

**GCE**

**Physical Education**

Unit **G453**: Principles and concepts across different areas of Physical  
Education

Advanced GCE

**Mark Scheme for June 2018**

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of candidates of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, Cambridge Nationals, Cambridge Technicals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

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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.

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These are the annotations, (including abbreviations), including those used in scoris, which are used when marking

<b>Annotation</b>	<b>Meaning</b>
✓	= <b>Correct response</b>
<b>BOD</b>	= Benefit of the doubt
<b>REP</b>	= Repeat
<b>TV</b>	= Too Vague
<b>DEV</b>	= Development (levels scheme)
<b>SEEN</b>	= Noted but no credit given
<b>L1</b>	= Level 1 (levels scheme)
<b>L2</b>	= Level 2 (levels scheme)
<b>L3</b>	= Level 3 (levels scheme)
<b>L4</b>	= Level 4 (levels scheme)
<b>EG</b>	= Practical example (levels scheme)
<b>S</b>	= Sub max

Here are the subject specific instructions for this question paper

### **Marking responses ‘a – c’; points marked questions**

An element of professional judgement is required in the marking of G453. 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 or e-mail.

### **Marking response ‘d’; 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.

## Section A Historical Studies (Option A1)

Question		Answer/Indicative content	Mark	Guidance
1	(a)	<p><b>(Description of pedestrianism) Sub-max 3</b></p> <p>Three marks for three of:</p> <ol style="list-style-type: none"> <li>1. (Foot race) Race walking / walking races / foot races</li> <li>2. (Class) Both classes participated / lower and upper class</li> <li>3. (Patronage) Gentry patronised/employed lower class as footmen/messengers</li> <li>4. (Wagering) Wagering/gambling was widespread /betting</li> <li>5. (Venue) Use of large venues/huge crowds/spectators</li> <li>6. (Rules) Rules were set by organisers/agreed by parties involved</li> <li>7. (Corruption) Corruption/cheating/fixing of results was common</li> </ol> <p><b>(Reasons for its popularity) Sub-max 3</b></p> <p>Three marks for three of:</p> <ol style="list-style-type: none"> <li>8. (Money) Rags to riches / prize money</li> <li>9. (Status/role models) High status / fame / celebrity / Barclay Allardice / Deerfoot / Weston</li> <li>10. (Challenge) Physical/mental challenge (for upper class)</li> <li>11. (Festival) Exciting festival occasion/sporting contest / associated with other activities e.g. prize fighting/horse racing</li> <li>12. (Cheap) simple/cheap activity to do / occupational (for lower class)</li> </ol>	5	<p>Pt 6. Limited rules, agreed rules, lack of rules = TV</p> <p><b>Guidance: Accept Barclay or Allardice for point 9</b></p>

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1	<p data-bbox="327 217 371 248">(b)</p> <p data-bbox="465 217 730 248"><b>4 marks for 4 from:</b></p> <p data-bbox="465 248 696 280"><b>Sub max 3 from:</b></p> <table border="1" data-bbox="465 280 1256 587"> <tr> <td data-bbox="477 280 674 416">1(non local)</td> <td data-bbox="674 280 1245 416">Mix of activities (from home or from different regions)/start of standardised rules / allowed 'melting pot' of games or rules</td> </tr> <tr> <td data-bbox="477 416 674 520">2(boarding)</td> <td data-bbox="674 416 1245 520">Time to play/impact on standards/games occupied boys outside of classroom/kept them out of trouble</td> </tr> <tr> <td data-bbox="477 520 674 587">3(fee paying)</td> <td data-bbox="674 520 1245 587">Money for facilities/equipment /coaching/staff/transport</td> </tr> </table> <p data-bbox="465 627 696 659"><b>Sub max 1 from:</b></p> <table border="1" data-bbox="465 659 1256 863"> <tr> <td data-bbox="477 659 674 691">4.( non local)</td> <td data-bbox="674 659 1245 691">Affects whether boarder or day student</td> </tr> <tr> <td data-bbox="477 691 674 794">5.(boarding)</td> <td data-bbox="674 691 1245 794">Affects school experience and/or relationships with friends and family/more time to play sport</td> </tr> <tr> <td data-bbox="477 794 674 863">6(fee paying)</td> <td data-bbox="674 794 1245 863">Affects choice of school/independent v state/can affect quality of facilities</td> </tr> </table>	1(non local)	Mix of activities (from home or from different regions)/start of standardised rules / allowed 'melting pot' of games or rules	2(boarding)	Time to play/impact on standards/games occupied boys outside of classroom/kept them out of trouble	3(fee paying)	Money for facilities/equipment /coaching/staff/transport	4.( non local)	Affects whether boarder or day student	5.(boarding)	Affects school experience and/or relationships with friends and family/more time to play sport	6(fee paying)	Affects choice of school/independent v state/can affect quality of facilities	4	Accept accurate/relevant comment about how one characteristic continues to impact today
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1	(c)	<p><b>significance of social class</b> <b>sub max 5</b></p> <table border="1" data-bbox="421 280 1570 1326"> <tr> <td data-bbox="421 360 488 437">1.</td> <td data-bbox="488 360 927 437">(class)</td> <td data-bbox="927 360 1570 437">Middle class were amateurs / working class were professionals</td> </tr> <tr> <td data-bbox="421 437 488 635">2.</td> <td data-bbox="488 437 927 635">(amateur v professional)</td> <td data-bbox="927 437 1570 635">Amateurs and professionals treated differently /names different in programmes/ ate separately / travelled separately/ they entered field of play from different door / different roles</td> </tr> <tr> <td data-bbox="421 635 488 711">3.</td> <td data-bbox="488 635 927 711">(captain)</td> <td data-bbox="927 635 1570 711">captain usually an amateur/captain always an amateur at national level</td> </tr> <tr> <td data-bbox="421 711 488 823">4.</td> <td data-bbox="488 711 927 823">(W G Grace)</td> <td data-bbox="927 711 1570 823">WG Grace a 'shamateur' or fake amateur / he was paid to play / he earned a significant amount of money from cricket</td> </tr> <tr> <td data-bbox="421 823 488 979">5.</td> <td data-bbox="488 823 927 979">(William Clarke)</td> <td data-bbox="927 823 1570 979">William Clarke employed professionals professionals / played for William Clarke XI / William Clarke XI toured country and promoted game (as spectator attraction)</td> </tr> <tr> <td data-bbox="421 979 488 1091">6.</td> <td data-bbox="488 979 927 1091">Influence of old boys of public schools</td> <td data-bbox="927 979 1570 1091">Influence of old boys on expansion of cricket through the church / industry / schools</td> </tr> <tr> <td colspan="3" data-bbox="421 1091 1570 1129">Sub max 1</td> </tr> <tr> <td data-bbox="421 1129 488 1326">7.</td> <td data-bbox="488 1129 927 1326">(cricket today)</td> <td data-bbox="927 1129 1570 1326">Chance to Shine initiative / inspiration of the Ashes / indoor facilities / artificial wickets / 20:20 / world cups / increased entertainment at game / big bash / Sky Sports / media Accept any suitable factor</td> </tr> </table>	1.	(class)	Middle class were amateurs / working class were professionals	2.	(amateur v professional)	Amateurs and professionals treated differently /names different in programmes/ ate separately / travelled separately/ they entered field of play from different door / different roles	3.	(captain)	captain usually an amateur/captain always an amateur at national level	4.	(W G Grace)	WG Grace a 'shamateur' or fake amateur / he was paid to play / he earned a significant amount of money from cricket	5.	(William Clarke)	William Clarke employed professionals professionals / played for William Clarke XI / William Clarke XI toured country and promoted game (as spectator attraction)	6.	Influence of old boys of public schools	Influence of old boys on expansion of cricket through the church / industry / schools	Sub max 1			7.	(cricket today)	Chance to Shine initiative / inspiration of the Ashes / indoor facilities / artificial wickets / 20:20 / world cups / increased entertainment at game / big bash / Sky Sports / media Accept any suitable factor	6	Factor must be described
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1 (d)*	
Levels Descriptors	Levels Discriminators
<p><b>Level 4 (18 – 20 marks)</b> A comprehensive answer:</p> <ul style="list-style-type: none"> <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>	<p>Discriminators at <b>Level 4</b> <u>are likely</u> to include:</p> <ul style="list-style-type: none"> <li>• detailed knowledge and excellent understanding of the 1933 syllabus</li> <li>• excellent evaluation to include both positive and negative aspects of curriculum developments in school PE.</li> <li>• all aspects of question addressed with balance</li> </ul>
<p><b>Level 3 (13 - 17 marks)</b> A competent answer:</p> <ul style="list-style-type: none"> <li>• good knowledge and 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> </ul>	<p>Discriminators at <b>Level 3</b> <u>are likely</u> to include:</p> <ul style="list-style-type: none"> <li>• good knowledge and clear understanding of the 1933 syllabus</li> <li>• good evaluation of curriculum developments in school PE</li> <li>• all aspects of question addressed but not necessarily with balance</li> </ul>
<p><b>Level 2 (8 - 12 marks)</b> A limited answer:</p> <ul style="list-style-type: none"> <li>• limited knowledge and 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>	<p>Discriminators at <b>Level 2</b> <u>are likely</u> to include:</p> <ul style="list-style-type: none"> <li>• limited knowledge and understanding of the 1933 syllabus</li> <li>• some evidence of evaluation of curriculum developments in school PE although likely to be more descriptive</li> <li>• an unbalanced approach but at the top end of this level all parts of the question are likely to be addressed</li> </ul>
<p><b>Level 1 (0 - 7 marks)</b> A basic answer:</p> <ul style="list-style-type: none"> <li>• basic knowledge and 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>	<p>At <b>Level 1</b> candidates <u>are likely</u> to:</p> <ul style="list-style-type: none"> <li>• show basic knowledge and understanding of the 1933 syllabus</li> <li>• descriptive rather than evaluation of curriculum developments in school PE</li> <li>• be unbalanced and not address all aspects</li> </ul>
<p><b>[0 marks]</b> No response or no response worthy of credit.</p>	



