marks, see sub-max comment. Accept points where candidates use negatives i.e. if they don't pay attention they are unlikely to be successful

Question			Answer	Marks	Guidance
			9. Model uses symbolic coding by using key/catch phrases can help retention of demonstration e.g. catch phrases such as '*change for life'* or '*five a day'* **10.** Model are parents or guardians or those that have direct influence over the observer e.g. parents praise or support your healthy or lifestyle or role model praises learner for not smoking / moderating alcohol consumption / for exercising or badge given for eating healthily or exercising **11. Reference to bobo doll experiment** - Model more successful if modelling is realistic or performed by same gender as the observer. **12.** Motivation -If observer highly motivated then model is more likely to be successful e.g. Smoker or heavy drinker must have mental willpower to stop smoking/moderate alcohol consumption **13.** Motor Reproduction -Model more effective if observer has physical capacity to follow lifestyle choices or Observer must have mental capacity to understand skill or lifestyle choices e.g. observers must understand the benefits of not smoking / of a balanced diet		

(e)* Levels of Response	
Level 3 (8 – 10 marks) A comprehensive answer: • detailed knowledge & understanding • 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	**At top of L3 responses <u>are likely</u> to include:** • Relationships between the stores **Discriminators from L2 <u>are likely</u> to include:** • All memory stores explained accurately • Relevant practical examples for all stores • Description of a wide range of memory strategies.
Level 2 (5 - 7 marks) A competent answer: • satisfactory knowledge & understanding • analysis/critical evaluation and/or discussion/explanation/development attempted with some success • some success in practical application of knowledge • technical and specialist vocabulary used with some accuracy • written communication generally fluent with few errors	**At top of L2 responses <u>are likely</u> to include:** • All memory stores explained; most are accurate • Relevant practical examples for two stores **Discriminators from L1 <u>are likely</u> to include:** • Some memory stores explained; most are accurate • Relevant practical examples for at least one store • Identification and description of some memory strategies
Level 1 (1 - 4 marks) A limited answer: • basic knowledge & understanding • little or no attempt to analyse/critically evaluate and/or discuss/explain/develop • little or no attempt 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	**At top of L1 responses <u>are likely</u> to:** • Describe some memory stores possibly with an example. • Attempt description of some memory strategies. **At bottom of L1 responses <u>are likely</u> to:** • Identify some memory stores **or** memory strategies
[0 marks] No response or no response worthy of credit.	

Question			Answer	Marks	Guidance
	(e)*		**Indicative content:** Candidate responses are likely to include: (relevant responses not listed should be acknowledged) **Numbered points** = knowledge / understanding **Bullet points** = likely to be development of knowledge Explanations and examples: **1.** Short Term Sensory Store (STSS) • STSS is where: info enters (from senses or display) • selective attention happens / important information filtered in / irrelevant info filtered out • capacity limitless • duration < 1 second • info is filtered / passed into the STM / encoded **eg concentrating** on the ball when hitting or catching / **blocking out** crowd noise / position of team mates or opponents etc / other suitable eg showing contribution of STSS **2.** Short Term Memory (STM) • retrieves information (from LTM) information is perceived or understood or judged or interpreted • incoming information compared to learned information / initiates movement • information organised or chunked or encoded • limited capacity / 5-9 items / 7+ or – 2 • duration < 30 seconds • Information is passed to LTM / encoded • (e.g. for **STM**) **judging** the speed of the ball / **grouping** info relating to skill or situation / other suitable eg showing contribution of STM **3.** Long Term Memory (LTM) • information or motor programmes or patterns of movement stored • Recognition part of the memory process • schema are stored • information sent back (to STM) / decoded • (current) performance associated with previous performances (to recognise strengths weaknesses) • capacity limitless • duration permanent • e.g. for **LTM** having or **remembering technique** of netball shooting / **storage** of named MP or sporting technique / other suitable example showing contribution of LTM	10	. Sensory Memory / Store / Register = BOD

Describe strategies that might improve memory storage.

