

GCE

Physical Education

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

Advanced GCE

Mark Scheme for June 2014

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.

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

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

Annotation	Meaning
✓	= Correct response
S	= Sub max
BOD	= Benefit of the doubt
REP	= Repeat
TV	= Too Vague
KU	= Knowledge and understanding (levels scheme)
DEV	= Development (levels scheme)
IRR	= Significant amount of material which does not answer the question
SEEN	= Noted but no credit given
L1	= Level 1 (levels scheme)
L2	= Level 2 (levels scheme)
L3	= Level 3 (levels scheme)
L4	= Level 4 (levels scheme)
EG	= Practical example (levels scheme)
BP	= Blank page

Subject-specific Marking Instructions

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	Marks	Guidance																														
1 a	<p>5 marks for 5 of: <i>Impact of industrial action on young people's participation in physical activity</i> Sub max 3</p> <table border="1" data-bbox="331 392 1832 703"> <tr> <td>1. (less provision)</td> <td>less provision or less opportunity (for physical activity)</td> </tr> <tr> <td>2. (fewer staff)</td> <td>fewer (non-specialist) staff helping with extra-curricular activities</td> </tr> <tr> <td>3. (less participation)</td> <td>less participation (in schools) or fewer/no extra-curricular activities or fewer Saturday fixtures</td> </tr> <tr> <td>4. (lifetime sport)</td> <td>(potential) negative impact on lifelong involvement or less likely to carry on with participation in later life</td> </tr> <tr> <td>5. (more community / positive view)</td> <td>increased community or club provision/ participation (due to reduced school provision)</td> </tr> </table> <p><u>Two possible impacts of the National Curriculum.</u> Sub max 2</p> <p>Possible Positive impacts</p> <table border="1" data-bbox="331 850 1845 1401"> <tr> <td>1. (standards)</td> <td>(Higher) standards or clear (national) standards or better progress (due to assessment)</td> </tr> <tr> <td>2. (consistency)</td> <td>A consistent experience wherever a child goes to school or same offered in all schools or easy transfer between schools</td> </tr> <tr> <td>3. (balance)</td> <td>A balanced PE experience</td> </tr> <tr> <td>4. (pupil rights)</td> <td>Learners gain the right to certain content or entitlement</td> </tr> <tr> <td>5. (participation)</td> <td>Leads to greater likelihood of lifelong participation or likely to carry on with physical activities</td> </tr> <tr> <td>6. (adaptation)</td> <td>Schools can adapt the curriculum to suit themselves/their strengths or (some) autonomy for schools or schools can have some choice over what/how they deliver the NC</td> </tr> <tr> <td>7. (support)</td> <td>Support provided (especially to non-specialist teachers)</td> </tr> <tr> <td>8. (variety/skills)</td> <td>Variety or broad range of skills/experiences/sports developed or thinking / analytical / social skills developed or accept examples of skills / values (such as fair play or integrity or independence or problem solving / experiencing different roles e.g. leader or official)</td> </tr> <tr> <td>9. (time)</td> <td>Protected time or government targets or 5 hour offer or a set amount of time or compulsory time</td> </tr> <tr> <td>10. (wellbeing)</td> <td>Improves well-being (of pupils) or stress relief or increased confidence / healthy lifestyle</td> </tr> </table>	1. (less provision)	less provision or less opportunity (for physical activity)	2. (fewer staff)	fewer (non-specialist) staff helping with extra-curricular activities	3. (less participation)	less participation (in schools) or fewer/no extra-curricular activities or fewer Saturday fixtures	4. (lifetime sport)	(potential) negative impact on lifelong involvement or less likely to carry on with participation in later life	5. (more community / positive view)	increased community or club provision/ participation (due to reduced school provision)	1. (standards)	(Higher) standards or clear (national) standards or better progress (due to assessment)	2. (consistency)	A consistent experience wherever a child goes to school or same offered in all schools or easy transfer between schools	3. (balance)	A balanced PE experience	4. (pupil rights)	Learners gain the right to certain content or entitlement	5. (participation)	Leads to greater likelihood of lifelong participation or likely to carry on with physical activities	6. (adaptation)	Schools can adapt the curriculum to suit themselves/their strengths or (some) autonomy for schools or schools can have some choice over what/how they deliver the NC	7. (support)	Support provided (especially to non-specialist teachers)	8. (variety/skills)	Variety or broad range of skills/experiences/sports developed or thinking / analytical / social skills developed or accept examples of skills / values (such as fair play or integrity or independence or problem solving / experiencing different roles e.g. leader or official)	9. (time)	Protected time or government targets or 5 hour offer or a set amount of time or compulsory time	10. (wellbeing)	Improves well-being (of pupils) or stress relief or increased confidence / healthy lifestyle	5	Accept first two attempts only
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Question	Answer		Marks	Guidance
	Possible negative impacts			
	11. (admin)	burden of paperwork or admin or record keeping or restricts time (for creative planning) or too time consuming		
	12. (support)	Need for adequate support or specialist training or support needed for non-specialist or primary school teachers		
	13. (assessment)	lack of experience of assessment or skewed results due to confusion of lack of assessment experience or assessment too subjective or assessment is inaccurate		
	14. (balance/choice)	schools can still omit certain aspects (eg dance) (if teachers not keen on something it can be omitted) or teachers only choose their favourite activities or activities that they are interested in		
	15. (constraints)	It can limit teachers' choice / too prescriptive or you can't teach all that you want to teach		
	16. (pressure/entitlement)	It can put pressure on schools or school under pressure to have / provide certain facilities or activities		

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1	(b)	<p>6 marks for 6 of: <i>Comparison of mob football and real tennis</i> (sub max 4)</p> <table border="1"> <thead> <tr> <th></th> <th>Mob football</th> <th>Real tennis</th> </tr> </thead> <tbody> <tr> <td>1. (rules)</td> <td>simple rules or unwritten rules or limited rules</td> <td>complex rules or written rules</td> </tr> <tr> <td>2. (facility)</td> <td>simple or natural facility or in the countryside or rural</td> <td>purpose built facility or court</td> </tr> <tr> <td>3. (equipment)</td> <td>simple or natural equipment or pigs bladder for ball or just a ball</td> <td>Sophisticated / expensive / specialist equipment or specialist rackets / balls</td> </tr> <tr> <td>4. (regularity)</td> <td>occasional or irregular or annual or festival</td> <td>(more) regular / more frequent</td> </tr> <tr> <td>5. (location)</td> <td>Local</td> <td>not (only) local</td> </tr> <tr> <td>6. (class)</td> <td>lower class or peasants or for 'the people' / populace or for everyone</td> <td>upper class or royalty or courtly or gentry or aristocracy or exclusive/elitist</td> </tr> <tr> <td>7. (violence)</td> <td>violent / dangerous/physical</td> <td>non-violent or sophisticated or peaceful or friendly or skilful or safe</td> </tr> <tr> <td>8. (clothing)</td> <td>no specialist clothing</td> <td>specialist clothing</td> </tr> <tr> <td>9. (wagering)</td> <td>wagering</td> <td>wagering</td> </tr> <tr> <td>10. (male)</td> <td>male dominated / men only</td> <td>male dominated/ men only</td> </tr> <tr> <td>11. (spectators)</td> <td>not for spectators or if nearby, assumed involved</td> <td>a game for spectators</td> </tr> </tbody> </table>		Mob football	Real tennis	1. (rules)	simple rules or unwritten rules or limited rules	complex rules or written rules	2. (facility)	simple or natural facility or in the countryside or rural	purpose built facility or court	3. (equipment)	simple or natural equipment or pigs bladder for ball or just a ball	Sophisticated / expensive / specialist equipment or specialist rackets / balls	4. (regularity)	occasional or irregular or annual or festival	(more) regular / more frequent	5. (location)	Local	not (only) local	6. (class)	lower class or peasants or for 'the people' / populace or for everyone	upper class or royalty or courtly or gentry or aristocracy or exclusive/elitist	7. (violence)	violent / dangerous/physical	non-violent or sophisticated or peaceful or friendly or skilful or safe	8. (clothing)	no specialist clothing	specialist clothing	9. (wagering)	wagering	wagering	10. (male)	male dominated / men only	male dominated/ men only	11. (spectators)	not for spectators or if nearby, assumed involved	a game for spectators	6	<p>Sub max 4 for comparison Direct comparison needed for each mark</p> <p>Accept 'implied' comparison eg 'more' or 'less'.</p>
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1 (c)	<p>4 marks for 4 of: <i>How these social relationships were reflected in the nature of sports and games in stage one and stage three.</i></p> <p>(sub max 2)</p> <table border="1" data-bbox="342 384 1317 1374"> <thead> <tr> <th data-bbox="342 384 786 424">Social relationships</th> <th data-bbox="786 384 1317 424">Nature of sports and games</th> </tr> </thead> <tbody> <tr> <td colspan="2" data-bbox="342 424 1317 456">Stage one</td> </tr> <tr> <td data-bbox="342 456 786 895"> 1. Bullying or brutality or poor relationships (between themselves) or mutual disrespect (between boys and masters) or reference to fagging system or boy slaves became boy tyrant as they moved up the school or poor relationships between school and the local community or boys involved in poaching/fighting/trespassing </td> <td data-bbox="786 456 1317 895"> violent or force not skill or outright / un-channelled aggression or lack of respect for teammates or opposition or there were (occasional) deaths or trespassing (activities) </td> </tr> <tr> <td colspan="2" data-bbox="342 895 1317 927">Stage three</td> </tr> <tr> <td data-bbox="342 927 786 1374"> 2. less bullying / brutality or improved relationships / more mutual respect (between boys and masters) or more caring / friendly / paternal teachers / Head Teachers or more friendly relationships between Sixth Form /Prefects and young boys or better relationships between school and the local community or boys in mainly school-based activities </td> <td data-bbox="786 927 1317 1374"> Less violent or skill rather than force or channelled aggression or sportsmanship/fair play or respect for team mates/opposition /or safer or more pastoral care or (more) rules </td> </tr> </tbody> </table>	Social relationships	Nature of sports and games	Stage one		1. Bullying or brutality or poor relationships (between themselves) or mutual disrespect (between boys and masters) or reference to fagging system or boy slaves became boy tyrant as they moved up the school or poor relationships between school and the local community or boys involved in poaching/fighting/trespassing	violent or force not skill or outright / un-channelled aggression or lack of respect for teammates or opposition or there were (occasional) deaths or trespassing (activities)	Stage three		2. less bullying / brutality or improved relationships / more mutual respect (between boys and masters) or more caring / friendly / paternal teachers / Head Teachers or more friendly relationships between Sixth Form /Prefects and young boys or better relationships between school and the local community or boys in mainly school-based activities	Less violent or skill rather than force or channelled aggression or sportsmanship/fair play or respect for team mates/opposition /or safer or more pastoral care or (more) rules	4	<p>Sub max 2 for how social relationships reflected the nature of sports and games in stages one and three. One mark for stage one One mark for stage three</p> <p>Link any element of the 'social relationships' box with any element of the 'nature of sports and games' box for each mark Accept: Stage 1 'ruling by the rod'</p>
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	<p>Reasons for changes in social relationships - stage one to stage three</p> <p>(sub max 2)</p> <table border="1" data-bbox="342 347 1319 1066"> <tr> <td data-bbox="342 347 658 416">1. (Heads)</td> <td data-bbox="658 347 1319 416">impact / reforms of Dr Thomas Arnold / head teachers</td> </tr> <tr> <td data-bbox="342 416 658 624">2. (Sixth Form)</td> <td data-bbox="658 416 1319 624">impact of sixth form being given responsibility /or raised status of Sixth Form or Sixth Form given powers of discipline or Sixth Form Arnold's 'eyes and ears' around school or Sixth Form as link between masters and boys or Sixth Form were 'a police force'.</td> </tr> <tr> <td data-bbox="342 624 658 655">3. (house system)</td> <td data-bbox="658 624 1319 655">due to impact of house system</td> </tr> <tr> <td data-bbox="342 655 658 724">4. (social control)</td> <td data-bbox="658 655 1319 724">improvements in social control or impact of stage two / transition stage</td> </tr> <tr> <td data-bbox="342 724 658 793">5. (games)</td> <td data-bbox="658 724 1319 793">due to increased status / regularity / organisation (of games or sports)</td> </tr> <tr> <td data-bbox="342 793 658 932">6. (Muscular Christianity)</td> <td data-bbox="658 793 1319 932">impact of Muscular Christianity or Arnold/Headteachers keen to produce Christian gentlemen or chapel as centre of school life or delivery of Christian message</td> </tr> <tr> <td data-bbox="342 932 658 1066">7. (civilising process)</td> <td data-bbox="658 932 1319 1066">the civilising process in society or society becoming more civilised / orderly or less primitive or reflection of societal change or increased law and order or new moral code</td> </tr> </table>	1. (Heads)	impact / reforms of Dr Thomas Arnold / head teachers	2. (Sixth Form)	impact of sixth form being given responsibility /or raised status of Sixth Form or Sixth Form given powers of discipline or Sixth Form Arnold's 'eyes and ears' around school or Sixth Form as link between masters and boys or Sixth Form were 'a police force'.	3. (house system)	due to impact of house system	4. (social control)	improvements in social control or impact of stage two / transition stage	5. (games)	due to increased status / regularity / organisation (of games or sports)	6. (Muscular Christianity)	impact of Muscular Christianity or Arnold/Headteachers keen to produce Christian gentlemen or chapel as centre of school life or delivery of Christian message	7. (civilising process)	the civilising process in society or society becoming more civilised / orderly or less primitive or reflection of societal change or increased law and order or new moral code		<p>Sub max 2 for changes in social relationships</p> <ul style="list-style-type: none"> • Mark first two identifiable reasons given
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(d)* Levels of Response <i>Impact of socio-cultural factors on development of Association Football from 1850 to today.</i>	
<p>Level 4 (18-20 marks) A comprehensive answer:</p> <ul style="list-style-type: none"> • detailed knowledge & excellent understanding • detailed analysis and excellent critical evaluation • well-argued, independent opinion and judgements which are well supported by relevant practical examples • very accurate use of technical and specialist vocabulary • high standard of written communication throughout. 	<p>At Level 4 answers <u>are likely</u> to include:</p> <ul style="list-style-type: none"> • detailed and developed discussion of a wide range of socio-cultural factors. • detailed coverage of its development up to more recently – today. • knowledge consistently and accurately applied to Association Football
<p>Level 3 (13-17 marks) A competent answer:</p> <ul style="list-style-type: none"> • good knowledge and clear understanding • good analysis and critical evaluation • independent opinions and judgements will be present but may not always be supported by relevant practical examples • generally accurate use of technical and specialist vocabulary • written communication is generally fluent with few errors. 	<p>At Level 3 answers <u>are likely</u> to include:</p> <ul style="list-style-type: none"> • good with some developed discussion of a range of socio-cultural factors. • good coverage of its development more recently. • knowledge accurately applied to Association Football
<p>Level 2 (8-12 marks) A limited answer:</p> <ul style="list-style-type: none"> • limited knowledge and understanding • some evidence of analysis and critical evaluation • opinion and judgement given but often unsupported by relevant practical examples • technical and specialist vocabulary used with limited success • written communication lacks fluency and contains errors. 	<p>At Level 2 answers <u>are likely</u> to include:</p> <ul style="list-style-type: none"> • discussion, with little development, of some socio-cultural factors. • limited coverage of its development more recently. • knowledge sometimes applied accurately to Association Football
<p>Level 1 (0 – 7 marks) A basic answer:</p> <ul style="list-style-type: none"> • basic knowledge and little understanding • little relevant analysis or critical evaluation • little or no attempt to give opinion or judgement • little or no attempt to use technical and specialist vocabulary • errors in written communication will be intrusive. 	<p>At Level 1 answers <u>are likely</u> to include:</p> <ul style="list-style-type: none"> • description of few socio-cultural factors with lack of development. • Little or no coverage of its development more recently. • knowledge rarely applied to Association Football • Some inaccuracies