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	<p><b>Negative points - developments in school PE since 1950's</b></p> <table border="1" data-bbox="331 280 1709 703"> <tr> <td data-bbox="331 280 667 352">16. (admin)</td> <td data-bbox="667 280 1709 352">           Burden of admin/record keeping           <ul style="list-style-type: none"> <li>• Restricts time for creative planning</li> </ul> </td> </tr> <tr> <td data-bbox="331 352 667 456">17. (inadequate support)</td> <td data-bbox="667 352 1709 456">           Inadequate support           <ul style="list-style-type: none"> <li>• Especially for non-specialist teachers</li> </ul>           E.g. in primary schools         </td> </tr> <tr> <td data-bbox="331 456 667 528">18. (lack of experience)</td> <td data-bbox="667 456 1709 528">           Lack of experience of assessment           <ul style="list-style-type: none"> <li>• Can lead to confusion or skewed results</li> </ul> </td> </tr> <tr> <td data-bbox="331 528 667 600">19. (unbalanced)</td> <td data-bbox="667 528 1709 600">           Schools still able to offer unbalanced programme            E.g. no dance if teachers not keen         </td> </tr> <tr> <td data-bbox="331 600 667 632">20. (constraints)</td> <td data-bbox="667 600 1709 632">           It can constrain or reduce creativity of teachers         </td> </tr> <tr> <td data-bbox="331 632 667 703">21. (pressure)</td> <td data-bbox="667 632 1709 703">           It can put pressure on schools            E.g. to provide certain activities or facilities         </td> </tr> </table>	16. (admin)	Burden of admin/record keeping <ul style="list-style-type: none"> <li>• Restricts time for creative planning</li> </ul>	17. (inadequate support)	Inadequate support <ul style="list-style-type: none"> <li>• Especially for non-specialist teachers</li> </ul> E.g. in primary schools	18. (lack of experience)	Lack of experience of assessment <ul style="list-style-type: none"> <li>• Can lead to confusion or skewed results</li> </ul>	19. (unbalanced)	Schools still able to offer unbalanced programme E.g. no dance if teachers not keen	20. (constraints)	It can constrain or reduce creativity of teachers	21. (pressure)	It can put pressure on schools E.g. to provide certain activities or facilities		
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## Section A Comparative Studies (Option A2)

Question Number	Answer	Marks	Guidance
2. (a)	<p><b>(Effect of four of these geographical factors in Australia on sporting opportunity) Sub-max 4</b></p> <p>Four marks for four of:</p> <ol style="list-style-type: none"> <li>1. (size) Very large / 6<sup>th</sup> largest country / over 30x the size of UK <b>so</b> many open spaces to play sport</li> <li>2. (topography) Diverse environment / mountains and sea (and wilderness/desert) <b>so</b> suitable for summer and winter sports</li> <li>3. (climate) Favourable climate <b>so</b> sports can be played all year round</li> <li>4. (pop. density) Low population density / most of population live in urban areas/cities <b>so</b> easy access to urban facilities or reduced access to outdoor activities</li> <li>5. (transport) Extensive transport network <b>so</b> facilities are easily accessible</li> </ol> <p><b>(Compare one of these factors with the geography of the UK) Sub-max 1</b></p> <p>One mark for one of:</p> <ol style="list-style-type: none"> <li>6. (size) UK much smaller than Australia</li> <li>7. (topography) Limited environment compared to Australia</li> <li>8. (climate) Unfavourable/Western maritime climate</li> <li>9. (pop. density) Higher population density / most of population also live in urban areas/cities</li> <li>10. (transport) Extensive transport network / all areas accessible within one days travel</li> </ol>	5	<p>Effect on participation <u>must</u> be given for each factor.</p> <p><b>DO NOT ACCEPT – Tyranny of distance.</b></p>