4. Rehearsal / repetition / practise / overlearning of movements or routines
- Forming motor programmes
- Drills

Eg grooving a serve in tennis by serving repeatedly

5. Chunking of information or organisation
- Can extend the capacity of the STM
- Minimise number or complexity of stimuli
- Makes it easier for information retention
- Information is stored in smaller amounts

Eg remembering sub routines by using numbers
Eg “clean palm dirty neck”
Eg using stories

6. Use of mental preparation or mental practice or mental rehearsal
- Thinking through routines or patterns of movement
- Developing mental strategies such as imagery or meditation or hypnosis

Eg mentally focussing in on the patterns of the gym routine before performance

7. Meaningful or relevant information / messages
- Understanding the usefulness of information
- Being coached about how important remembering information is

Eg A coach encourages the performer to understand the importance of remembering a short corner drill in hockey

8. Making information more interesting / exciting / novel / unique / enjoyable
- Creating drills / experiences that the performer finds exciting
- Intensify the stimulus / cueing-in the stimulus

Eg Coach develops skills in an exciting game competition in basketball.

9. Association/ Linking/ experiences / thoughts
- Performer remembers better if they can associate with something already learned
- Developing a stimulus response (S-R) bond
- Use past experiences or utilise positive transfer of other skills

Eg when a player sees a particular arm action of the opponent in a squash match he knows that he can expect a particular type of shot.

10. Positive feedback / Positive Reinforcement

Eg saying well done if the tennis forehand technique is correct

11. Chaining / Sequencing – linking items together in order.

Question			Answer	Mark	Guidance
3	a		**5 marks for 5 from**:	5	

1. AIS	due to work of AIS (Australian Institute of Sport) / (world class) provision for elite performers.
2. Success	sporting tradition or history of success / keen to beat England or Motherland / success of national teams
3. Role models	sport stars as heroes / role models
4. (bush culture)	bush culture / culture of manliness / pioneering spirit
5. (space/ resources)	natural resources available / plenty of space / varied opportunities
6. (outdoor culture)outdoor culture)	outdoor sport all year round / outdoor culture / sport part of everyday life or of Australian culture / favourable climate
7. (golden triangle)	significant or high levels of media coverage or sponsorship or commercialism (in elite sport) / impact of golden triangle
8. (support / funding)	Government or political support or funding / sport boosts economy
9. (affluence)	High disposable income
10. (nation building)	Nation building / 'shop window' effect / sport unites or promotes or gives identity
11. (BAHL)	sport or physical activity encouraged for BAHLs / to combat (contemporary) obesity
12. (fashion)	sport and physical activity fashionable / it's 'cool' to be active or sporty
13. (equality)	policy of anti-discrimination or sport for all / Australia as a multi-cultural society / commitment to disability sport
14. (schools)	Importance of PE or sport in schools / Initiatives in Australian schools

Accept	Do not accept
1.	
1. lots of medals won 'Pommie bashing' / **eg** Netball world champions / Rugby Union World Cup winners	because it is an obsession
3. examples of role models	
5. **eg** such as mountains for skiing or sea or beach for swimming	favourable / natural environment=TV Lots of people live near coast=TV
6.	
7.	
8.	
9. Australians happy to spend on sport	
13. policy of inclusion / examples of other minority groups	
14. eg such as SEPEP/ PASE etc	

Question			Answer	Mark	Guidance
b	(i)		**3 marks for 3 from**: 1. sponsorship or endorsements or from businesses 2. investors or entrepreneurs 3. TV rights / TV companies / advertisement 4. prize or appearance money 5. ticket sales/merchandise		
	(ii)		**3 marks for 3 from**: 1. **(support**) support via hub or satellite sites e.g. Bisham Abbey/Lilleshall/Loughborough Univ/Roehampton(tennis) or other example 2. **(facilities) high quality** facilities 3. **(coaching) high quality** coaching/provide training camps 4. **(PLA)** Performance Lifestyle Advice/career advice/supports performance lifestyle advice 5. **(science)** Sports Science support/ nutrition/psychology/ physiotherapy/biomechanics/strength & conditioning/ sports massage/sports vision or other suitable example of practical sports science support.		