		Answer	Guidance																
1	(d)*	<p>Indicative Content: <i>Impact of socio-cultural factors on development of Association Football from 1850 to today.</i></p> <table border="1"> <tr> <td>1. (mob game)</td> <td>Background reference to pre-industrial or mob football</td> </tr> <tr> <td>2. (1800-1850)</td> <td>Background reference to first half of nineteenth century when opportunity and provision for football and other sports and pastimes limited</td> </tr> <tr> <td>3. (urbanisation)</td> <td>Background reference to (post1800) urbanisation / migration of lower class from rural to urban areas <ul style="list-style-type: none"> • large numbers in same place / captive audience • Overcrowding / disease </td> </tr> <tr> <td>4. (free time)</td> <td>increased free time <ul style="list-style-type: none"> • shorter working day / shorter working week • ... 12 to 10 hours / 72 to 60 hours • week paid holiday • ...1870-1890 – first for skilled, then semi-skilled, then unskilled • Factory Act </td> </tr> <tr> <td>5. (half day)</td> <td>Saturday half day <ul style="list-style-type: none"> • ...for factory workers • 1870-1890 – first for skilled, then semi-skilled, then unskilled </td> </tr> <tr> <td>6. (early closing)</td> <td>Early closing movement <ul style="list-style-type: none"> • shop workers half day </td> </tr> <tr> <td>7. (transport)</td> <td>improved transport <ul style="list-style-type: none"> • notably railways • significance of third class tickets (working class could afford to travel) • spectators could travel to 'away' matches • increased the regularity of matches / more fixtures • players could play teams from further away </td> </tr> <tr> <td>8. (rules/NGBs)</td> <td>(so)...rules needed or established / standardisation of rules / codification e.g. regarding numbers on team or 'off side'</td> </tr> </table>	1. (mob game)	Background reference to pre-industrial or mob football	2. (1800-1850)	Background reference to first half of nineteenth century when opportunity and provision for football and other sports and pastimes limited	3. (urbanisation)	Background reference to (post1800) urbanisation / migration of lower class from rural to urban areas <ul style="list-style-type: none"> • large numbers in same place / captive audience • Overcrowding / disease 	4. (free time)	increased free time <ul style="list-style-type: none"> • shorter working day / shorter working week • ... 12 to 10 hours / 72 to 60 hours • week paid holiday • ...1870-1890 – first for skilled, then semi-skilled, then unskilled • Factory Act 	5. (half day)	Saturday half day <ul style="list-style-type: none"> • ...for factory workers • 1870-1890 – first for skilled, then semi-skilled, then unskilled 	6. (early closing)	Early closing movement <ul style="list-style-type: none"> • shop workers half day 	7. (transport)	improved transport <ul style="list-style-type: none"> • notably railways • significance of third class tickets (working class could afford to travel) • spectators could travel to 'away' matches • increased the regularity of matches / more fixtures • players could play teams from further away 	8. (rules/NGBs)	(so)...rules needed or established / standardisation of rules / codification e.g. regarding numbers on team or 'off side'	<ul style="list-style-type: none"> • Give KU for <u>relevant</u> knowledge points (usually main headings) • Give DEV for <u>relevant</u> development points (usually bullet points) • Give EG for <u>relevant</u> practical examples • Always indicate the Level at the base of the answer (L1,L2, L3 or L4) • Do not be limited by the indicative content give credit for other relevant points or developments. • Do not give credit to irrelevant material
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	<ul style="list-style-type: none"> Establishment of NGBs FA (in 1863) 	
9. (competitions)	(so)... leagues or cups of competitions established e.g. FA cup	
10. (technology)	Improved technology / purpose built or specialist facilities <ul style="list-style-type: none"> stadia or terraces kit or equipment parks football stadium central feature of many towns e.g. Bristol / London / Manchester/ Birmingham	
11. (affordable)	affordable / could afford it / not too expensive / could afford entrance or gate money <ul style="list-style-type: none"> could afford transport (significance of third class travel if not given in 3 above) 	
12. (broken time payments)	(impact of)'broken time' payments <ul style="list-style-type: none"> compensation for loss of earnings working class unable to afford to miss work 	
13. (professionalism)	opportunities for professional players <ul style="list-style-type: none"> professional football a (comparatively) 'good' job But – not a secure job chance for skilled footballers to 'escape' factory or urban deprivation 	
14. (class)	impact of class <ul style="list-style-type: none"> association football became 'the people's game' or the working class game middle class influenced game / game became more respectable e.g. middle class team - Corinthian casuals	
15. (business)	business opportunity <ul style="list-style-type: none"> running a club 	
16. (literacy)	improved literacy/ education of working class <ul style="list-style-type: none"> supporters could read about team/s or individuals 'working class' or sporting heroes 	
17. (media)	Increased media interest or publicity <ul style="list-style-type: none"> development of sporting press 	

			e.g. Bells Life		
		18. (law and order)	<p>increased law and order</p> <ul style="list-style-type: none"> • ...so less gambling (on football) • ...so game became socially acceptable 		<ul style="list-style-type: none"> • For higher band answers look for more recent developments • For Level 4 look for the inclusion of <u>today</u>
		19. (ex public school boys)	<p>impact / influence of ex public schoolboys</p> <p>e.g. helped to establish FA in 1863</p> <ul style="list-style-type: none"> • university melting pot • ex university men back to schools as assistant master • spread of game throughout country, Europe or Empire <p>e.g. via teachers or army officers or parents or politicians or vicars or priests or industrialists or community members or leaders</p>		
		20. (factory and church)	<p>expansion through factory or church teams</p> <ul style="list-style-type: none"> • Church acceptance <p>e.g. Everton or other example</p>		
			More recently - today:		
		21. (golden triangle)	<p>impact of 'golden triangle'/ increased impact of media or sponsorship</p> <ul style="list-style-type: none"> • game as highly commercial business product • especially the men's game • Sky v terrestrial viewing opportunities / pay per view • TV rights 		
		22. (role models)	<p>top players as superstars or role models</p> <ul style="list-style-type: none"> • Positive and negative role models • high salaries for top players <p>e.g. Wayne Rooney or other example</p>		
		23. (minority groups)	<p>involvement by minority groups</p> <ul style="list-style-type: none"> • gender discrimination impacting on female development (until more recently) <p>e.g. women or other example</p> <ul style="list-style-type: none"> • reference to women's football in London 2012 Olympics • Development of women's (Super) league • Kick racism out of football 		

	24. (foreign players)	Foreign players <ul style="list-style-type: none"> • Bosman rules / non-English players in Premier League e.g. accept any suitable example		
	25. (transport)	transport developments <ul style="list-style-type: none"> • cheap international travel 		
	26. (grass roots)	grass roots <ul style="list-style-type: none"> • FA skill schools • Expansion of school sport 		
	27. (comps)	more fixtures or competitions <ul style="list-style-type: none"> • rule changes • more officials • international competition 		
	28. (technology)	Impact of modern technology <ul style="list-style-type: none"> • Influence of internet • Football info via Smartphones e.g. goal line technology e.g. ref's mic		

Section A: Comparative Studies (Option A2)

Question	Answer	Marks	Guidance																										
2 (a)	<p>Outline the growth and development of Association Football in Australia. 5 marks for 5 of:</p> <p>Early days</p> <table border="1" data-bbox="338 400 1644 715"> <tr> <td data-bbox="338 400 689 472">1.(ethnicity)</td> <td data-bbox="689 400 1644 472">Game associated with immigrants/colonial period/ 'Pommie game'/copied from 'Motherland'</td> </tr> <tr> <td data-bbox="338 472 689 507">2.(not accepted)</td> <td data-bbox="689 472 1644 507">Australia wanted own game or game not accepted / adopted initially</td> </tr> <tr> <td data-bbox="338 507 689 608">3.(concern)</td> <td data-bbox="689 507 1644 608">Concern that football would become top sport (above rugby codes and Aussie Rules) or not enough players to go around or lack of 'sport space'</td> </tr> <tr> <td data-bbox="338 608 689 679">4.(violence)</td> <td data-bbox="689 608 1644 679">Spectator and player violence (associated with ethnic rivalry - made it widely unacceptable)</td> </tr> <tr> <td data-bbox="338 679 689 715">5.(media/sponsorship)</td> <td data-bbox="689 679 1644 715">Limited media interest or limited sponsorship</td> </tr> </table> <p>More recently</p> <table border="1" data-bbox="338 746 1644 1326"> <tr> <td data-bbox="338 746 689 818">6.(NGB)</td> <td data-bbox="689 746 1644 818">Improved leadership or improved efficiency of governing body or governing body has improved image of game</td> </tr> <tr> <td data-bbox="338 818 689 890">7.(ethnicity)</td> <td data-bbox="689 818 1644 890">Reduced ethnic troubles (as ethnic origin of teams no longer recognised)</td> </tr> <tr> <td data-bbox="338 890 689 962">8.(media sponsorship)</td> <td data-bbox="689 890 1644 962">Increased media coverage / support or increased sponsorship/merchandising or National League set up</td> </tr> <tr> <td data-bbox="338 962 689 997">9.(school/community)</td> <td data-bbox="689 962 1644 997">Popular in schools / communities</td> </tr> <tr> <td data-bbox="338 997 689 1032">10.(AIS- elite)</td> <td data-bbox="689 997 1644 1032">Supported by AIS/Australian Institute of Sport</td> </tr> <tr> <td data-bbox="338 1032 689 1133">11. (star players)</td> <td data-bbox="689 1032 1644 1133">Australian players in European leagues or English premiership/'star' European players sought by Australian teams (for skill development, entertainment, role modelling)</td> </tr> <tr> <td data-bbox="338 1133 689 1257">12.(success)</td> <td data-bbox="689 1133 1644 1257">Increased international success/profile of national team or success in (2006) world cup or 2010/2014 world cup qualification or 2009 Aus reached 14 in world rankings.</td> </tr> <tr> <td data-bbox="338 1257 689 1326">13.(Spectators)</td> <td data-bbox="689 1257 1644 1326">Increased spectators or international matches played around the country (no national stadium) encouraging interest/spectators</td> </tr> </table>	1.(ethnicity)	Game associated with immigrants/colonial period/ 'Pommie game'/copied from 'Motherland'	2.(not accepted)	Australia wanted own game or game not accepted / adopted initially	3.(concern)	Concern that football would become top sport (above rugby codes and Aussie Rules) or not enough players to go around or lack of 'sport space'	4.(violence)	Spectator and player violence (associated with ethnic rivalry - made it widely unacceptable)	5.(media/sponsorship)	Limited media interest or limited sponsorship	6.(NGB)	Improved leadership or improved efficiency of governing body or governing body has improved image of game	7.(ethnicity)	Reduced ethnic troubles (as ethnic origin of teams no longer recognised)	8.(media sponsorship)	Increased media coverage / support or increased sponsorship/merchandising or National League set up	9.(school/community)	Popular in schools / communities	10.(AIS- elite)	Supported by AIS/Australian Institute of Sport	11. (star players)	Australian players in European leagues or English premiership/'star' European players sought by Australian teams (for skill development, entertainment, role modelling)	12.(success)	Increased international success/profile of national team or success in (2006) world cup or 2010/2014 world cup qualification or 2009 Aus reached 14 in world rankings.	13.(Spectators)	Increased spectators or international matches played around the country (no national stadium) encouraging interest/spectators	5	
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(b)	5 marks for 5 of:		5	Points 1,2, 7-10 must have reference to both countries Points 3 – 6 must directly compare with Australia and UK	
	Compare provision for sporting excellence in Australia and UK				
		Australia			UK
	1.(decentralised)	Both have decentralised systems			
	2.(institutes)	Both have institutes or UK copied Australia or UK has UK Sport / home country institutes			
	3.(examples)	Eg Australian Institute of Sport / Victorian Institute of Sport (VIS)/Melbourne/SASI/NSWIS/NTIS Or European Training Centre			Eg English Institute of Sport (EIS) at Bisham or Sheffield/SINI/SIS/WIS Or Sport UK
	4.(state v country)	Each state has at least one Institute or all institutes of equal status			Each home country has its own institute or all institutes of equal status
	5.(Govt)	Government (ASC) directly involved in sporting decisions			Government not (directly) involved with sporting policy/funded via NGB's etc
	6.(funding)	Funded by government or business or private enterprise			Funded by National Lottery or business sponsorship
	7.(facilities)	Institutes in both countries have world class / excellent / top facilities/equipment/technology			
	8.(support)	maximises potential/supports high performance sport/institutes in both countries provide world class support eg coaching/medical/scientific			
9.(financial help)	Institutes in both countries provide financial aid/sponsorship to performers				
10.(Education /ASE)	Institutes in both countries provide educational and/or vocational opportunities eg ASE eg advice about media/finance				