Question Number	Answer	Marks	Guidance			
2 (b)	<b>5 marks for 5 from:</b>  <b>Sub max 3 from one section</b>	5				
	<table border="1"> <tr> <td data-bbox="342 375 392 406"></td> <td data-bbox="392 375 649 406"><b>The UK</b></td> <td data-bbox="649 375 1198 406"></td> </tr> </table>				<b>The UK</b>	
				<b>The UK</b>		
	1			(democracy)	Society organised as a democracy/freedom of speech	
	2			(teamwork)	Working as part of a team is traditional/learning to interact with others	
	3			(individuality)	People treated as Individuals/each person unique	
	4			(fair play)	A sense of fair play/sportsmanship is important	
	5			(competitiveness)	Competitiveness/desire to achieve	
	6			(participation)	Participation/(traditionally)taking part more important than winning	
7	(overcoming discrimination)	Overcoming discrimination/Multi-culturalism/fairness/egalitarianism/equal opportunity/social equality				

Question Number	Answer	Marks	Guidance
	<b>The USA</b>		
8	(Lombardianism)	Lombardianism/win at all costs/traditionally winning more important than taking part	
9	(counter culture ethic)	(less dominant) counter culture ethic/taking 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	Answer	Marks	Guidance		
2 (c)	<b>5 marks for 5 of:</b>	<b>5</b>			
				<b>PE in USA</b>	<b>Comparison with UK</b>
	1. (focus on)			Direct skill learning/fitness	Participation/skills/holistic development/educational emphasis
	2. (assessment)			(focus on) testing or measurement	(less formal) teacher assessment
	3. (exams)			Limited/none at school level	Widespread examinations in PE
	4. (prof dev)			Provided by superintendent or state	Provided by public or private routes
	5. (good practice)			Blue Ribband Schools/Beacon Schools	Specialist sports colleges/Beacon schools/independent schools that focus on sport
	6. (admin)			Decentralised admin	Decentralised admin/becoming more centralised
	7. (funding)			State funded	State funded/schools need or seek additional funding
	8. (control)			Controlled by school board	Schools(increasingly) autonomous/ Academy status
	9. (inspection)			Inspected by superintendent (of school board)	Inspection by Ofsted/ Estyn
	10. (NC)			No National Curriculum/optional	National curriculum
11. (status)	PE lower status(than sport)	PE higher status			

Levels Descriptors	Levels Discriminators
<p><b>Level 4 (18 – 20 marks)</b> A comprehensive answer:</p> <ul style="list-style-type: none"> <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>	<p>At <b>Level 4</b> responses <u>are likely</u> to include:</p> <ul style="list-style-type: none"> <li>• detailed knowledge and understanding of all aspects of the question</li> <li>• detailed direct and relevant comparison of provision of sport and the pursuit of excellence in Australia and UK</li> </ul>
<p><b>Level 3 (13 – 17 marks)</b></p> <ul style="list-style-type: none"> <li>• A competent answer:</li> <li>• good knowledge and 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> </ul>	<p>At <b>Level 3</b> responses <u>are likely</u> to include:</p> <ul style="list-style-type: none"> <li>• good knowledge and understanding of most aspects of the question</li> <li>• good direct and relevant comparison provision of sport and the pursuit of excellence in Australia and UK</li> </ul>
<p><b>Level 2 (8 – 12 marks)</b></p> <ul style="list-style-type: none"> <li>• A limited answer:</li> <li>• limited knowledge and 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>	<p>At <b>Level 2</b> responses <u>are likely</u> to include:</p> <ul style="list-style-type: none"> <li>• limited knowledge and understanding of some aspects of the question</li> <li>• some evidence of direct and relevant comparison of provision of sport and the pursuit of excellence in Australia and UK</li> </ul>
<p><b>Level 1 (0 – 7 marks)</b> A basic answer:</p> <ul style="list-style-type: none"> <li>• basic knowledge and 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</li> </ul>	<p>At <b>Level 1</b> candidates <u>are likely</u> to include:</p> <ul style="list-style-type: none"> <li>• basic knowledge and understanding of some aspects of the question</li> <li>• little evidence of direct and relevant comparison of provision of sport and the pursuit of excellence in Australia and UK</li> </ul>
<p><b>[0 marks]</b> No response or no response worthy of credit.</p>	



## 2 (d) Indicative content

20 marks

	Provision of Sport in Australia	Provision of sport in UK
1. ASC / Sport England	ASC <ul style="list-style-type: none"> <li>Plays a central leadership role in the development and operation of the Australian sports system,</li> <li>administering</li> <li>funding innovative sport programs and</li> <li>providing leadership, coordination and support for the sport sector.</li> </ul>	Sport England <ul style="list-style-type: none"> <li>wants everyone in England regardless of their age, background or level of ability to feel able to engage in sport and physical activity</li> </ul>
2. Initiatives	<ul style="list-style-type: none"> <li>Play. Sport. Australia</li> <li>is the game plan to get more Australians, particularly young Australians, playing sport more often – at school or with mates at their local club.</li> </ul>	Sport England Objectives <ul style="list-style-type: none"> <li>Protect, enhance, provide</li> <li>E.g. This Girl Can initiative</li> </ul>
3. School Sport	Intra and Inter school games <ul style="list-style-type: none"> <li>E.g. Pacific games</li> <li>National schools teams</li> <li>National Schools Championships in some sports</li> </ul>	Intra and Inter school games <ul style="list-style-type: none"> <li>E.g. Derbyshire School Games</li> <li>National schools teams</li> <li>National Schools Championships in some sports</li> </ul>
4. School-Club Links	Sport Linkage scheme <ul style="list-style-type: none"> <li>School club links sharing of facilities/pathway for talented children to progress to clubs</li> </ul>	Similar
5. Award Schemes	awarded for achievement in school sport school sports <ul style="list-style-type: none"> <li>A state Blue</li> <li>The De Coubertin Awards</li> </ul>	<ul style="list-style-type: none"> <li>Sports Mark for schools</li> </ul>
6. Role Models	Use of role models to promote participation in sport <ul style="list-style-type: none"> <li>E.g.</li> </ul>	<ul style="list-style-type: none"> <li>Similar</li> </ul>