Question			Answer	Mark	Guidance
c			**5 marks for 5 of:** **1.** Disqualification / fined / stripped of medals/ loss of sponsorship/loss of funding or other punishment other than banning **2.** Poor role modelling / bad example / others copy **3.** Physiological damage / danger to body or health / addiction/ lower life expectancy **4.** Psychological damage / damage to mind or to mental well-being/mood swings/behaviour problems/increased aggression/depression etc. **5.** Gain unfair (advantage) / laws or ethics or norms of sport broken **6.** Breaks Olympic Oath which includes promise not to take drugs **7.** False or unfair or meaningless results or records **8.** Scandal or bad name or publicity for sport or performers or nation / status of sport or performers or nation lowered / sport spoiled or ruined / interest in sport lowered **9.** Other athletes 'forced' to take drugs as they feel it is only way to 'stay good enough' **10.** Accusations that clean athletes are cheats. **11.** Fame / fortune performers who have (allegedly) become rich famous as a result of drug taking	**5**	

Question	Answer	Marks	Guidance: Credit impacts embedded in examples
(d)	**4 marks for 4 from:** **Positives (submax of 3):** 1. **performance** or skill or fitness or speed improved **e.g.** body suits (athletics/swimming) / graphite or titanium equipment / modern footballs that allow better swing or curve / streamlined cycling helmets 2. **training** enhanced **e.g.** tyre towing / elastic cord / supplements 3. **recovery** improved **e.g.** medical products such as artificial ligament or joint replacement / 'illegal' pharmacological aids or drugs / compression wear / ice baths 4. **fairer outcomes** / **honesty** or **accuracy** enhanced / helps officials make decisions / avoids arguments **e.g.** goal line tech / third or TV umpire / Hawk-Eye / timing devices **e.g.** starting blocks 5. **inclusion** or **participation** increased **e.g.** carbon fibre blades / artificial legs / wheelchairs / surfaces that allow play all year 6. **safety** increased **e.g.** gum shields / cricket head gear / landing mats 7. **comfort** increased **e.g.** clothing / equipment design such as footwear 8. **analysis or understanding increased** (for coaches or participants or spectators) **e.g.** DVD or other playback equipment / interactive pundits' screens **/** refs or umpires 'miked up' for all to hear 9. **Entertainment** allows for greater spectator excitement/ enjoyment	4	**Accept** / **Do not accept** 1. 2. ref improved fitness or skill component/s e.g. strength or kinaesthesis 3. 4. 5. 6. 7. 8. 9. 10.

			Negatives (submax of 3): **10.** lead to **injury or violence** **e.g.** from bladed boots / due to use of rugby shoulder pads which may make some players feel invincible **11.** lead to **cheating** **e.g.** drugs **12. disrupt** or slow down 'game' **e.g.** time taken for DVD playback **13.** be an **unfair advantage** / be expensive / be dependent on sponsor **e.g.** F1 technology / technology not equally available to all such as high tech bikes **14. Tradition** – traditional nature of sport devalued					