(c)	<p>5 marks for 5 of:</p> <p><i>Dominant values in USA that affect participation and performance in physical activity.</i></p> <p>The USA: sub max 3</p> <table border="1" data-bbox="327 288 1702 1326"> <tr> <td data-bbox="327 325 719 395">1.(Lombardianism)</td> <td data-bbox="719 325 1702 395">Lombardianism or win at all costs or winning more important than taking part</td> </tr> <tr> <td data-bbox="327 395 719 466">2.(American dream)</td> <td data-bbox="719 395 1702 466">All people are equal (in terms of opportunity and regardless of background) or it is possible through hard work to succeed.</td> </tr> <tr> <td data-bbox="327 466 719 536">3.(counter culture ethic)</td> <td data-bbox="719 466 1702 536">(less dominant) counter culture ethic or taking part more important than winning</td> </tr> <tr> <td data-bbox="327 536 719 606">4.(radical ethic)</td> <td data-bbox="719 536 1702 606">(less dominant) radical ethic or taking part and winning of equal importance</td> </tr> <tr> <td data-bbox="327 606 719 703">5.(rags to riches)</td> <td data-bbox="719 606 1702 703">Rags to riches opportunities or ref American Dream or land of opportunity or work ethic or frontier spirit</td> </tr> <tr> <td data-bbox="327 703 719 809">6.(pluralism)</td> <td data-bbox="719 703 1702 809">Pluralism or different ethnic / religious / political groups (within one society) or minority groups maintain cultural differences / but share power</td> </tr> <tr> <td data-bbox="327 809 719 847">7.(assimilation)</td> <td data-bbox="719 809 1702 847">Americanisation or identifying with/being accepted (by the USA)</td> </tr> <tr> <td data-bbox="327 847 719 979">8.(hegemony)</td> <td data-bbox="719 847 1702 979">Hegemony or control / domination / power / authority held by certain group or discrimination or key roles / positions held by dominant societal group or WASP domination / centrality / stacking</td> </tr> <tr> <td colspan="2" data-bbox="327 979 1702 1018">TWO different values in UK: sub max 2</td> </tr> <tr> <td data-bbox="327 1018 719 1088">9.(democracy)</td> <td data-bbox="719 1018 1702 1088">Democracy or citizens encouraged to be active in civic rights / laws / procedures (apply equally to all citizens).</td> </tr> <tr> <td data-bbox="327 1088 719 1126">10.(teamwork)</td> <td data-bbox="719 1088 1702 1126">Teamwork or co-operation or joint effort (is respected / admired).</td> </tr> <tr> <td data-bbox="327 1126 719 1259">11.(individuality)</td> <td data-bbox="719 1126 1702 1259">Individuality or each person is unique</td> </tr> <tr> <td data-bbox="327 1259 719 1297">12.(fair play)</td> <td data-bbox="719 1259 1702 1297">Fair play or sportsmanship</td> </tr> <tr> <td data-bbox="327 1297 719 1326">13.(competitiveness)</td> <td data-bbox="719 1297 1702 1326">Competitiveness or desire to achieve</td> </tr> </table>	1.(Lombardianism)	Lombardianism or win at all costs or winning more important than taking part	2.(American dream)	All people are equal (in terms of opportunity and regardless of background) or it is possible through hard work to succeed.	3.(counter culture ethic)	(less dominant) counter culture ethic or taking part more important than winning	4.(radical ethic)	(less dominant) radical ethic or taking part and winning of equal importance	5.(rags to riches)	Rags to riches opportunities or ref American Dream or land of opportunity or work ethic or frontier spirit	6.(pluralism)	Pluralism or different ethnic / religious / political groups (within one society) or minority groups maintain cultural differences / but share power	7.(assimilation)	Americanisation or identifying with/being accepted (by the USA)	8.(hegemony)	Hegemony or control / domination / power / authority held by certain group or discrimination or key roles / positions held by dominant societal group or WASP domination / centrality / stacking	TWO different values in UK: sub max 2		9.(democracy)	Democracy or citizens encouraged to be active in civic rights / laws / procedures (apply equally to all citizens).	10.(teamwork)	Teamwork or co-operation or joint effort (is respected / admired).	11.(individuality)	Individuality or each person is unique	12.(fair play)	Fair play or sportsmanship	13.(competitiveness)	Competitiveness or desire to achieve	5	
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14.(participation)	Participation/(traditionally)taking part more important than winning	<p>Only accept points that show <u>differences in values</u> Eg if candidate gives point 3 for USA then cannot give point 14 for the UK</p>
15.(overcoming discrimination)	overcoming discrimination/Multiculturalism/ fairness/egalitarianism/equal opportunity/social equality	

2 (d)* Levels of Response [Compare American football in the USA and Rugby Union in the UK with reference to origins and status]	
<p>Level 4 (18-20 marks) A comprehensive answer:</p> <ul style="list-style-type: none"> • detailed knowledge & excellent understanding • detailed analysis and excellent critical evaluation • well-argued, independent opinion and judgements which are well supported by relevant practical examples • very accurate use of technical and specialist vocabulary • high standard of written communication throughout. 	<p>Discriminators at Level 4 are likely to include:</p> <ul style="list-style-type: none"> • detailed knowledge and excellent understanding of both origins and status • direct comparisons successfully made between origins and status of American football in the USA and Rugby Union in the UK; other relevant stand-alone points may also be made • impact of commercialism on American football in the USA and Rugby Union in the UK probably included. • sound structure and balance between parts of the question
<p>Level 3 (13-17 marks) A competent answer:</p> <ul style="list-style-type: none"> • good knowledge and clear understanding • good analysis and critical evaluation • independent opinions and judgements will be present but may not always be supported by relevant practical examples • generally accurate use of technical and specialist vocabulary • written communication is generally fluent with few errors. 	<p>Discriminators at L3 are likely to include:</p> <ul style="list-style-type: none"> • good knowledge and understanding of both origins and status • mostly direct comparisons made of origins and status of American football in the USA and Rugby Union in the UK; other relevant stand-alone points may also be made . • an attempt at structuring/answering the question with balance between parts of the question
<p>Level 2 (8-12 marks) A limited answer:</p> <ul style="list-style-type: none"> • limited knowledge and understanding • some evidence of analysis and critical evaluation • opinion and judgement given but often unsupported by relevant practical examples • technical and specialist vocabulary used with limited success • written communication lacks fluency and contains errors. 	<p>Discriminators at L2 are likely to include:</p> <ul style="list-style-type: none"> • limited knowledge and understanding of both origins and status • some direct comparisons made between origins and status of American football in the USA and Rugby Union in the UK; stand-alone points are likely to be more in evidence • an attempt at structuring/answering the question but not necessarily with balance between parts of the question
<p>Level 1 (0 – 7 marks) A basic answer:</p> <ul style="list-style-type: none"> • basic knowledge and little understanding • little relevant analysis or critical evaluation • little or no attempt to give opinion or judgement • little or no attempt to use technical and specialist vocabulary • errors in written communication will be intrusive. 	<p>At L1 responses are likely to:</p> <ul style="list-style-type: none"> • demonstrate basic knowledge and understanding of origins or status • demonstrate a basic comparison of origins and status of American football in the USA and Rugby Union in the UK; stand alone points are more likely than direct comparisons • Some inaccuracies

		Answer	Marks	Guidance																		
2	(d)*	<p>Indicative Content: <i>Compare American football in the USA and Rugby Union in the UK with reference to origins and status.</i></p> <table border="1"> <thead> <tr> <th>American Football in USA</th> <th>Rugby Union in UK</th> </tr> </thead> <tbody> <tr> <td colspan="2">Origins / Background</td> </tr> <tr> <td>1. In early 1800s (originally) there were no generally accepted rules <ul style="list-style-type: none"> mob game / characteristics of the mob game </td> <td>In early 1800s (originally) there were no generally accepted rules <ul style="list-style-type: none"> characteristics of the mob game </td> </tr> <tr> <td>2. Evolved during 1800s</td> <td>Evolved during 1800s</td> </tr> <tr> <td>3. Adapted from Rugby Union <ul style="list-style-type: none"> Developed in Ivy League Universities eg Yale (in 1800s) </td> <td>Developed in (nineteenth century) Public Schools <ul style="list-style-type: none"> eg Rugby School/and universities eg Oxbridge </td> </tr> <tr> <td>4. Remained a university game or became professional game <ul style="list-style-type: none"> no tradition of club structure for game </td> <td>Schools impacted on senior game as many clubs were formed <ul style="list-style-type: none"> by 'Old Boys'/strong / club structure </td> </tr> <tr> <td>5. There is no single national governing body for AF in the USA <ul style="list-style-type: none"> there are several leagues including the NFL/NFL formed in 1920 </td> <td>National Governing body / NGB <ul style="list-style-type: none"> RFU established (in 1871) </td> </tr> <tr> <td>6. (by 1900) game was highly physical or violent or dangerous <ul style="list-style-type: none"> serious injury or deaths of players not uncommon intervention by President in 1910 season 6 players were killed which resulted in rule changes </td> <td>Controlled aggression rather than outright violence <ul style="list-style-type: none"> no real evidence of catastrophic injury or death during developmental stages </td> </tr> <tr> <td>7. Pitch markings <ul style="list-style-type: none"> originally called 'grid-iron' pitch markings were originally horizontal and vertical </td> <td>Pitch markings present</td> </tr> </tbody> </table>	American Football in USA	Rugby Union in UK	Origins / Background		1. In early 1800s (originally) there were no generally accepted rules <ul style="list-style-type: none"> mob game / characteristics of the mob game 	In early 1800s (originally) there were no generally accepted rules <ul style="list-style-type: none"> characteristics of the mob game 	2. Evolved during 1800s	Evolved during 1800s	3. Adapted from Rugby Union <ul style="list-style-type: none"> Developed in Ivy League Universities eg Yale (in 1800s) 	Developed in (nineteenth century) Public Schools <ul style="list-style-type: none"> eg Rugby School/and universities eg Oxbridge 	4. Remained a university game or became professional game <ul style="list-style-type: none"> no tradition of club structure for game 	Schools impacted on senior game as many clubs were formed <ul style="list-style-type: none"> by 'Old Boys'/strong / club structure 	5. There is no single national governing body for AF in the USA <ul style="list-style-type: none"> there are several leagues including the NFL/NFL formed in 1920 	National Governing body / NGB <ul style="list-style-type: none"> RFU established (in 1871) 	6. (by 1900) game was highly physical or violent or dangerous <ul style="list-style-type: none"> serious injury or deaths of players not uncommon intervention by President in 1910 season 6 players were killed which resulted in rule changes 	Controlled aggression rather than outright violence <ul style="list-style-type: none"> no real evidence of catastrophic injury or death during developmental stages 	7. Pitch markings <ul style="list-style-type: none"> originally called 'grid-iron' pitch markings were originally horizontal and vertical 	Pitch markings present	20	<ul style="list-style-type: none"> Give KU for <u>relevant</u> knowledge points (usually main headings) Give DEV for <u>relevant</u> development points (usually bullet points) Give EG for <u>relevant practical</u> examples Give DEV for <u>relevant evaluative</u> points <u>relevant independent</u> opinion Always indicate the Level at the base of the answer (L1,L2, L3 or L4) <p>Do not be limited by the indicative content give credit for other relevant points or developments.</p> <ul style="list-style-type: none"> Do not give credit to irrelevant material
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	8. Rules increased or encouraged physicality	Rules restrict physicality		
	9. Game reflected ' frontier ' • or 'pioneering' spirit	Game reflected values of public schools • or Empire • leadership/courage /determination		
	10. Initially little protective clothing • Description	No protective clothing until relatively recently • Description		
	11. Forward pass made legal	No forward pass		
	12. Strong rivalry between universities	Strong rivalry between universities		
	13. Became professional early in development	Remained amateur until 1995 • 'Friendly' Matches until 1990s/leagues developed with onset on professional etc • Paris declaration		
	14. Professional coaches employed by universities.	No professional coaching during development / prof. coaching post professional era		
	15. Game not influenced by class structure • stacking and centrality	Upper / Middle class game (initially) • more egalitarian • more discrimination		
	16. An American game that supported isolationist policy of USA • is America's own game • game has been mainly rejected elsewhere	Game spread to circa 18 countries of Empire		
	17. Embraced commercialism	Resisted commercialism		
	Contemporary status			
	18. Very high status	(Very) high status • Especially in some parts of the UK (eg south of England)		
	19. Most popular (spectator) sport in USA Or One of the ' Big Four '	Not the most popular sport • behind Premiership Football League in UK • League structures in RU		