	<b>Pursuit Of excellence in Australia</b>	<b>Pursuit of excellence in the UK</b>
7. ASC v UK Sport	ASC <ul style="list-style-type: none"> <li>Overall organisation and responsibility for sporting excellence</li> </ul>	UK Sport <ul style="list-style-type: none"> <li>Overall organisation and responsibility for sporting excellence</li> </ul>
8. AIS v UKSI	AIS <ul style="list-style-type: none"> <li>Clear networks set up to develop sporting talent</li> <li>Based in Canberra</li> <li>Funded by ASC</li> </ul>	UKSI / EIS/ WIS/SIS/ NIIS Based on Australian model
9. AIS (Role) UKSI (Role)	<ul style="list-style-type: none"> <li>Provides world-class expertise and services to identify, develop and produce world, Olympic and Paralympic champions.</li> <li>Links sports investment to performance targets</li> </ul>	similar
10. Local Institutes	Institutes in each state <ul style="list-style-type: none"> <li>E.g. VIS</li> <li>Enable athletes to train in the locality</li> </ul>	A number of EIS institutes E.G. Sheffield
11. funding	Federal and state funding <ul style="list-style-type: none"> <li>Supplemented by private funding</li> </ul>	Government funding Lottery funding
12. Facilities	World class facilities	World class facilities
13. gov. support	Government or political support for sporting excellence <ul style="list-style-type: none"> <li>much Govt funding (funding through) ASC</li> </ul>	Government supports sporting success/ <ul style="list-style-type: none"> <li>'less' Gov funding than Australia</li> <li>National Lottery funds high performance sport</li> <li>'issues' linked with recession/local authority cut backs central eg 'plug pulled' from 'free' swimming initiative</li> </ul>
14. reflects well	Sporting success reflects well on government	Sporting success reflects well on government
15. Pathways into excellence	Other ways to get into professional sports Drafts – Aussie rules Rugby League – club academy Cricket – through clubs	Similar

Question	Answer	Marks	Guidance
3 (a)	<p>Identify <b>two</b> characteristics of an effective leader in sport. Explain how good leadership can affect lifestyle behaviour.</p> <p><b>4 marks for 4 of:</b> <b>Sub max of two marks for:</b></p> <ol style="list-style-type: none"> <li>1. Good communication skills</li> <li>2. Highly motivated / enthusiastic /positive attitude</li> <li>3. Clear goal / vision</li> <li>4. Empathy / gets on well with team mates / can see others' points of view</li> <li>5. Good at sport themselves / experienced</li> <li>6. Good knowledge of the sport</li> <li>7. Charismatic / has presence / commands respect / influential /confident /good decision making</li> <li>8. Is flexible in the styles used or can adapt</li> </ol> <p><b>Sub max 2 marks for two effects of leadership on lifestyle behaviour:</b></p> <ol style="list-style-type: none"> <li>9. Can help to motivate /influence others to follow healthy lifestyle or encourage achievement motivation.</li> <li>10. Can focus others on positive lifestyle behaviours or on activity/balanced diet or healthy activities.</li> <li>11. Can educate others/convince others to follow healthy lifestyle</li> <li>12. Can create a role model (showing healthy lifestyle) or be a significant other so others can copy.</li> <li>13. You would follow a healthy lifestyle to keep the leader happy or that you want to remain part of the group.</li> <li>14. By helping others to be more organised or to make the right decisions or to manage others effectively</li> <li>15. To set goals (re healthy lifestyle) that others will follow</li> <li><b>16.</b> To give effective feedback on lifestyle to improve lifestyle behaviour.</li> </ol>	4	<p><b>Accept first two characteristics given</b> <b>Sub max 2 marks for identification:</b> <b>Accept other relevant characteristics of effective leadership.</b></p>

Question	Answer	Marks	Guidance
3 (b)	<p>Describe strategies that might promote mastery orientation and help to avoid learned helplessness in sports performance.</p> <p><b>5 marks for 5 of:</b></p> <ol style="list-style-type: none"> <li>1. Attribute success to controllable / internal factors</li> <li>2. Empower them/ convince that they can control part of future performances.</li> <li>3. Attribute failure to unstable factors or changeable factors or external factors /or aspects that are not permanent / enduring (examples may include effort/luck/tactics / developing skills etc)</li> <li>4. Use role models / significant others/leaders/coach/other players.</li> <li>5. Use relevant vicarious experiences or to see those of similar ability succeed in the task.</li> <li>6. Positive reinforcement / encouragement/ verbal persuasion.</li> <li>7. Raise (general) self-confidence</li> <li>8. Enable success to be experienced / give success / enable positive outcomes</li> <li>9. Control arousal / calm them. / use of positive self-talk / thought stopping /control anxiety</li> <li>10. Use mental practice or mental rehearsal / imagery of successful movement.</li> <li>11. Use SMART goals or goal setting that is specific or measured target/goal setting or goal setting that is realistic / achievable or that goals must be challenging.</li> </ol>	5	<p><b>Accept strategies described that promote MO as relevant to avoiding LH and visa versa.</b></p> <p><b>Accept relevant examples as descriptions</b></p>

Question	Answer	Marks	Guidance												
3 (c)	<p>Using practical examples, describe these faulty processes related to team performance in sport.  <b>1 marks for 6 of:</b></p> <table border="1" data-bbox="331 312 1317 1337"> <thead> <tr> <th data-bbox="331 312 696 347">Motivational losses</th> <th data-bbox="696 312 1317 347"></th> </tr> </thead> <tbody> <tr> <td data-bbox="331 347 696 587">1 (social loafing / lack of motivation)</td> <td data-bbox="696 347 1317 587"> <p>Team performance/productivity is affected by social loafing / lack of individual motivation/ poor motivation can decrease performance/productivity</p> <p><i>eg The hockey team did not win because one key player did not try hard enough</i></p> </td> </tr> <tr> <td data-bbox="331 587 696 826">2 (learned helplessness)</td> <td data-bbox="696 587 1317 826"> <p>Called learned helplessness/attributions of failure to internal stable factors/ losing and blaming themselves/ lacks self-confidence/ low self-efficacy /inexperience</p> <p><i>eg A netball player who does not try could lack confidence in her own ability.</i></p> </td> </tr> <tr> <td data-bbox="331 826 696 962">3 (lack of role)</td> <td data-bbox="696 826 1317 962"> <p>Lack of identifiable roles for team members</p> <p><i>eg players in a rugby team are not sure of their role within the team.</i></p> </td> </tr> <tr> <td data-bbox="331 962 696 1169">4 (accountability)</td> <td data-bbox="696 962 1317 1169"> <p>Insufficient accountability/individual efforts not recognised</p> <p><i>eg a member of the cricket team does not feel that his contribution to fielding is being appreciated.</i></p> </td> </tr> <tr> <td data-bbox="331 1169 696 1337">5 (injury/illness)</td> <td data-bbox="696 1169 1317 1337"> <p>Injury/illness of players may lead to lack of motivation/fatigue</p> <p><i>eg A member of a volleyball team may be injured and therefore cannot contribute fully.</i></p> </td> </tr> </tbody> </table>	Motivational losses		1 (social loafing / lack of motivation)	<p>Team performance/productivity is affected by social loafing / lack of individual motivation/ poor motivation can decrease performance/productivity</p> <p><i>eg The hockey team did not win because one key player did not try hard enough</i></p>	2 (learned helplessness)	<p>Called learned helplessness/attributions of failure to internal stable factors/ losing and blaming themselves/ lacks self-confidence/ low self-efficacy /inexperience</p> <p><i>eg A netball player who does not try could lack confidence in her own ability.</i></p>	3 (lack of role)	<p>Lack of identifiable roles for team members</p> <p><i>eg players in a rugby team are not sure of their role within the team.</i></p>	4 (accountability)	<p>Insufficient accountability/individual efforts not recognised</p> <p><i>eg a member of the cricket team does not feel that his contribution to fielding is being appreciated.</i></p>	5 (injury/illness)	<p>Injury/illness of players may lead to lack of motivation/fatigue</p> <p><i>eg A member of a volleyball team may be injured and therefore cannot contribute fully.</i></p>	6	<p>Candidates may relate more than one point to the same practical example of team performance.  Relevant and detailed practical example alone may gain credit for description</p>
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	<p>6 (Cohesion)</p> <p>Lack of team cohesion/ lack of social cohesion/ disputes/perceptions that others are not trying</p> <p><i>e.g. some members of the football team dislike each other and cannot work together effectively.</i></p>		
	<p>7 (incentives)</p> <p>Insufficient incentives to work together/work as a team / lack of common goals / group incentive</p> <p><i>e.g. The individuals in a hockey team have different personal goals.</i></p>		
	<p>8 (anxiety)</p> <p>Too high a level of competition / anxiety of team/individuals /goal perceived to be unachievable/losing</p> <p><i>e.g. One player in a basketball team feels that the opponents will be too good for them to win.</i></p>		
	<p>9 (others)</p> <p>Negative effects of an audience/crowd/coach de-motivates/criticises performer/officials' decisions</p> <p><i>e.g. The football team lose motivation because the crowd are criticising them.</i></p>		
	<p>10 (environment)</p> <p>Environmental factors/stressors may lead to lack of motivation</p> <p><i>e.g. the cold weather demotivates the players in a rugby match</i></p>		