Question			Answer	Guidance
3	(e)*		**Levels Descriptors**	**Levels Discriminators**
			Level 3 (8–10 marks) **A comprehensive answer:** • detailed knowledge & understanding • 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.	**At top of L3 responses <u>are likely</u> to include:** • Good balance between both parts of the question including barriers from the three areas of Opportunity, Provision and Esteem. **Discriminators from L2 <u>are likely</u> to include:** • Relevant practical examples for both parts of the question • Description of a wide range of factors and barriers.
			Level 2 (5–7 marks) **A competent answer:** • satisfactory knowledge & understanding • analysis/critical evaluation and/or discussion/explanation/development attempted with some success • some success in practical application of knowledge • technical and specialist vocabulary used with some accuracy • written communication generally fluent with few errors.	**At top of L2 responses <u>are likely</u> to include:** • Attempt at balance between both parts of the question **Discriminators from L1 <u>are likely</u> to include:** • Some explanation of factors and barriers with examples. • Or one part of the question is well developed with relevant examples.
			Level 1 (0–4 marks) **A limited answer:** • basic knowledge & understanding • little or no attempt to analyse/critically evaluate and/or discuss/explain/develop • little or no attempt 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.	**At top of L1 responses <u>are likely</u> to:** • Describe some factors and / or barriers possibly with an example. **At bottom of L1 responses <u>are likely</u> to:** • Identify some factors and / or barriers
			[0 marks] No response or no response worthy of credit.	

Question			Answer	Marks	Guidance
3	e		**Indicative content:** Candidate responses likely to include: (other relevant responses acknowledged) **Numbered points** = knowledge / understanding **Bullet points** = likely to be development of knowledge **More sedentary lifestyles because:** 1. Low or decreasing levels of physical activity as measured by: • 7/10 people have sedentary lifestyle (according to some data) • (many people do) less than 1x30 mins physical activity per week 2. Desk job / less manual labour • exercise a choice not necessity 3. Longer working hours / concentration on careers • impact of credit crunch/economic situation • scared of losing jobs 4. Stressful lives eg due to recession or long working hours or unemployment or other suitable example • young people (not just adults) under more pressure – study, exams, other extra-curricular activities, part-time jobs, etc… 5. Gadgets eg sit on mowers 6. Widespread car use / better transport eg children don't walk to school 7. Technology / Social Media • computer use / computer games / snapchat or other suitable example eg shopping on line 8. More TV / people watch sport rather than participate 9. Ill health 10. Ageing population, so more people in groups who might find activity harder to maintain 11. Increased or widespread obesity or CHD **Recommendations for a BAHL** 12. (adults) 30 mins 5 times a week 13. Moderate or sub max or aerobic level eg jogging / cycling 14. Children/young people 60 mins a day / 5 or 6 or 7 x 60 mins per week eg 5 x 60 / Welsh initiative 15. Children – (at least) twice a week higher impact activities should be done eg skipping /jumping etc	**10**	

Question			Answer	Marks	Guidance
			Explanation of possible barriers to participation by young people 16. Being in a minority group • discrimination or unfair treatment or stereotyping or myths eg women / disabled /ethnic minority /Religious • Asian women and swimming restrictions eg appropriate clothing 17. Opportunity – (limited or no) 18. Don't like exercise / choose not to / negative attitude to PA or to exercise / don't enjoy it • don't like getting hot and sweaty • do other things eg socialise / play computer games or other suitable example 19. No time / other commitments eg studying or part time job or other suitable example 20. Bad (school) experience/ limited range of activities offered at school 21. No or not enough money / too expensive / socio-economic status • limited or withdrawal of Government funding eg withdrawal of free swimming for young people eg for memberships or kit or other suitable example of expense 22. Poor health / injury eg asthma or other health related limitation 23. Tired / lethargic / can't be bothered 24. Risk of being out at night / parents stop you going out at night / danger / risk of injury 25. Provision – (limited or no) 26. Lack of equipment or (suitable) facilities / live in a rural or disadvantaged area eg no (suitable/local) clubs / no swimming pool nearby or other suitable example 27. No transport / no buses or trains etc • can't get there / distance from facilities / parents won't or can't take you 28. Unfavourable weather or climate • too cold or wet eg for activities outside 29. Withdrawal or lack of Government support or funding 30. Esteem – (limited or no) 31. Lack of confidence • self-conscious / 'no good at it' / 'everyone else better than me' /poor body image		

Question			Answer	Marks	Guidance
			32. Lack of role models • friends or family don't participate or encourage or support • peer pressure (not to participate) • Lack of women in media		

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