	<p>20. Game is entertaining</p> <ul style="list-style-type: none"> • sensational or intense or hard-hitting • which arguably raises its status or popularity 	<p>Skill or creativity or flair as or more important than intensity</p> <ul style="list-style-type: none"> • greater intensity since game went professional 	
	<p>21. Entertainment off the pitch</p> <ul style="list-style-type: none"> • eg cheerleaders or mascots 	<p>Increasingly has entertainment off the pitch</p> <ul style="list-style-type: none"> • eg cheerleaders or mascots • copying USA model / game 'Americansied' 	
	<p>22. Outright winners (no draws)</p> <ul style="list-style-type: none"> • win ethic • win at all costs 	<p>There are draws</p> <ul style="list-style-type: none"> • participation ethic 	
	<p>23. Has high media profile or hype</p> <ul style="list-style-type: none"> • Huge media interest • huge amount of air time / highest TV audience in US • Regular commercial breaks 	<p>Increasing media product or hype</p> <ul style="list-style-type: none"> • impact of Sky TV • Growing business 	
	<p>24. Is linked to big business / commercialised</p> <ul style="list-style-type: none"> • Super Bowl as showpiece or commercial event / SB as championship game of NFL • reference cost of advertising during half time show etc • Teams bought or sold (as franchises) • teams move within country when bought or sold • Draft system with players 'bought / sold' 	<p>(Increasingly) linked with business and commercialism</p> <ul style="list-style-type: none"> • Golden triangle <ul style="list-style-type: none"> • e.g. profit from ticket sales or merchandise/ media rights or TV deals • arguably golden triangle or commercialism has increased deviance e.g. drug taking or other suitable example (Rugby Union) • copying USA model / game 'Americansied' <p>league structures established in Rugby Union in UK e.g. European or Heineken Cup established</p>	

	<p>25. Gives access to the American Dream</p> <ul style="list-style-type: none"> • to very few • produces sport stars eg accept any suitable example 	<p>Gives opportunity for fame and fortune to very few/produces sport stars</p>		
	<p>26. High status in High Schools</p> <ul style="list-style-type: none"> • little league / modified competitions 	<p>High status in schools</p> <ul style="list-style-type: none"> • High status in (some) independent schools • Mini rugby / modified competitions 		
	<p>27. Image remained largely the same</p> <ul style="list-style-type: none"> • Image of game has been knocked by scandal • eg drugs and deviance 	<ul style="list-style-type: none"> • Image or status of game has (arguably) changed since onset of professional era • Impact of Rugby World Cup / 6 Nations coverage 		

Section B: Sports Psychology (Option B1)

Question		Answer	Marks	Guidance																
3	(a)	<p>4 marks for 4 of: Reference to question: Characteristics of need to achieve with practical examples for each:</p> <table border="1"> <tr> <td>1.(approach)</td> <td>They have approach behaviour or do not have avoidance behaviour or they seek success or they seek mastery orientation e.g a football player will always attend training</td> </tr> <tr> <td>2.(challenge)</td> <td>They like a challenge / like 50-50 situations or they take risks or don't take the easy route eg hockey player will risk losing possession by using a creative pass</td> </tr> <tr> <td>3.(feedback)</td> <td>They like / seek feedback or are not afraid of negative feedback eg a swimmer will ask her coach to tell her what is wrong with her technique</td> </tr> <tr> <td>4.(competitive)</td> <td>They are (very) competitive eg a basketball player will want to win</td> </tr> <tr> <td>5.(not afraid to fail)</td> <td>Not afraid to fail or they view failure as a route to success eg a netball player views a recent loss as a learning experience (about defence strategies)</td> </tr> <tr> <td>6.(attribute success)</td> <td>Attributes success internally or attributes to stable factors eg a tennis player will state that it is her own hard training that has brought success</td> </tr> <tr> <td>7.(attribute failure)</td> <td>Attributes failure to controllable or internal or to unstable (external) factors eg a sprinter will blame her own start technique as the reason for her poor race.</td> </tr> <tr> <td>8.(task persistence)</td> <td>Task persistence or will stick to the task or does not give up or determination</td> </tr> </table>	1.(approach)	They have approach behaviour or do not have avoidance behaviour or they seek success or they seek mastery orientation e.g a football player will always attend training	2.(challenge)	They like a challenge / like 50-50 situations or they take risks or don't take the easy route eg hockey player will risk losing possession by using a creative pass	3.(feedback)	They like / seek feedback or are not afraid of negative feedback eg a swimmer will ask her coach to tell her what is wrong with her technique	4.(competitive)	They are (very) competitive eg a basketball player will want to win	5.(not afraid to fail)	Not afraid to fail or they view failure as a route to success eg a netball player views a recent loss as a learning experience (about defence strategies)	6.(attribute success)	Attributes success internally or attributes to stable factors eg a tennis player will state that it is her own hard training that has brought success	7.(attribute failure)	Attributes failure to controllable or internal or to unstable (external) factors eg a sprinter will blame her own start technique as the reason for her poor race.	8.(task persistence)	Task persistence or will stick to the task or does not give up or determination	4	<ul style="list-style-type: none"> Only award marks if practical example is used as part of each description. Do not accept if no attempt at a practical example. Do not accept if practical example does not match the characteristic described. Give TV for a practical example but not fully exemplified eg 'Approach behaviour when playing football' = Vg (0 marks). Do not accept 'extroverts' or 'Type A' as characteristics (these are types of personality rather than characteristics of Nach). <p>Guidance (Attribution)</p> <ul style="list-style-type: none"> Internal is normally associated with effort or ability Stable is an attribution that is not easily changed eg ability Unstable is an attribution that is changeable eg tactics A controllable attribution is one that is under the performers control and tend to be internal unstable factors (tactics)
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Question		Answer	Marks	Guidance
		Eg will keep trying to score in basketball		
	9.(responsibility)	Takes responsibility Eg will readily become captain of hockey team		
	10.(Confidence/self efficacy)	Has (high levels of) confidence / self-efficacy Eg will show confidence by volunteering to take a penalty		

Question		Answer	Marks	Guidance														
3	(b)	<p>5 marks for 5 of:</p> <p><i>The advantages of personality profiling in sport. (sub max 3)</i></p> <table border="1"> <tr> <td>1.(link personality and performance)</td> <td>Identifies those who might succeed or links between personality and performance or the credulous approach supports the link between personality and performance or that personality is unpredictable</td> </tr> <tr> <td>2.(Moods /POMS)</td> <td>Profiles of mood states (POMS) show links between moods and performance. Or positive moods/vigour/optimism links with success in sport or links between negative moods/confusion/fatigue and unsuccessful sports performance</td> </tr> <tr> <td>3. (motivate/insight)</td> <td>Helps to identify what motivates performers or those that persist with tasks or gives insight about what might drive performers to succeed</td> </tr> <tr> <td>4.(stress)</td> <td>Helps control performers' anxiety/arousal/stress</td> </tr> <tr> <td>5.(understanding)</td> <td>Helps to understand performers or know where they are coming from or appreciate them or get to know them</td> </tr> <tr> <td>6.(sport / position in sport)</td> <td>You can put them in the right sport or in the right position in the team</td> </tr> <tr> <td>7.(leadership)</td> <td>Helps to identify potential leadership qualities</td> </tr> </table>	1.(link personality and performance)	Identifies those who might succeed or links between personality and performance or the credulous approach supports the link between personality and performance or that personality is unpredictable	2.(Moods /POMS)	Profiles of mood states (POMS) show links between moods and performance. Or positive moods/vigour/optimism links with success in sport or links between negative moods/confusion/fatigue and unsuccessful sports performance	3. (motivate/insight)	Helps to identify what motivates performers or those that persist with tasks or gives insight about what might drive performers to succeed	4.(stress)	Helps control performers' anxiety/arousal/stress	5.(understanding)	Helps to understand performers or know where they are coming from or appreciate them or get to know them	6.(sport / position in sport)	You can put them in the right sport or in the right position in the team	7.(leadership)	Helps to identify potential leadership qualities	5	<p>Sub max 3 for advantages</p> <p>Sub max 3 for disadvantages</p>
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	<p>The disadvantages of personality profiling in sport. (sub max 3)</p> <table border="1" data-bbox="371 347 1317 1308"> <tr> <td data-bbox="371 347 636 587">8.(link personality and performance)</td> <td data-bbox="636 347 1317 587">(Links between personality and sports performance/sport choice/task persistence) too tenuous / the sceptical approach denies the link between personality and performance / personality is unpredictable lots of different personalities are found in similar positions/sports and therefore profiling is a waste of time</td> </tr> <tr> <td data-bbox="371 587 636 655">9.(unreliable)</td> <td data-bbox="636 587 1317 655">Profiling results too vague/unreliable or makes results inconsistent</td> </tr> <tr> <td data-bbox="371 655 636 759">10.(validity)</td> <td data-bbox="636 655 1317 759">Results do not link cause and effect / profiling may not measure what it seeks to measure / not accurate / not valid</td> </tr> <tr> <td data-bbox="371 759 636 895">11.(demand characteristics)</td> <td data-bbox="636 759 1317 895">Too many demand characteristics/lying (on questionnaires) / behaviour of performer may be altered due to profiling/being observed.</td> </tr> <tr> <td data-bbox="371 895 636 963">12.(sample)</td> <td data-bbox="636 895 1317 963">Profiling may be based on a limited sample or the sample is unrepresentative</td> </tr> <tr> <td data-bbox="371 963 636 1134">13.(unrealistic)</td> <td data-bbox="636 963 1317 1134">Results lack ecological validity / profiling is not true to real life or does not relate to sports performance / does not take into account the environment/situation</td> </tr> <tr> <td data-bbox="371 1134 636 1238">14.(subjective)</td> <td data-bbox="636 1134 1317 1238">Profiling is too subjective and results explained differently by different people so unreliable interpretations/stereotyping</td> </tr> <tr> <td data-bbox="371 1238 636 1308">15.(Generalised)</td> <td data-bbox="636 1238 1317 1308">Results cannot be generalised or results cannot be applied to the general population/other people</td> </tr> </table>	8.(link personality and performance)	(Links between personality and sports performance/sport choice/task persistence) too tenuous / the sceptical approach denies the link between personality and performance / personality is unpredictable lots of different personalities are found in similar positions/sports and therefore profiling is a waste of time	9.(unreliable)	Profiling results too vague/unreliable or makes results inconsistent	10.(validity)	Results do not link cause and effect / profiling may not measure what it seeks to measure / not accurate / not valid	11.(demand characteristics)	Too many demand characteristics/lying (on questionnaires) / behaviour of performer may be altered due to profiling/being observed.	12.(sample)	Profiling may be based on a limited sample or the sample is unrepresentative	13.(unrealistic)	Results lack ecological validity / profiling is not true to real life or does not relate to sports performance / does not take into account the environment/situation	14.(subjective)	Profiling is too subjective and results explained differently by different people so unreliable interpretations/stereotyping	15.(Generalised)	Results cannot be generalised or results cannot be applied to the general population/other people		<p>Point 8 is a general point about the failure of profiling to link personality with performance or sport/position choice.</p> <p>Points 9 – 14 are more specific methodology points.</p> <p>‘Profiling does not identify good performers...’ = 1 mark (point 8) ’and shows unreliable results’ = 1 mark point 9 (therefore 2 marks total)</p>
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3 (c)	<p>6 marks for 6 of: (sub max 4) Describe cognitive anxiety management techniques:</p> <table border="1" data-bbox="342 316 1294 1342"> <tr> <td data-bbox="342 316 703 416">1.(mental rehearsal)</td> <td data-bbox="703 316 1294 416">Mental rehearsal or mental practice or focussing involves going over/mentally repeating what needs to be done</td> </tr> <tr> <td data-bbox="342 416 703 517">2.(Imagery)</td> <td data-bbox="703 416 1294 517">Imagery or visualisation or meditation involves creating mental pictures (to control arousal / to calm down)</td> </tr> <tr> <td data-bbox="342 517 703 617">3.(positive self-talk)</td> <td data-bbox="703 517 1294 617">Positive self-talk or smart talk or positive thinking (helps to control arousal / leads to an optimistic attitude)</td> </tr> <tr> <td data-bbox="342 617 703 826">4.(rational thinking)</td> <td data-bbox="703 617 1294 826">Thinking through what can/cannot be achieved or cognitive awareness or reflecting on past success or making sense of past failures or making internal statements that lead to success being optimistic.</td> </tr> <tr> <td data-bbox="342 826 703 927">5.(negative thought-stopping)</td> <td data-bbox="703 826 1294 927">Negative thought stopping blocks out irrational or negative thoughts (to help with arousal and less anxiety)</td> </tr> <tr> <td data-bbox="342 927 703 1102">6.(goals)</td> <td data-bbox="703 927 1294 1102">Goal setting that is SMART/realistic/achievable (can help to manage anxiety) or use of process or performance goals (rather than product goals)</td> </tr> <tr> <td data-bbox="342 1102 703 1270">7.(Distractions)</td> <td data-bbox="703 1102 1294 1270">Using distractions (to avoid stressors) or using music/other people (to escape anxiety) or doing other activities (to take your mind off competition / stressful situations) or count to ten</td> </tr> <tr> <td data-bbox="342 1270 703 1342">8.(Yoga)</td> <td data-bbox="703 1270 1294 1342">Activities such as yoga/Pilates (if related to cognitive or mental relaxation)</td> </tr> </table>	1.(mental rehearsal)	Mental rehearsal or mental practice or focussing involves going over/mentally repeating what needs to be done	2.(Imagery)	Imagery or visualisation or meditation involves creating mental pictures (to control arousal / to calm down)	3.(positive self-talk)	Positive self-talk or smart talk or positive thinking (helps to control arousal / leads to an optimistic attitude)	4.(rational thinking)	Thinking through what can/cannot be achieved or cognitive awareness or reflecting on past success or making sense of past failures or making internal statements that lead to success being optimistic.	5.(negative thought-stopping)	Negative thought stopping blocks out irrational or negative thoughts (to help with arousal and less anxiety)	6.(goals)	Goal setting that is SMART/realistic/achievable (can help to manage anxiety) or use of process or performance goals (rather than product goals)	7.(Distractions)	Using distractions (to avoid stressors) or using music/other people (to escape anxiety) or doing other activities (to take your mind off competition / stressful situations) or count to ten	8.(Yoga)	Activities such as yoga/Pilates (if related to cognitive or mental relaxation)	6	<p>Sub max 4 for cognitive</p> <p>Sub max 4 for somatic</p> <p>Accept strategies that are not labelled as cognitive or somatic But if labelled incorrectly do not accept.</p> <p>Cognitive = mental techniques Somatic = techniques linked to body systems</p> <p>Look for description rather than a list of single words Eg '(cognitive techniques) include imagery, goal setting and mental rehearsal' = 0 marks Eg '(cognitive techniques) include mental rehearsal that involves running through skills in your head...' = 1 mark</p> <p>To 'calm down' = too vague</p> <p>Do not give point 8 yoga and point 13 yoga – can only score this point once either for cognitive method or somatic method. Eg 'Yoga helps to relax body and mind' = 1 mark only</p>
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	<p>(sub max 4) Describe somatic anxiety management techniques</p> <table border="1" data-bbox="342 304 1294 855"> <tr> <td data-bbox="342 304 701 507">9.(relaxation)</td> <td data-bbox="701 304 1294 507">(physiological) relaxation techniques can help calm the body/mind) or progressive relaxation techniques (PRT) (that relaxes muscle groups) or helps the body deal with stress by contracting and then relaxing groups of muscles</td> </tr> <tr> <td data-bbox="342 507 701 544">10.(massage)</td> <td data-bbox="701 507 1294 544">Massage (of muscles) to relax</td> </tr> <tr> <td data-bbox="342 544 701 647">11.(breathing)</td> <td data-bbox="701 544 1294 647">Deep / slow / steady / controlled breathing (can lower arousal levels)</td> </tr> <tr> <td data-bbox="342 647 701 783">12.(Biofeedback)</td> <td data-bbox="701 647 1294 783">Biofeedback or an awareness of anxiety symptoms or aware of heart rate (gives awareness of body and thus more able to deal with stress).</td> </tr> <tr> <td data-bbox="342 783 701 855">13.(Yoga)</td> <td data-bbox="701 783 1294 855">Activities such as yoga/Pilates (if related to relaxing the body)</td> </tr> </table>	9.(relaxation)	(physiological) relaxation techniques can help calm the body/mind) or progressive relaxation techniques (PRT) (that relaxes muscle groups) or helps the body deal with stress by contracting and then relaxing groups of muscles	10.(massage)	Massage (of muscles) to relax	11.(breathing)	Deep / slow / steady / controlled breathing (can lower arousal levels)	12.(Biofeedback)	Biofeedback or an awareness of anxiety symptoms or aware of heart rate (gives awareness of body and thus more able to deal with stress).	13.(Yoga)	Activities such as yoga/Pilates (if related to relaxing the body)		
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<p>3 (d)* Levels of Response <i>Explain why some young people have negative attitudes to sport and following a healthy lifestyle.</i> <i>Describe how you might change negative attitudes into positive attitudes towards sport.</i></p>	
<p>Level 4 (18-20 marks) A comprehensive answer:</p> <ul style="list-style-type: none"> • detailed knowledge & excellent understanding • detailed analysis and excellent critical evaluation • well-argued, independent opinion and judgements which are well supported by relevant practical examples • very accurate use of technical and specialist vocabulary • high standard of written communication throughout. 	<p>At Level 4 answers are likely to show:</p> <ul style="list-style-type: none"> • An excellent explanation of a range of reasons for negative attitudes related both to sport and healthy lifestyle • Reasons are backed up accurately with reference to cognitive (beliefs) and affective (emotional) elements • Description of changing attitudes includes a good explanation of cognitive dissonance • Excellent links to sport throughout for changes in attitude
<p>Level 3 (13-17 marks) A competent answer:</p> <ul style="list-style-type: none"> • good knowledge and clear understanding • good analysis and critical evaluation • independent opinions and judgements will be present but may not always be supported by relevant practical examples • generally accurate use of technical and specialist vocabulary • written communication is generally fluent with few errors. 	<p>At Level 3 answers are likely to show:</p> <ul style="list-style-type: none"> • A good explanation of a range of reasons for negative attitudes related both to sport and healthy lifestyle • Reasons are backed up with reference to cognitive (beliefs) and affective (emotional) elements • Description of changing attitudes includes some explanation of cognitive dissonance • good links to sport throughout for changes in attitude
<p>Level 2 (8-12 marks) A limited answer:</p> <ul style="list-style-type: none"> • limited knowledge and understanding • some evidence of analysis and critical evaluation • opinion and judgement given but often unsupported by relevant practical examples • technical and specialist vocabulary used with limited success • written communication lacks fluency and contains errors. 	<p>At Level 2 answers are likely to show:</p> <ul style="list-style-type: none"> • An explanation of a range of reasons for negative attitudes related to sport or lifestyle • Description of changing attitudes includes some explanation of how attitudes can be changed (but not necessarily related to cognitive dissonance) • Limited links to sport for changes in attitude
<p>Level 1 (0 – 7 marks) A basic answer:</p> <ul style="list-style-type: none"> • basic knowledge and little understanding • little relevant analysis or critical evaluation • little or no attempt to give opinion or judgement • little or no attempt to use technical and specialist vocabulary • errors in written communication will be intrusive. 	<p>At Level 1 answers are likely to show:</p> <ul style="list-style-type: none"> • Little or no explanation of a limited range of reasons for negative attitudes related to sport or lifestyle • Description of changing attitudes with little/no explanation • Few or no links to sport for changes in attitude • Some inaccurate information