Question	Answer	Marks	Guidance										
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<b>(d)* Levels of Response</b>	
<p><b>Level 4 (18-20 marks)</b> A comprehensive answer:</p> <ul style="list-style-type: none"> <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>	<p><b>Discriminators from L3 are likely to include:</b></p> <ul style="list-style-type: none"> <li>• A good range of relevant and detailed practical examples for both CU and AS</li> <li>• Detailed explanations of both CU and AS</li> <li>• Good links throughout with effective performance</li> </ul>
<p><b>Level 3 (13-17 marks)</b> A competent answer:</p> <ul style="list-style-type: none"> <li>• good knowledge and 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> </ul>	<p><b>Discriminators from L2 are likely to include:</b></p> <ul style="list-style-type: none"> <li>• Relevant and detailed practical examples for both CU and AS</li> <li>• Explanations of both CU and AS</li> <li>• Relevant links throughout with effective performance</li> </ul>
<p><b>Level 2 (8-12 marks)</b> A limited answer:</p> <ul style="list-style-type: none"> <li>• limited knowledge and 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>	<p><b>Discriminators from L1 are likely to include:</b></p> <ul style="list-style-type: none"> <li>• Relevant practical examples for both CU and AS but lack detail</li> <li>• Limited explanations of both CU and AS</li> <li>• Some links with effective performance</li> </ul>
<p><b>Level 1 (0 – 7 marks)</b> A basic answer:</p> <ul style="list-style-type: none"> <li>• basic knowledge and 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>	<p><b>At L1 responses are likely to:</b></p> <ul style="list-style-type: none"> <li>• Very few or no practical examples for both CU and AS</li> <li>• Limited explanations of either CU and AS</li> <li>• Few or no links with effective performance</li> <li>• Some inaccuracies / misunderstandings of CU and AS</li> </ul>



Question		Answer	Marks	Guidance										
3	(d)*	<p><b>Indicative Content:</b></p> <p><b>(Cue utilisation)</b></p> <table border="1"> <tr> <td>1. focus</td> <td>           This focuses attention (Easterbrook)           <ul style="list-style-type: none"> <li>(concentration) selective attention / perceptual narrowing.</li> <li>Eg a goalkeeper will keep her eye on the ball during a penalty kick</li> </ul> </td> </tr> <tr> <td>2. arousal</td> <td>           ....as arousal increases so does concentration.           <ul style="list-style-type: none"> <li>Eg when a hockey player is about to start a competitive game</li> </ul> </td> </tr> <tr> <td>3 optimum arousal</td> <td>           When arousal is <u>moderate/optimal / at the right level</u> then performance can increase           <ul style="list-style-type: none"> <li>because important cues / signals / stimuli can be attended to.</li> <li>Eg a tennis player will be psyched up to return the serve but is under control</li> </ul> </td> </tr> <tr> <td>4. ZOF</td> <td>           Enter zone of optimal functioning           <ul style="list-style-type: none"> <li>peak flow experience effecting performance positively</li> <li>building confidence/well-being leading to good performance.</li> <li>Eg the swimmer will feel that she is confident during the race</li> </ul> </td> </tr> <tr> <td>5. high arousal so miss cues</td> <td>           If arousal <u>continues to increase or is high</u> then this results in narrowing of attention           <ul style="list-style-type: none"> <li>leading to the missing of vital cues / signals / reduction in performance / poor performance.</li> <li>Eg a netball player loses her opponent because she is too anxious</li> </ul> </td> </tr> </table>	1. focus	This focuses attention (Easterbrook) <ul style="list-style-type: none"> <li>(concentration) selective attention / perceptual narrowing.</li> <li>Eg a goalkeeper will keep her eye on the ball during a penalty kick</li> </ul>	2. arousal	....as arousal increases so does concentration. <ul style="list-style-type: none"> <li>Eg when a hockey player is about to start a competitive game</li> </ul>	3 optimum arousal	When arousal is <u>moderate/optimal / at the right level</u> then performance can increase <ul style="list-style-type: none"> <li>because important cues / signals / stimuli can be attended to.</li> <li>Eg a tennis player will be psyched up to return the serve but is under control</li> </ul>	4. ZOF	Enter zone of optimal functioning <ul style="list-style-type: none"> <li>peak flow experience effecting performance positively</li> <li>building confidence/well-being leading to good performance.</li> <li>Eg the swimmer will feel that she is confident during the race</li> </ul>	5. high arousal so miss cues	If arousal <u>continues to increase or is high</u> then this results in narrowing of attention <ul style="list-style-type: none"> <li>leading to the missing of vital cues / signals / reduction in performance / poor performance.</li> <li>Eg a netball player loses her opponent because she is too anxious</li> </ul>	20	Accept opposite view of negative influences
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	<p><b>(Attentional styles)</b></p> <p>9. (Nideffer) attentional styles affects attentional control</p> <ul style="list-style-type: none"> <li>• broad and narrow dimension</li> <li>• external and internal dimension</li> </ul> <p>10. (broad) - attention takes into account a lot of information</p> <ul style="list-style-type: none"> <li>• peripheral stimuli/can enable performer to take in peripheral info</li> <li>• eg open skills</li> </ul> <p>11. (narrow) - attention is on very few stimuli</p> <ul style="list-style-type: none"> <li>• concentrate on small amount of stimuli/information/cue</li> <li>• can enable performer to focus on important elements in the environment</li> <li>• eg watch the ball/take aim.</li> </ul>								