Question		Answer	Guidance								
3	(d)*	<p>Indicative Content: <i>Explain why some young people have negative attitudes to sport <u>and</u> following a healthy lifestyle.</i></p> <table border="1"> <tr> <td>1. (experience)</td> <td> Attitudes arisen from negative previous experience or lack of success <ul style="list-style-type: none"> • Learned helplessness • EG - Injury when playing rugby • BAHL – Last diet didn't work </td> </tr> <tr> <td>2. (Beliefs)</td> <td> Attitudes affected by beliefs <ul style="list-style-type: none"> • cognitive component • Triadic model • attitudes that are stable/consistent with behaviour - known as consonance • EG – Participant thinks that rugby is a waste of time • BAHL – Junk food does me no harm </td> </tr> <tr> <td>3. (emotions)</td> <td> Attitudes affected by feelings <ul style="list-style-type: none"> • affective component • Triadic model • Leads to lack of motivation/interest/fear • EG – don't like swimming • BAHL – Don't like smoking </td> </tr> <tr> <td>4. (role models)</td> <td> Attitudes are shaped via role models <ul style="list-style-type: none"> • More likely to copy significant others • Influence of peers and other groups • Poor experiences <u>reinforced</u> by significant others </td> </tr> </table>	1. (experience)	Attitudes arisen from negative previous experience or lack of success <ul style="list-style-type: none"> • Learned helplessness • EG - Injury when playing rugby • BAHL – Last diet didn't work 	2. (Beliefs)	Attitudes affected by beliefs <ul style="list-style-type: none"> • cognitive component • Triadic model • attitudes that are stable/consistent with behaviour - known as consonance • EG – Participant thinks that rugby is a waste of time • BAHL – Junk food does me no harm 	3. (emotions)	Attitudes affected by feelings <ul style="list-style-type: none"> • affective component • Triadic model • Leads to lack of motivation/interest/fear • EG – don't like swimming • BAHL – Don't like smoking 	4. (role models)	Attitudes are shaped via role models <ul style="list-style-type: none"> • More likely to copy significant others • Influence of peers and other groups • Poor experiences <u>reinforced</u> by significant others 	<ul style="list-style-type: none"> • Give KU for <u>relevant</u> knowledge points (usually main headings) • Give DEV for <u>relevant</u> development points (usually bullet points) • Give EG for <u>relevant</u> practical examples • Always indicate the Level at the base of the answer (L1,L2, L3 or L4) <p>Do not be limited by the indicative content give credit for other relevant points or developments.</p> <ul style="list-style-type: none"> • Do not give credit to irrelevant material
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			5. (culture/norms)	Attitudes shaped by cultural reasons / expectations <ul style="list-style-type: none"> • Examples of cultural restrictions/religious beliefs • Socialisation 	
			6. (Boredom)	Sport/ healthy lifestyle is thought to be boring <ul style="list-style-type: none"> • Non-participation to lack of meaning /usefulness of sport/healthy lifestyle • A belief or cognitive element. • Could also be seen as affective or emotional element 	
			7. (motivation)	Therefore lack of motivation to participate <ul style="list-style-type: none"> • Could lead to dysfunctional behaviour / leading others down an unhealthy route / bad influence 	
			8. (ability)	(perceived) lack of ability or I am no good at it - gives sense of helplessness or lack of confidence <ul style="list-style-type: none"> • learned helplessness • Leads to lack of self-esteem 	
			9. (rebel)	Counter-cultural attitudes / <ul style="list-style-type: none"> • wanting to be different • wanting to oppose authority/parents or to want to rebel 	
			10.(Upbringing / parents)	Attitudes shaped by upbringing or by parental influences <ul style="list-style-type: none"> • EG Didn't experience sport as a child • BAHL Parents allowed you to go to bed at midnight as a young teenager • Socialisation / adopting their values and norms 	
			11.(Media)	Negative reporting or lack of reporting or can persuade towards negative attitudes EG Focus on Ryan Giggs alleged indiscretions BAHL Images of sports stars such as Wayne Rooney smoking	
			12.(Opportunities)	Limited opportunity or provision to participate	

	EG No ice rinks near = don't like ice skating BAHL Limited NHS help to stop smoking = don't want to give up	
<i>Describe how you might change negative attitudes into positive attitudes towards sport.</i>		
13.(Cognitive dissonance)	Cognitive dissonance theory <ul style="list-style-type: none"> • changing at least one element of the triadic model • to encourage other components to fall into line • Watching peers who are successful • creating (cognitive) consonance 	
14.(Change Cognitive component)	Cognitive element is changed <ul style="list-style-type: none"> • Through education new information or changing/reinforcing belief	
15.(Change Affective component)	Change Affective component -Through new experience or making the activity fun	
16.(Change behavioural component)	Change behavioural component -Through reward or punishment - Positive reinforcement	
17.Attributional retraining	Attributional retraining <ul style="list-style-type: none"> • Change–uncontrollable attributions / reasons to controllable or internal attributions eg I have control in changing my own diet • change stable attributions to unstable attributions eg I have the power to change my behaviour and be more healthy 	
18.Persuasion	Persuasion/persuasive communication <ul style="list-style-type: none"> • needs to be from high status model/role model/significant other • message relevance 	

			19.(watching)	Watching others who are getting something out of sport <ul style="list-style-type: none"> • Use of vicarious experiences 	
			20.(success)	Give success or less emphasis on competition or make it enjoyable <ul style="list-style-type: none"> • redefine success/raise confidence/self-efficacy • Make skill easier (to give success) • -goal setting (SMART to give success) • Give positive experiences 	
			21.(arousal)	Lower anxiety/ arousal or use encouragement. <ul style="list-style-type: none"> • Arousal affected in different ways / inverted U / catastrophe theories 	
			22.(Goals)	SMART(er) Goal setting <ul style="list-style-type: none"> • Apply aspect of SMART to show how it can change attitudes 	
			23.(Popularity)	Change in popularity of sport / fashion in sport / sports equipment <ul style="list-style-type: none"> • Sport is attitude object that has been changed • Eg Gum shields are modernised to encourage positive attitudes to them 	
			24.(Peers)	Peer pressure / support <ul style="list-style-type: none"> • Friends / peers have shown positive attitudes to sport • Want to remain in a group or belong to a group or be accepted 	

Section B2 Biomechanics

Question	Answer	Marks	Guidance				
<p>4 (a)</p>	<p>5 marks for 5 of 2 marks max for diagram <i>Free Body Diagram to show vertical forces acting on basketball player during take off</i></p> <div style="text-align: center;">  </div> <table border="1" data-bbox="367 1315 1319 1385"> <tr> <td data-bbox="367 1315 638 1350">1. (Weight)</td> <td data-bbox="638 1315 1319 1350">Weight downwards from CM.</td> </tr> <tr> <td data-bbox="367 1350 638 1385">2. (Reaction)</td> <td data-bbox="638 1350 1319 1385">Reaction upwards from feet > weight.</td> </tr> </table>	1. (Weight)	Weight downwards from CM.	2. (Reaction)	Reaction upwards from feet > weight.	<p>5</p>	<p>2 marks sub max for diagram 3 marks sub max for explanation</p>
1. (Weight)	Weight downwards from CM.						
2. (Reaction)	Reaction upwards from feet > weight.						