Question	Answer	Marks	Guidance
	<p>12. (external) - Focus is on environmental stimuli</p> <ul style="list-style-type: none"> <li>• focus directed outwards</li> </ul> <p>13. (external) can enable performer to concentrate on external factors (other than internal)</p> <ul style="list-style-type: none"> <li>• can escape inner pain/exhaustion.</li> </ul> <p>14. (Internal) - Focus on themselves/emotions/thoughts</p> <p>15. (internal) - performer can concentrate on feeling good</p> <ul style="list-style-type: none"> <li>• zone of optimal functioning/ZOF/peak flow experience/control arousal</li> </ul> <p>16. information overload</p> <ul style="list-style-type: none"> <li>• too much information can cause confusion</li> </ul> <p>21. the right attention can enable performers to deal effectively with Distraction</p> <ul style="list-style-type: none"> <li>• will not be put off</li> </ul> <p>17. effective attention will improve reaction</p> <ul style="list-style-type: none"> <li>• improve reaction time/response time/movement time</li> </ul> <p>23. effective attention can prevent negative feelings</p> <p>24. enables positive attributions</p> <ul style="list-style-type: none"> <li>• focus on how well you felt about your effort rather than the fact that you lost the game of netball</li> </ul> <p>25. good performers can draw on a range or combination of different styles</p> <ul style="list-style-type: none"> <li>• eg good midfield footballer will be able to look wide, look for other players but also concentrate on his own skills.</li> </ul>		

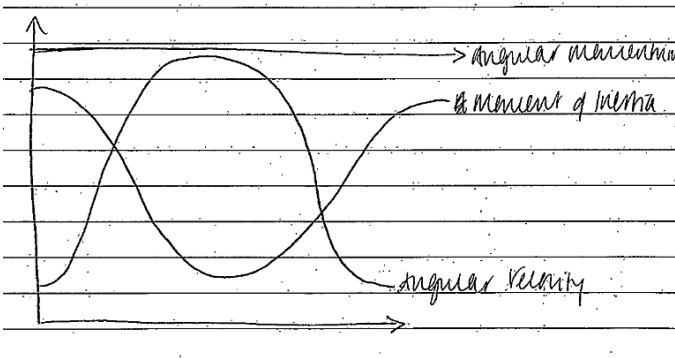
## Section B2 Biomechanics

Question		Answer	Marks	Guidance												
4	(a)	<p><b>4 marks for 4 of</b> Description of factors that affect the air resistance acting against a racing cyclist</p> <table border="1"> <tr> <td>1. (velocity)</td> <td>The faster the cyclist moves the greater the AR.</td> </tr> <tr> <td>2. (frontal/forward cross sectional area)</td> <td>The greater the frontal/forward cross sectional area the greater the AR or the more tucked the cyclist the less AR.</td> </tr> <tr> <td>3. (surface of cyclist/bike)</td> <td>The smoother the surface of cyclist/bike the less AR or use of lycra clothing reduces AR.</td> </tr> <tr> <td>4. (shape of cyclist/bike/helmet)</td> <td>Streamlining reduces AR or (tear drop) shape of helmet reduces AR / tapering of the helmet reduces drag/ aerofoil shape</td> </tr> <tr> <td>5. (Density of air)</td> <td>Less dense air means less AR or altitude reduces AR</td> </tr> <tr> <td>6. (slip streaming)</td> <td>Cyclist tucks in behind lead cyclist to get dragged along</td> </tr> </table>	1. (velocity)	The faster the cyclist moves the greater the AR.	2. (frontal/forward cross sectional area)	The greater the frontal/forward cross sectional area the greater the AR or the more tucked the cyclist the less AR.	3. (surface of cyclist/bike)	The smoother the surface of cyclist/bike the less AR or use of lycra clothing reduces AR.	4. (shape of cyclist/bike/helmet)	Streamlining reduces AR or (tear drop) shape of helmet reduces AR / tapering of the helmet reduces drag/ aerofoil shape	5. (Density of air)	Less dense air means less AR or altitude reduces AR	6. (slip streaming)	Cyclist tucks in behind lead cyclist to get dragged along	4	
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Question		Answer	Marks	Guidance
4	(b)	<p><b>6 marks for 6 of:</b></p> <p><b>(i) Defining impulse (sub max 1)</b></p> <p>1. (definition) - Impulse = force x time / Ft / change in momentum / <math>mv - mu</math></p> <p><b>(ii) Estimating value of impulse (sub max 2)</b></p> <p>2. (method) - Impulse = area under curve or Impulse = <math>\frac{1}{2} \times 1000 \times 0.1</math></p> <p>3. (impulse) - Impulse = 50 N/s (units must be correct)</p> <p><b>(iii) Relationship between impulse and momentum (sub max 3)</b></p> <p>4. (follow through) By using a follow through</p> <p>5. (time) Increases time that force is applied</p> <p>6. (impulse) Increases impulse acting on ball.</p> <p>7. (momentum) Increases outgoing / final momentum of the ball</p> <p>8. (velocity/control) Increases velocity of ball / distance ball travels / control over ball</p>	6	

Question			Marks	Guidance																
4	(c)	<p>5 marks for 5 of:</p> <p><b>Description of flight path of a golf ball (sub max 2)</b></p> <table border="1"> <tr> <td>1. <b>(hang /float)</b></td> <td>Causes golf ball to 'hang' / 'float' in flight or follow a non-parabolic / asymmetric flight path</td> </tr> <tr> <td>2. <b>(increase distance)</b></td> <td>Increases the (horizontal) distance covered</td> </tr> <tr> <td>3. <b>(more predictable)</b></td> <td>Flight path becomes more predictable to read / accurate (than a ball with no spin)</td> </tr> </table> <p><b>Explanation of bounce of golf ball (sub max 4)</b></p> <table border="1"> <tr> <td>4. <b>(Surface of ball)</b></td> <td>(on bouncing) bottom surface of ball wants to slide forwards</td> </tr> <tr> <td>5. <b>(Friction opposing)</b></td> <td>Friction <b>opposes</b> this sliding motion</td> </tr> <tr> <td>6. <b>(Friction direction)</b></td> <td>Friction acts in opposite direction to motion of golf ball / causes a backwards force</td> </tr> <tr> <td>7. <b>(Effect 1 – speed)</b></td> <td>Causing ball to decelerate / hold up / sit up</td> </tr> <tr> <td>8. <b>(Effect 2 – height)</b></td> <td>At a greater angle (than it would normally)</td> </tr> </table>	1. <b>(hang /float)</b>	Causes golf ball to 'hang' / 'float' in flight or follow a non-parabolic / asymmetric flight path	2. <b>(increase distance)</b>	Increases the (horizontal) distance covered	3. <b>(more predictable)</b>	Flight path becomes more predictable to read / accurate (than a ball with no spin)	4. <b>(Surface of ball)</b>	(on bouncing) bottom surface of ball wants to slide forwards	5. <b>(Friction opposing)</b>	Friction <b>opposes</b> this sliding motion	6. <b>(Friction direction)</b>	Friction acts in opposite direction to motion of golf ball / causes a backwards force	7. <b>(Effect 1 – speed)</b>	Causing ball to decelerate / hold up / sit up	8. <b>(Effect 2 – height)</b>	At a greater angle (than it would normally)	5	<p>Sub max 2 for description</p> <p>Sub max 4 for explanation</p>
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<b>(d)* Levels of Response</b>	
<p><b>Level 4 (18-20 marks)</b> A comprehensive answer:</p> <ul style="list-style-type: none"> <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>	<p><b><u>At level 4 answers are likely to show:</u></b></p> <ul style="list-style-type: none"> <li>• Accurate graphs of both angular velocity and moment of inertia with axes labelled correctly.</li> <li>• Detailed explanation of the concept of moment of inertia.</li> <li>• Knowledge of all 3 analogues.</li> <li>• Detailed understanding of the analogue of Newton 1 and its application to a triple spin.</li> <li>• Detailed explanation of how moment of inertia and angular velocity change at take-off, during flight and landing.</li> </ul>
<p><b>Level 3 (13-17 marks)</b> A competent answer:</p> <ul style="list-style-type: none"> <li>• good knowledge and 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> </ul>	<p><b><u>At level 3 answers are likely to show:</u></b></p> <ul style="list-style-type: none"> <li>• Accurately shaped graphs of both angular velocity and moment of inertia</li> <li>• Good explanation of the concept of moment of inertia.</li> <li>• Good understanding of the analogue of Newton 1 and its application to a triple spin.</li> <li>• Good explanation of how moment of inertia and angular velocity change at take-off, during flight and landing.</li> </ul>
<p><b>Level 2 (8-12 marks)</b> A limited answer:</p> <ul style="list-style-type: none"> <li>• limited knowledge and 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>	<p><b><u>At level 3 answers are likely to show:</u></b></p> <ul style="list-style-type: none"> <li>• Graphs of angular velocity and/or moment of inertia attempted but with some inaccuracies.</li> <li>• Description of the concept of moment of inertia.</li> <li>• Some understanding of the analogue of Newton 1 and its application to a triple spin.</li> <li>• Some explanation of how moment of inertia and angular velocity change at take-off or during flight or landing. Candidates at the top of this level should have covered at least two of these phases</li> </ul>
<p><b>Level 1 (0 – 7 marks)</b> A basic answer:</p> <ul style="list-style-type: none"> <li>• basic knowledge and 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>	<p><b><u>At level 4 answers are likely to show:</u></b></p> <ul style="list-style-type: none"> <li>• Graphs of either angular velocity or moment of inertia are inaccurate</li> <li>• Basic description of the concept of moment of inertia.</li> <li>• Basic description of changes in angular velocity or moment of inertia that take place during performance of a triple spin.</li> </ul>

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		6.	<p><b>(Analogue of N1)</b></p> <p>The angular momentum of a rotating body will remain constant unless acted upon by an external torque</p> <ul style="list-style-type: none"> <li>• Also known as the Law of Conservation of Angular Momentum</li> <li>• Angular momentum of the skater remains constant during the flight of the triple spin</li> </ul>		
		7.	<p><b>(Analogue of N2)</b></p> <p>The rate of change of angular momentum of an object is proportional to the size of the torque acting upon it</p> <ul style="list-style-type: none"> <li>• And takes place in the direction in which the torque acts</li> <li>• The greater the torque acting on the skater the greater the angular momentum of the skater</li> </ul>		
		8.	<p><b>(Analogue of N3)</b></p> <p>For every torque that is exerted by one body on another there is an equal and opposite torque exerted by the second body on the first.</p> <ul style="list-style-type: none"> <li>• The skater exerts a torque on the ground therefore the ground exerts an equal but opposite torque on the skater</li> </ul>		
		9.	<p>(angular momentum)</p> <p>Angular momentum refers to the amount of angular motion a rotating body possesses / is a measure of angular motion.</p> <ul style="list-style-type: none"> <li>• Depends on its moment of inertia and angular velocity.</li> <li>• <math>AM = \text{moment of inertia} \times \text{angular velocity} / I\omega</math></li> </ul>		
		10.	<p><b>(take off of skater) (MI)</b></p> <p>MI is high</p> <ul style="list-style-type: none"> <li>• Skater's mass is distributed away from axis of rotation / centre of mass</li> <li>• Eg Skater has arms wide / leg out away from body</li> </ul>		
		11.	<p>(axis of rotation)</p> <p>(Angular Momentum) given to skater about longitudinal axis of rotation.</p> <ul style="list-style-type: none"> <li>• Reaction force from feet acts outside of the centre of mass/longitudinal axis of rotation of the skater or torque exerted on skater from ground</li> </ul>		

			Answer	Marks	Guidance
		12.	(angular velocity) Angular velocity is low <ul style="list-style-type: none"> <li>• Rate of spin is low.</li> </ul>		
		13.	<b>(During flight)</b> (MI) MI is reduced <ul style="list-style-type: none"> <li>• Skater's mass is brought closer to (longitudinal) axis of rotation</li> <li>• Eg skater brings in arms / leg into side of body</li> </ul>		
		14.	(angular velocity) Angular velocity / rate of spin increases <ul style="list-style-type: none"> <li>• Because Angular Momentum is conserved</li> <li>• Eg This means skater can perform more full spins during flight.</li> </ul>		
		15.	<b>(Just before / on landing)</b> (MI) MI is increased <ul style="list-style-type: none"> <li>• To increase resistance to rotation</li> <li>• Eg Skater's arms / leg moves out</li> </ul>		
		16.	(angular velocity) Angular velocity is reduced <ul style="list-style-type: none"> <li>• Prevents over rotation on landing</li> <li>• Eg Skater more likely to stay on feet / scores better</li> </ul>		