Question	Answer	Marks	Guidance								
	<p data-bbox="365 217 1267 312">Explain the relationship between size of vertical forces and their impact on the size of the resulting vertical jump (3 marks sub-max)</p> <table border="1" data-bbox="365 347 1319 624"> <tr> <td data-bbox="365 347 640 416">3. (Relationship)</td> <td data-bbox="640 347 1319 416">R > W means there is an unbalanced force acting on basketballer.</td> </tr> <tr> <td data-bbox="365 416 640 453">4. (Relationship)</td> <td data-bbox="640 416 1319 453">R > W means there is a net / upward force.</td> </tr> <tr> <td data-bbox="365 453 640 489">5. (Impact)</td> <td data-bbox="640 453 1319 489">Therefore there is an upwards acceleration.</td> </tr> <tr> <td data-bbox="365 489 640 624">6. (Impact)</td> <td data-bbox="640 489 1319 624">The bigger the reaction force, the greater the net upward force / the greater the upwards acceleration / the greater the height achieved by the basketball player.</td> </tr> </table>	3. (Relationship)	R > W means there is an unbalanced force acting on basketballer.	4. (Relationship)	R > W means there is a net / upward force.	5. (Impact)	Therefore there is an upwards acceleration.	6. (Impact)	The bigger the reaction force, the greater the net upward force / the greater the upwards acceleration / the greater the height achieved by the basketball player.		
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Question		Answer	Marks	Guidance										
4	(b)	<p>5 marks for 5 of: <i>Explain how performers maximise stability (Must use practical example to gain mark)</i> (sub max 4)</p> <table border="1"> <tr> <td>1. (Centre of mass)</td> <td>Lowering centre of mass/centre of gravity. eg Ski jumpers bending their knees on landing.</td> </tr> <tr> <td>2. (Base of support)</td> <td>Increasing size of base of support or increasing the number of points of contact. eg Footballers widen their stance in contact situations. / Eg gymnastics bridge position</td> </tr> <tr> <td>3. (Line of gravity 1)</td> <td>Making line of gravity / centre of mass / centre of gravity central to base of support. eg Sprint start the 'on your marks' position is more stable than the 'set' position.</td> </tr> <tr> <td>4. (Line of gravity 2)</td> <td>Making line of gravity / centre of mass / centre of gravity closer to a resistance force / point of contact. eg Rugby players lean forwards into a tackle.</td> </tr> <tr> <td>5. (Increasing mass)</td> <td>Increasing body mass. eg American Footballers put on weight to make it more difficult for opposition to knock them over.</td> </tr> </table>	1. (Centre of mass)	Lowering centre of mass/centre of gravity. eg Ski jumpers bending their knees on landing.	2. (Base of support)	Increasing size of base of support or increasing the number of points of contact. eg Footballers widen their stance in contact situations. / Eg gymnastics bridge position	3. (Line of gravity 1)	Making line of gravity / centre of mass / centre of gravity central to base of support. eg Sprint start the 'on your marks' position is more stable than the 'set' position.	4. (Line of gravity 2)	Making line of gravity / centre of mass / centre of gravity closer to a resistance force / point of contact. eg Rugby players lean forwards into a tackle.	5. (Increasing mass)	Increasing body mass. eg American Footballers put on weight to make it more difficult for opposition to knock them over.	5	<p>Sub max four for maximising stability Sub max three marks for minimising stability Note – Only <u>5 marks max</u> for question</p>
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Question	Answer	Marks	Guidance												
	<p>Why a performer might want to minimising stability (Must use practical example to gain mark) (Sub max three marks)</p> <table border="1" data-bbox="371 347 1317 967"> <tbody> <tr> <td data-bbox="371 347 696 451">6. (Reduce movement time)</td> <td data-bbox="696 347 1317 451">To reduce movement time. Eg Set position in sprint start in 100m / take your marks in swimming.</td> </tr> <tr> <td data-bbox="371 451 696 555">7. (Increase speed)</td> <td data-bbox="696 451 1317 555">To increase speed. Eg Leaning forwards when running to make your line of gravity lie outside your base of support.</td> </tr> <tr> <td data-bbox="371 555 696 659">8. (Change direction)</td> <td data-bbox="696 555 1317 659">To change direction quickly or increase agility. Eg When swerving in a game of rugby.</td> </tr> <tr> <td data-bbox="371 659 696 722">9.(Rotation)</td> <td data-bbox="696 659 1317 722">To rotate from take off. eg leaning forwards to jump with spin in gymnastic somersault</td> </tr> <tr> <td data-bbox="371 722 696 834">10.(Unpredictable)</td> <td data-bbox="696 722 1317 834">Decrease stability of the ball in flight by using no spin. Eg football penalty applying force through centre of mass.</td> </tr> <tr> <td data-bbox="371 834 696 967">11.(Range of motion/stretch)</td> <td data-bbox="696 834 1317 967">To increase stretch eg when defending in netball line of gravity lies outside base of support/decreased points of contact / raised centre of mass/gravity</td> </tr> </tbody> </table>	6. (Reduce movement time)	To reduce movement time. Eg Set position in sprint start in 100m / take your marks in swimming.	7. (Increase speed)	To increase speed. Eg Leaning forwards when running to make your line of gravity lie outside your base of support.	8. (Change direction)	To change direction quickly or increase agility. Eg When swerving in a game of rugby.	9. (Rotation)	To rotate from take off. eg leaning forwards to jump with spin in gymnastic somersault	10. (Unpredictable)	Decrease stability of the ball in flight by using no spin. Eg football penalty applying force through centre of mass.	11. (Range of motion/stretch)	To increase stretch eg when defending in netball line of gravity lies outside base of support/decreased points of contact / raised centre of mass/gravity		
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Question		Marks	Guidance																
4 (c)	<p>5 marks for 5 of:</p> <p>Effect of topspin on flight path of a ball (sub max 2)</p> <table border="1" data-bbox="344 357 1294 528"> <tr> <td data-bbox="344 357 703 424">1.(Dip)</td> <td data-bbox="703 357 1294 424">Causes ball to 'dip' in flight / follow a non-parabolic or asymmetric flight path.</td> </tr> <tr> <td data-bbox="344 424 703 461">2.(Reduce distance)</td> <td data-bbox="703 424 1294 461">Reduces the (horizontal) distance covered.</td> </tr> <tr> <td data-bbox="344 461 703 528">3.(More predictable)</td> <td data-bbox="703 461 1294 528">Flight path becomes more predictable to read/accurate</td> </tr> </table> <p>Effect of topspin on bounce of ball (sub max 4)</p> <table border="1" data-bbox="344 635 1294 911"> <tr> <td data-bbox="344 635 703 702">4. (Surface of ball)</td> <td data-bbox="703 635 1294 702">(On bouncing) bottom surface of ball wants to slide backwards.</td> </tr> <tr> <td data-bbox="344 702 703 738">5. (Friction opposing)</td> <td data-bbox="703 702 1294 738">Friction opposes this sliding motion</td> </tr> <tr> <td data-bbox="344 738 703 805">6. (Friction direction)</td> <td data-bbox="703 738 1294 805">Friction acts in same direction of motion / causes a forward force</td> </tr> <tr> <td data-bbox="344 805 703 873">7. (Effect 1 - speed)</td> <td data-bbox="703 805 1294 873">Causing ball to accelerate / shoot forward off surface</td> </tr> <tr> <td data-bbox="344 873 703 911">8. (Effect 2 - height)</td> <td data-bbox="703 873 1294 911">at a lower angle (than it normally would).</td> </tr> </table>	1.(Dip)	Causes ball to 'dip' in flight / follow a non-parabolic or asymmetric flight path.	2.(Reduce distance)	Reduces the (horizontal) distance covered.	3.(More predictable)	Flight path becomes more predictable to read/accurate	4. (Surface of ball)	(On bouncing) bottom surface of ball wants to slide backwards.	5. (Friction opposing)	Friction opposes this sliding motion	6. (Friction direction)	Friction acts in same direction of motion / causes a forward force	7. (Effect 1 - speed)	Causing ball to accelerate / shoot forward off surface	8. (Effect 2 - height)	at a lower angle (than it normally would).	5	<p>Sub max 2 for description of the effect of topspin</p> <p>Sub max 4 for explanation of bounce</p>
1.(Dip)	Causes ball to 'dip' in flight / follow a non-parabolic or asymmetric flight path.																		
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4 (d)* Levels of Response	
<p>Level 4 (18-20 marks) A comprehensive answer:</p> <ul style="list-style-type: none"> • detailed knowledge & excellent understanding • detailed analysis and excellent critical evaluation • well-argued, independent opinion and judgements which are well supported by relevant practical examples • very accurate use of technical and specialist vocabulary • high standard of written communication throughout. 	<p><u>At level 4 answers are likely to show:</u></p> <ul style="list-style-type: none"> • Detailed description of three axes of rotation with relevant sporting examples. • Detailed explanation of how rotation is generated. Better candidates may illustrate their answer with sporting example. • Detailed understanding of the analogue of Newton 1 and its application to a somersault. • Detailed explanation of how angular momentum, moment of inertia and angular velocity vary during the three stages of somersaulting.
<p>Level 3 (13-17 marks) A competent answer:</p> <ul style="list-style-type: none"> • good knowledge and clear understanding • good analysis and critical evaluation • independent opinions and judgements will be present but may not always be supported by relevant practical examples • generally accurate use of technical and specialist vocabulary • written communication is generally fluent with few errors. 	<p><u>At level 3 answers are likely to show:</u></p> <ul style="list-style-type: none"> • Good description of three axes of rotation with some sporting examples at the top of this band. • Good explanation of how rotation is generated. • Good understanding of the analogue of Newton 1 and its application to a somersault. • Good explanation of how angular momentum, moment of inertia and angular velocity vary during the three stages of somersaulting.
<p>Level 2 (8-12 marks) A limited answer:</p> <ul style="list-style-type: none"> • limited knowledge and understanding • some evidence of analysis and critical evaluation • opinion and judgement given but often unsupported by relevant practical examples • technical and specialist vocabulary used with limited success • written communication lacks fluency and contains errors. 	<p><u>At level 2 answers are likely to show:</u></p> <ul style="list-style-type: none"> • Identification of at least two axes of rotation with sporting examples. • Description of how rotation is generated. • Some understanding of the analogue of Newton 1. • Limited explanation of how angular momentum, moment of inertia and angular velocity vary during the three stages of somersaulting.
<p>Level 1 (0 – 7 marks) A basic answer:</p> <ul style="list-style-type: none"> • basic knowledge and little understanding • little relevant analysis or critical evaluation • little or no attempt to give opinion or judgement • little or no attempt to use technical and specialist vocabulary • errors in written communication will be intrusive. 	<p><u>At level 1 answers are likely to show:</u></p> <ul style="list-style-type: none"> • Identify an axis of rotation. • Have a basic understanding of how rotation is generated. • Identification of angular momentum, moment of inertia and angular velocity.