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<b>(d)* Levels of Response</b>	
<p><b>Level 4 (18-20 marks)</b> A comprehensive answer:</p> <ul style="list-style-type: none"> <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>	<p><u>At level 4 answers are likely to include:</u></p> <ul style="list-style-type: none"> <li>• correct definition of aerobic capacity</li> <li>• detailed explanations of a range of physiological adaptations to training, likely to include points from at least 3 categories (respiratory, cardio, vascular, muscular, connective)</li> <li>• selection of relevant tests to measure aerobic capacity</li> <li>• a range of positives and negatives for selected tests</li> <li>• evaluation/ independent opinion relating the tests to the performer's needs</li> </ul>
<p><b>Level 3 (13-17 marks)</b> A competent answer:</p> <ul style="list-style-type: none"> <li>• good knowledge and 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> </ul>	<p><u>At level 3 answers are likely to include:</u></p> <ul style="list-style-type: none"> <li>• correct definition of aerobic capacity</li> <li>• explanations of some physiological adaptations to training, likely to include points from at least 2 categories (respiratory, cardio, vascular, muscular, connective)</li> <li>• selection of relevant tests to measure aerobic capacity</li> <li>• some positives and negatives for selected test(s)</li> <li>• some evaluation/ independent opinion relating the tests to the performer's needs</li> </ul>
<p><b>Level 2 (8-12 marks)</b> A limited answer:</p> <ul style="list-style-type: none"> <li>• limited knowledge and 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>	<p><u>At level 2 answers are likely to include:</u></p> <ul style="list-style-type: none"> <li>• attempted definition of aerobic capacity</li> <li>• limited explanation of some physiological adaptations to training</li> <li>• selection of relevant test to measure aerobic capacity</li> <li>• limited positives and negatives for selected test(s)</li> <li>• basic/ limited evaluation/ independent opinion relating the tests to the performer's needs</li> </ul>
<p><b>Level 1 (0 – 7 marks)</b> A basic answer:</p> <ul style="list-style-type: none"> <li>• basic knowledge and 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>	<p><u>At level 1 answers are likely to include:</u></p> <ul style="list-style-type: none"> <li>• attempted definition of aerobic capacity</li> <li>• identification/ description of limited physiological adaptations to training</li> <li>• selection of relevant test to measure aerobic capacity</li> <li>• limited or no positives/negatives for selected tests</li> <li>• little or no evaluation/ independent opinion relating the tests to the performer's needs</li> </ul>

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	<p>21. (MSFT – negatives)</p> <p>Boring to perform so people give up</p> <ul style="list-style-type: none"> <li>• Repetitive</li> <li>• Running specific so might not be very good for a swimmer/ cyclist etc</li> <li>• Only a prediction so not very accurate, especially for elite athletes</li> <li>• Standard values might not very accurate/ old</li> <li>• Quite intense for beginners</li> <li>• Not challenging enough for elite performers</li> <li>• Would depend on time of day and conditions</li> <li>• Could be affected by fluid or food intake before the test</li> <li>• Bad memories associated with school</li> </ul>		
	<p>22. (PWC 170 description)</p> <p>PWC 170 test</p> <ul style="list-style-type: none"> <li>• Sub maximal test on a cycle ergometer</li> <li>• Cycle at 3 progressive low to moderate work intensities</li> <li>• Record HR values</li> <li>• Plot HR values against work intensity to predict work rate when HR reaches 170 bpm/ anaerobic level</li> </ul>		
	<p>23. (PWC 170 positives)</p> <p>Easy to administer/ simple procedure</p> <ul style="list-style-type: none"> <li>• Not too strenuous so wouldn't put people off</li> <li>• Only 6 minutes at a time so easy to complete</li> <li>• Only need access to a cycle ergometer so not lots of complicated equipment</li> <li>• Cycle ergometers are in most gyms</li> </ul>		
	<p>24. (PWC 170 negatives)</p> <p>Cycling specific so people might not be motivated</p> <ul style="list-style-type: none"> <li>• Requires cycle ergometer</li> <li>• Takes over 30 minutes so time consuming</li> <li>• Not used to cycling so could gain a poor result due to not being used to action</li> <li>• Only a prediction/ estimates HR at higher levels</li> <li>• Line of best fit is subjective/ open to errors</li> </ul>		

Question	Answer	Marks	Guidance
	<ul style="list-style-type: none"> <li>• Performer might not be trying much as only working at low to moderate intensity so result might not be accurate</li> <li>• Depends on time of day and conditions</li> <li>• Could be affected by fluid intake or food intake before the test</li> <li>• Not easy to administer to a large group/ team</li> </ul>		
25. (12 minute cooper run description)	Measures how far the participant can run in 12 minutes <ul style="list-style-type: none"> <li>• Often based around a running track</li> <li>• The distance achieved is then compared to standard values</li> </ul>		
26. (12 min positives)	Easy to administer/ simple procedure <ul style="list-style-type: none"> <li>• Cheap – doesn't require much equipment</li> <li>• Easy to administer to groups</li> <li>• Competitive</li> <li>• Could be adapted to walking if running is too hard</li> <li>• Could be adapted to treadmill in gym</li> </ul>		
27. (12 min negatives)	Boring to carry out so might not be motivated <ul style="list-style-type: none"> <li>• Running specific</li> <li>• Only as estimation</li> <li>• Pacing practice could affect scoring</li> <li>• 12 minutes of running might be too difficult</li> </ul>		
28. ( VO <sub>2</sub> max test description)	VO <sub>2</sub> max treadmill test <ul style="list-style-type: none"> <li>• Exercise is performed on a treadmill/ cycle ergometer.</li> <li>• Workload increases gradually from moderate to maximal intensity.</li> <li>• Oxygen uptake is calculated from measures of ventilation and the oxygen and carbon dioxide in the expired air, and the maximal level is determined at or near test completion</li> </ul>		

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	<p>29. ( VO<sub>2</sub> max positives )</p> <p>Can be adapted to different ergometers to be more sport specific, e.g. treadmill, cycle, rower</p> <ul style="list-style-type: none"> <li>• Most accurate as it is actually a measure of oxygen consumption</li> <li>• Maximal test so gives elite athletes an accurate measure</li> </ul>		
	<p>30. ( VO<sub>2</sub> max negatives )</p> <p>More complicated procedure due to gas analysis</p> <ul style="list-style-type: none"> <li>• Requires specialist equipment</li> <li>• Expensive</li> <li>• Time consuming</li> <li>• Requires accurate calibration</li> <li>• Requires precision in process to get accurate result</li> <li>• Depends on the skill of person administering the test</li> <li>• Affected by quality of equipment</li> <li>• Maximal test so not suitable for beginners/ injured/ elderly</li> <li>• Hard to carry out with more than one person due to complicated procedure</li> </ul>		
	<p>31. (sport specific)</p> <p>Which test is best is dependent upon how sports specific you want the test to be</p> <ul style="list-style-type: none"> <li>• If for cycling – PCW 170</li> <li>• If running or more team sport based involving running then MSFT</li> </ul>		
	<p>32. (intensity/ fitness levels)</p> <p>Perhaps for those who are new to exercise then the PCW 170 is best as it is less daunting than the multistage fitness test/ more trained athletes MSFT better as more demanding so better gauge</p>		

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