	Answer	Marks	Guidance										
4	<p>(d)* <i>Using practical examples, describe the use of the three axes of rotation in sport. Explain how rotation is initiated by a performer. Describe the angular analogue of Newton's First Law of Motion and use it to explain how a high board diver performing somersaults uses their body position to maximise performance during the following phases of the dive:</i></p> <ul style="list-style-type: none"> • <i>Take off from the diving board</i> • <i>During flight</i> • <i>Just before entry into the water.</i> <p>Indicative Content: <i>Using practical examples, describe the use of the three axes of rotation in sport.</i></p> <table border="1" data-bbox="324 646 1541 965"> <tbody> <tr> <td data-bbox="324 646 698 753">1. (Axes of rotation)</td> <td data-bbox="698 646 1541 753"> Longitudinal axis <ul style="list-style-type: none"> • Head to toe • Eg Spin in a discus turn </td> </tr> <tr> <td data-bbox="324 753 698 861">2.</td> <td data-bbox="698 753 1541 861"> Transverse axis <ul style="list-style-type: none"> • Side to side • Eg Somersault in trampolining </td> </tr> <tr> <td data-bbox="324 861 698 965">3.</td> <td data-bbox="698 861 1541 965"> Frontal axis <ul style="list-style-type: none"> • Front to back • Eg Cartwheel in gymnastics </td> </tr> </tbody> </table> <p><i>Explain how rotation is initiated by a performer.</i></p> <table border="1" data-bbox="324 1034 1541 1316"> <tbody> <tr> <td data-bbox="324 1034 698 1316">4. (Initiation of rotation)</td> <td data-bbox="698 1034 1541 1316"> Off centre / eccentric force <ul style="list-style-type: none"> • (Reaction) Force applied outside axis of rotation / centre of mass • Eg diver leans backwards at take off in a backward somersault / high board diver leans forwards at take off to clear the board • Free body diagram showing R force from point of contact passing in front or behind the centre of mass </td> </tr> <tr> <td data-bbox="324 1316 698 1422">5.</td> <td data-bbox="698 1316 1541 1422"> Gives Moment of Force / Torque/couple <ul style="list-style-type: none"> • Force x distance from fulcrum • Gives object Angular Momentum </td> </tr> </tbody> </table>	1. (Axes of rotation)	Longitudinal axis <ul style="list-style-type: none"> • Head to toe • Eg Spin in a discus turn 	2.	Transverse axis <ul style="list-style-type: none"> • Side to side • Eg Somersault in trampolining 	3.	Frontal axis <ul style="list-style-type: none"> • Front to back • Eg Cartwheel in gymnastics 	4. (Initiation of rotation)	Off centre / eccentric force <ul style="list-style-type: none"> • (Reaction) Force applied outside axis of rotation / centre of mass • Eg diver leans backwards at take off in a backward somersault / high board diver leans forwards at take off to clear the board • Free body diagram showing R force from point of contact passing in front or behind the centre of mass 	5.	Gives Moment of Force / Torque/couple <ul style="list-style-type: none"> • Force x distance from fulcrum • Gives object Angular Momentum 	20	<ul style="list-style-type: none"> • Give KU for <u>relevant</u> knowledge points (usually main headings) • Give DEV for <u>relevant</u> development points (usually bullet points) • Give EG for <u>relevant</u> practical examples • Always indicate the Level at the base of the answer (L1,L2, L3 or L4) <p>Do not be limited by the indicative content give credit for other relevant points or developments.</p> <ul style="list-style-type: none"> • Do not give credit to irrelevant
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	<p><i>Describe the angular analogue of Newton's First Law of Motion and use it to explain how a high board diver performing somersaults uses their body position to maximise performance during the following phases of the dive:</i></p>		<p>material</p>
	<p>6. (Analogue of N1)</p> <p>The angular momentum of a rotating body will remain constant unless acted upon by an external torque/moment of force/eccentric force</p> <ul style="list-style-type: none"> • Also known as the Law of Conservation of Angular Momentum Eg the diver will not rotate until a torque/moment of force is applied • e.g. the diver will continue to rotate with constant angular momentum, • until acted upon by an external torque/ moment of force... 		
	<p>7.</p> <p>Angular momentum refers to the amount/quantity of angular motion a (rotating) body possesses / is a measure of angular motion.</p> <ul style="list-style-type: none"> • Depends on its moment of inertia and angular velocity. • $AM = \text{moment of inertia} \times \text{angular velocity} / I\omega$ • Moment of inertia is resistance of an object to rotation/ rotational equivalent of inertia. • Depends on distribution of mass from the axis of rotation • Angular velocity is the rate of change of angular displacement / angular displacement/time (rads.s)/ rate of spin. 		
	<p>8. (Take off from diving board)</p> <p>MI is high</p> <ul style="list-style-type: none"> • Divers mass is distributed away from axis of rotation / centre of mass • Eg Diver is in a straight body position at take off 		
	<p>9.</p> <p>(Angular Momentum) given to diver about transverse axis of rotation.</p> <ul style="list-style-type: none"> • Reaction force from feet acts outside of the centre of mass of the diver. • Shown through diagram 		

	10.	Angular velocity is low <ul style="list-style-type: none"> • Rate of spin is low. • increases control going into the rotation/ somersault 		
	11. (During flight)	MI is reduced <ul style="list-style-type: none"> • Diver's mass is brought closer to axis of rotation • Eg diver tucks up 		
	12.	Angular velocity / rate of spin increases <ul style="list-style-type: none"> • Because Angular Momentum is conserved/remains constant • Eg This means diver can perform more somersaults during dive. 		
	13. (Just before entry in to the water)	MI is increased <ul style="list-style-type: none"> • To increase resistance to rotation • Divers mass is distributed away from axis of rotation / centre of mass • Eg Diver straightens body 		
	14.	Angular velocity is reduced <ul style="list-style-type: none"> • Prevents over rotation on entry • Eg Diver's entry is safer / scores better 		

Section B: Exercise and Sport Physiology (Option B3)

Question	Answer	Marks	Guidance																																		
5 (a)	<p>Using examples from a team sport, describe how players resynthesise ATP during a game using the ATP/PC system and lactic acid system.</p> <p>6 marks for 6 of:</p> <p>Sub max 4 per energy system (including example/s)</p> <p>Sub max 2 for only description in each energy system (without example/s)</p> <table border="1"> <tr> <td>Alactic/ATP/ PC (must be named)</td> <td>e.g from a team sport.Sprinting to get to a ball/ to defend/ make a tackle/ powerful shot on goal/ jump/block/spike (or equiv)</td> </tr> <tr> <td>1. (intensity/duration)</td> <td>Aspects / examples of the game that are high intensity and short duration / <10 seconds</td> </tr> <tr> <td>2. (fuel)</td> <td>(Fuel is) PC/ phosphocreatine</td> </tr> <tr> <td>3. (energy yield)</td> <td>(Generate) 1 (mole) of ATP (per PC) / 1:1 ATP:PC</td> </tr> <tr> <td>4. (process)</td> <td>Breakdown PC to creatine and phosphate with energy released (used to resynthesise ATP)</td> </tr> <tr> <td>5.(enzyme)</td> <td>using the enzyme creatine kinase</td> </tr> <tr> <td>6.(Coupled reaction)</td> <td>coupled reaction or PC → P + C + energy and energy + P + ADP → ATP</td> </tr> <tr> <td>7. (location)</td> <td>(Takes place in the muscle) sarcoplasm</td> </tr> <tr> <td>Lactic acid (must be named)</td> <td>e.g from a team sport Counter attack/ turnover/attack at goal (or equiv)</td> </tr> <tr> <td>8. (intensity/ duration)</td> <td>High intensity aspects of a longer duration/up to 3 minutes</td> </tr> <tr> <td>9. (fuel)</td> <td>(Fuel is) glycogen/glucose or carbohydrate</td> </tr> <tr> <td>10. (energy yield)</td> <td>(Energy yield is) 2 (moles) ATP (per glycogen/glucose) or 1:2 glycogen/glucose:ATP</td> </tr> <tr> <td>11. (process)</td> <td>Glycogenolysis or glycogen to glucose</td> </tr> <tr> <td>12.(enzyme action)</td> <td>glycogen phosphorylase/GPP/GP converts glycogen to glucose</td> </tr> <tr> <td>13. (process)</td> <td>(Anaerobic) glycolysis</td> </tr> <tr> <td>14.(enzyme action)</td> <td>PFK converts glucose to pyruvic acid or (then) LDH converts pyruvic acid to lactic acid</td> </tr> <tr> <td>15. (location)</td> <td>(Takes place in the muscle) sarcoplasm</td> </tr> </table>	Alactic/ATP/ PC (must be named)	e.g from a team sport. Sprinting to get to a ball/ to defend/ make a tackle/ powerful shot on goal/ jump/block/spike (or equiv)	1. (intensity/duration)	Aspects / examples of the game that are high intensity and short duration / <10 seconds	2. (fuel)	(Fuel is) PC/ phosphocreatine	3. (energy yield)	(Generate) 1 (mole) of ATP (per PC) / 1:1 ATP:PC	4. (process)	Breakdown PC to creatine and phosphate with energy released (used to resynthesise ATP)	5.(enzyme)	using the enzyme creatine kinase	6.(Coupled reaction)	coupled reaction or PC → P + C + energy and energy + P + ADP → ATP	7. (location)	(Takes place in the muscle) sarcoplasm	Lactic acid (must be named)	e.g from a team sport Counter attack/ turnover/attack at goal (or equiv)	8. (intensity/ duration)	High intensity aspects of a longer duration/up to 3 minutes	9. (fuel)	(Fuel is) glycogen/glucose or carbohydrate	10. (energy yield)	(Energy yield is) 2 (moles) ATP (per glycogen/glucose) or 1:2 glycogen/glucose:ATP	11. (process)	Glycogenolysis or glycogen to glucose	12.(enzyme action)	glycogen phosphorylase/GPP/GP converts glycogen to glucose	13. (process)	(Anaerobic) glycolysis	14.(enzyme action)	PFK converts glucose to pyruvic acid or (then) LDH converts pyruvic acid to lactic acid	15. (location)	(Takes place in the muscle) sarcoplasm	6	<p>Theory must be linked to correct named energy system</p> <p>Appropriate <u>team sport</u> examples should be accepted. Do not give a mark for a team sport example unless it is for pts 1 or 8. Do not accept incorrect examples</p> <p>Alactic/ATP/ PC system accept any suitable example: (Very) high intensity, up to 10 seconds.</p> <p>Lactic acid system accept any suitable example: high intensity, lasting over 10 seconds -3 mins.</p> <p>Accept: (location) sarcoplasm once only ie if pt 7 given then do not give point 15</p>
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5	(b)	<p>Describe how oxygen availability and fuel availability determine which energy system is used. 4 marks for 4 of: Sub max 2 for each factor.</p> <table border="1"> <thead> <tr> <th>Oxygen availability</th> <th>Sub max 2 marks</th> </tr> </thead> <tbody> <tr> <td>1. (oxygen available)</td> <td>If oxygen is available then the aerobic (energy) system would be predominant</td> </tr> <tr> <td>2. (oxygen not available)</td> <td>If no oxygen available then the anaerobic (energy) systems will be predominant or Alactic/ATP/PC/lactic acid system will be predominant</td> </tr> <tr> <td>3. (short duration so oxygen unavailable)</td> <td>If an activity has a very short duration/up to 10 secs then not enough time to transport oxygen to the working muscles therefore the predominant energy system would be the Alactic/ATP/PC system</td> </tr> <tr> <td>4. (aerobic threshold)</td> <td>If oxygen supply falls below the requirements then the lactic acid system would become predominant (in resynthesizing ATP) (the aerobic threshold would have been met)</td> </tr> <tr> <th>Fuel availability</th> <th>Sub max 2 marks</th> </tr> <tr> <td>5. PC stores)</td> <td>If there are (sufficient) PC stores then the Alactic/ATP/PC energy system will be predominant for (very) high intensity/short duration exercise (< 10 seconds)</td> </tr> <tr> <td>6. PC stores)</td> <td>PC stores deplete quickly during very high intensity exercise (meaning that) the Alactic/ATP/PC system cannot be the predominant energy system for longer than 10 seconds.</td> </tr> <tr> <td>7. (Glycogen)</td> <td>If glycogen or carbohydrate/glucose is present then the aerobic system will be the predominant system or if the exercise (is high intensity) then lactic acid system is used.</td> </tr> </tbody> </table>	Oxygen availability	Sub max 2 marks	1. (oxygen available)	If oxygen is available then the aerobic (energy) system would be predominant	2. (oxygen not available)	If no oxygen available then the anaerobic (energy) systems will be predominant or Alactic/ATP/PC/lactic acid system will be predominant	3. (short duration so oxygen unavailable)	If an activity has a very short duration/up to 10 secs then not enough time to transport oxygen to the working muscles therefore the predominant energy system would be the Alactic/ATP/PC system	4. (aerobic threshold)	If oxygen supply falls below the requirements then the lactic acid system would become predominant (in resynthesizing ATP) (the aerobic threshold would have been met)	Fuel availability	Sub max 2 marks	5. PC stores)	If there are (sufficient) PC stores then the Alactic/ATP/PC energy system will be predominant for (very) high intensity/short duration exercise (< 10 seconds)	6. PC stores)	PC stores deplete quickly during very high intensity exercise (meaning that) the Alactic/ATP/PC system cannot be the predominant energy system for longer than 10 seconds.	7. (Glycogen)	If glycogen or carbohydrate/glucose is present then the aerobic system will be the predominant system or if the exercise (is high intensity) then lactic acid system is used.	4	
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			8. (Glycogen)	The greater the liver/muscle glycogen/carbohydrate/glucose stores the longer the aerobic system can be the predominant system (even up to higher intensity exercise)			
			9. (Fats)	Fats available then the aerobic system would be the predominant energy system			

Question	Answer	Marks	Guidance																								
5 (c)	<p>Explain why cooling aids are used as a method of improving performance and helping recovery. Give an example of one aid. 5 marks for 5 of:</p> <p>Sub max 4 for :explanation of cooling aid use</p> <table border="1" data-bbox="342 352 1294 1007"> <tr> <td data-bbox="342 352 703 491">1. (temperature)</td> <td data-bbox="703 352 1294 491">Cooling aids can reduce (core) temperature or sustain exercise for longer in hot environment or delays overheating or prevents dehydration</td> </tr> <tr> <td data-bbox="342 491 703 560">2. (injury/pain)</td> <td data-bbox="703 491 1294 560">Ice can be used to treat injuries by reducing pain/soreness</td> </tr> <tr> <td data-bbox="342 560 703 628">3. (swelling)</td> <td data-bbox="703 560 1294 628">Cooling aids can be used to reduce swelling/oedema/inflammation</td> </tr> <tr> <td data-bbox="342 628 703 697">4. (vasoconstriction)</td> <td data-bbox="703 628 1294 697">Cooling aids can result in vasoconstriction that reduces blood flow</td> </tr> <tr> <td data-bbox="342 697 703 799">5. (recovery after removal of cooling aid)</td> <td data-bbox="703 697 1294 799">Flush of oxygenated blood / vasodilation helps remove lactic acid</td> </tr> <tr> <td data-bbox="342 799 703 901">6. (recovery after removal of cooling aid)</td> <td data-bbox="703 799 1294 901">Flush of oxygenated blood helps to repair damage / reduces DOMS</td> </tr> <tr> <td data-bbox="342 901 703 1007">7. (thermal strain)</td> <td data-bbox="703 901 1294 1007">Using cooling aids reduces thermal strain of competing in warm climates to help performance</td> </tr> </table> <p>Sub max 1 for: example of one cooling aid.</p> <table border="1" data-bbox="342 1038 1294 1216"> <tr> <td data-bbox="342 1038 703 1080">8. (examples)</td> <td data-bbox="703 1038 1294 1080">Ice or ice packs/wraps</td> </tr> <tr> <td data-bbox="342 1080 703 1121">9. (examples)</td> <td data-bbox="703 1080 1294 1121">Ice baths/ cold water (immersion)</td> </tr> <tr> <td data-bbox="342 1121 703 1163">10. (examples)</td> <td data-bbox="703 1121 1294 1163">Fan cooling</td> </tr> <tr> <td data-bbox="342 1163 703 1204">11. (examples)</td> <td data-bbox="703 1163 1294 1204">Cold water spraying</td> </tr> <tr> <td data-bbox="342 1204 703 1216">12. (examples)</td> <td data-bbox="703 1204 1294 1216">Cooling jacket/ vest</td> </tr> </table>	1. (temperature)	Cooling aids can reduce (core) temperature or sustain exercise for longer in hot environment or delays overheating or prevents dehydration	2. (injury/pain)	Ice can be used to treat injuries by reducing pain/soreness	3. (swelling)	Cooling aids can be used to reduce swelling/oedema/inflammation	4. (vasoconstriction)	Cooling aids can result in vasoconstriction that reduces blood flow	5. (recovery after removal of cooling aid)	Flush of oxygenated blood / vasodilation helps remove lactic acid	6. (recovery after removal of cooling aid)	Flush of oxygenated blood helps to repair damage / reduces DOMS	7. (thermal strain)	Using cooling aids reduces thermal strain of competing in warm climates to help performance	8. (examples)	Ice or ice packs/wraps	9. (examples)	Ice baths/ cold water (immersion)	10. (examples)	Fan cooling	11. (examples)	Cold water spraying	12. (examples)	Cooling jacket/ vest	5	<p>Sub max 4 marks max for explanation of why cooling aids are used</p> <p>Sub max One mark for example of a cooling aid</p> <p>Do not accept: (the acronym) RICE (on its own)</p> <p>Do not accept 'reduce risk of injury'</p>
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5 (d)* Levels of Response	
<p>Level 4 (18-20 marks) A comprehensive answer:</p> <ul style="list-style-type: none"> • detailed knowledge & excellent understanding • detailed analysis and excellent critical evaluation • well-argued, independent opinion and judgements which are well supported by relevant practical examples • very accurate use of technical and specialist vocabulary • high standard of written communication throughout. 	<p><u>At level 4 answers are likely to show:</u></p> <ul style="list-style-type: none"> • Detailed analysis that includes reasons for all aspects of the graph • Wide range of ideas of how a coach could help improve a hockey player's performance and recovery • both performance and recovery are covered evenly • Good awareness of other factors that help to improve performance and recovery (i.e. not just recovery/rest) e.g. energy drinks/training methods
<p>Level 3 (13-17 marks) A competent answer:</p> <ul style="list-style-type: none"> • good knowledge and clear understanding • good analysis and critical evaluation • independent opinions and judgements will be present but may not always be supported by relevant practical examples • generally accurate use of technical and specialist vocabulary • written communication is generally fluent with few errors. 	<p><u>At level 3 answers are likely to show:</u></p> <ul style="list-style-type: none"> • Good analysis of most aspects of the graph • Some ideas of how a coach could help improve a hockey player's performance and recovery • Points from both performance and recovery, however the balance may be uneven. • Some focus on other factors that help to improve performance and recovery (i.e. not just recovery/rest) e.g. energy drinks/training methods
<p>Level 2 (8-12 marks) A limited answer:</p> <ul style="list-style-type: none"> • limited knowledge and understanding • some evidence of analysis and critical evaluation • opinion and judgement given but often unsupported by relevant practical examples • technical and specialist vocabulary used with limited success • written communication lacks fluency and contains errors. 	<p><u>At level 2 answers are likely to show:</u></p> <ul style="list-style-type: none"> • Basic analysis of most aspects of the graph • Some ideas of how a coach could help improve a hockey player's performance and recovery • both performance and recovery are covered, however this may be superficial. • Limited/no focus on other factors that help to improve performance and recovery
<p>Level 1 (0 – 7 marks) A basic answer:</p> <ul style="list-style-type: none"> • basic knowledge and little understanding • little relevant analysis or critical evaluation • little or no attempt to give opinion or judgement • little or no attempt to use technical and specialist vocabulary • errors in written communication will be intrusive. 	<p><u>At level 1 answers are likely to show:</u></p> <ul style="list-style-type: none"> • basic analysis of some aspects of the graph / mostly descriptive • have limited points about how a coach could help improve a hockey player's performance or recovery • only covers performance or recovery • mainly focus on rest periods during and after the game • Some inaccuracies

		Answer	Marks	Guidance								
5	(d)*	<p>Indicative Content: [No credit for describing graph] Analyse the physiological measurements shown on the graph for the hockey player:</p> <table border="1"> <tr> <td>1. (PC stores)</td> <td> PC stores are 100 %/ high because after 3 minutes they are fully restored <ul style="list-style-type: none"> • 50 % recovery after 30 seconds • Energy + P + C = PC • First stage of EPOC/ alactacid/oxygen debt /rapid recovery stage </td> </tr> <tr> <td>2. (Lactic acid)</td> <td> Lactic acid stores are still high because the hockey player has not had time to oxidise the lactic acid <ul style="list-style-type: none"> • Worked anaerobically • Hasn't had chance within 5 minutes to perform an effective cool down. </td> </tr> <tr> <td>3. (Lactic acid – lactacid/slow stage)</td> <td> Lactic acid is removed by the slow stage of recovery/ EPOC/lactacid/oxygen debt <ul style="list-style-type: none"> • lactacid stage which wouldn't have had chance to take effect / complete within 5 minutes / takes more time to complete. • Lactic acid is oxidised / converted to pyruvic acid • Converted to glycogen (glyconeogenesis / glucose (gluconeogenesis) / protein (cori cycle) / sweat / urine </td> </tr> <tr> <td>4. (Lactic acid)</td> <td> Is not at maximum level because the hockey player may have started a cool down which would have started to help remove the lactic acid <ul style="list-style-type: none"> • Maintained venous return, resulting in the removal of lactic acid. • Flush muscle with oxygenated blood increasing speed of lactic acid removal • The hockey player may have been working aerobically and so already had an opportunity to remove some of the lactic acid during performance / active recovery. </td> </tr> </table>	1. (PC stores)	PC stores are 100 %/ high because after 3 minutes they are fully restored <ul style="list-style-type: none"> • 50 % recovery after 30 seconds • Energy + P + C = PC • First stage of EPOC/ alactacid/oxygen debt /rapid recovery stage 	2. (Lactic acid)	Lactic acid stores are still high because the hockey player has not had time to oxidise the lactic acid <ul style="list-style-type: none"> • Worked anaerobically • Hasn't had chance within 5 minutes to perform an effective cool down. 	3. (Lactic acid – lactacid/slow stage)	Lactic acid is removed by the slow stage of recovery/ EPOC/lactacid/oxygen debt <ul style="list-style-type: none"> • lactacid stage which wouldn't have had chance to take effect / complete within 5 minutes / takes more time to complete. • Lactic acid is oxidised / converted to pyruvic acid • Converted to glycogen (glyconeogenesis / glucose (gluconeogenesis) / protein (cori cycle) / sweat / urine 	4. (Lactic acid)	Is not at maximum level because the hockey player may have started a cool down which would have started to help remove the lactic acid <ul style="list-style-type: none"> • Maintained venous return, resulting in the removal of lactic acid. • Flush muscle with oxygenated blood increasing speed of lactic acid removal • The hockey player may have been working aerobically and so already had an opportunity to remove some of the lactic acid during performance / active recovery. 	20	<ul style="list-style-type: none"> • For the graph look for analysis / explanation (because). • Give KU for <u>relevant</u> knowledge points (usually main headings) • Give DEV for <u>relevant</u> development points (usually bullet points) • Give EG for <u>relevant</u> practical examples • Always indicate the Level at the base of the answer (L1,L2, L3 or L4)
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5. (Muscle glycogen)	Muscle glycogen is low because the hockey player will have used their stores / fuel <ul style="list-style-type: none"> during glycogenolysis / conversion to glucose for glycolysis/ anaerobic glycolysis/ aerobic glycolysis 		<p>Do not be limited by the indicative content give credit for other relevant points or developments.</p> <ul style="list-style-type: none"> Do not give credit to irrelevant material
6. (Muscle glycogen)	This is depleted because the performer will not have had chance to eat any carbohydrate after the game / post-event meal <ul style="list-style-type: none"> so they will not have had chance to restore their stores 		
7. (Muscle glycogen)	Not empty because they may have had an energy / isotonic / glucose drink to help maintain blood glucose levels <ul style="list-style-type: none"> May have had something to eat at half time, for examples banana/jelly babies/energy bar Pre-competition meal may have followed a carbo-loading programme previous to the game so had very high stores to begin with. 		
8. (Heart rate)	Heart rate is still high following the end of the game because this helps help maintain blood flow. <ul style="list-style-type: none"> This helps to maintain oxygen supply to the muscles Which helps to remove lactic acid Which helps reduce oxygen deficit Which helps replenish ATP, PC and glycogen stores. Helps to remove CO₂ 		
9. (Heart rate)	Maintain venous return <ul style="list-style-type: none"> Prevent blood pooling Helps remove lactic acid from muscles 		
10. (Respiration rate)	High respiration rate diffuses more oxygen into the capillaries <ul style="list-style-type: none"> Which helps to remove lactic acid Which helps reduce oxygen deficit and OBLA Which helps replenish ATP and glycogen stores. Helps to remove CO₂ 		
11. (Respiration rate & alactacid debt)	High respiration rate is needed because the alactacid stage of recovery requires 3-4 litres of oxygen to continue aerobic energy production / in order to restore ATP/PC stores		
			<p>Points may refer to performance or recovery or both –</p>

				<p>this should be taken into account when deciding on the level.</p>
	12. (Respiration rate & lactacid debt)	High respiration rate is needed because the lactacid stage of recovery requires 5-8 litres of oxygen to continue aerobic energy production in order to remove lactic acid		
	Knowledge of recovery to help improve performance and recovery			
	13. (warm up)	<p>Completing a warm up prior to the game will increase respiration</p> <ul style="list-style-type: none"> • and therefore oxygen supply so the performer can perform more aerobically • reducing the oxygen deficit so aiding recovery. • Delays OBLA • Reduces build-up of lactic acid • Reduces O₂ deficit 		
	14. (subs/time wasting)	<p>A coach could use substitutions to allow players recovery</p> <ul style="list-style-type: none"> • Whilst the substitution is being made other players may benefit from 30 seconds recovery to restore ATP/PC stores • Coach could use time-wasting tactics eg fake injury etc 		
	15. (tactics)	<p>A coach could employ pacing tactics to control the intensity of the game to allow players time to recover</p> <ul style="list-style-type: none"> • E.g. playing the ball around the back to keep possession to allow players 30 seconds to restore ATP/PC stores • Eg. Man to man versus zonal marking 		
	16. (nutrition- pre competition meal/ snack)	<p>Would encourage players to eat a high carbohydrate meal pre competition (2-4 hours before)</p> <ul style="list-style-type: none"> • Increase blood glucose so they can maintain glycolysis for longer • Pre competition snack e.g. banana/ chocolate bar/glucose tablet / gel 		
	17. (energy drinks – pre and inter match)	<p>Players could have (hypotonic or isotonic) energy drinks just prior to and during the game</p> <ul style="list-style-type: none"> • to avoid dehydration • as a supply of glucose. 		

		<ul style="list-style-type: none"> • replenish glycogen stores • Allow you to perform aerobically for longer and therefore limit the time needed for recovery 		
	18. (nutrition during game)	<p>Players could consume a small amount of carbohydrates at half time to replenish glycogen stores/ delay fatigue</p> <ul style="list-style-type: none"> • Banana/ Jelly babies • Glucose tablets/ gels 		
	19. (training - interval)	<p>A coach could use (interval) training to help the hockey player increase their tolerance to lactate</p> <ul style="list-style-type: none"> • Short work and short rest/ 1:2/ 10 seconds work and 20 seconds recovery • Apply the principle of overload to the lactic acid system so that the hockey player would have a higher tolerance to lactic acid delay OBLA / buffer hydrogen ions and therefore limit its effects on performance. • Would also aid recovery as less lactic acid build up as body becomes more efficient at using/ removing lactic acid. • Periodisation 		
	20. (work rest ratios)	<p>Understanding recovery would allow a coach to use work rest ratios to train the body to become more efficient at replenishing ATP/PC stores.</p> <ul style="list-style-type: none"> • 10 seconds work:1 minute rest/ 1:3+ • Which would help the hockey player recover during a game • Active recovery during rest to speed up removal of lactic acid 		
	21. (training – anaerobic – ATP/PC stores)	<p>Anaerobic training can help to increase ATP/PC stores</p> <ul style="list-style-type: none"> • which will enable the hockey player to maintain high intensity exercise for longer 		
	22. (training-improving VO ₂ max)	<p>Training for longer duration/ 1:1 / 1:05 helps to increase VO₂ max</p> <ul style="list-style-type: none"> • resulting in hockey player being able exercise aerobically for longer • limiting anaerobic energy production 		

		<ul style="list-style-type: none"> so improving performance due to not having to rely on the lactic acid energy system as much and therefore not generating as much lactic acid. Would enable a quicker recovery due to less lactic acid. 		
	23. (delay thresholds)	<p>Aerobic and anaerobic training will help delay the ATP/PC and lactic acid thresholds / anaerobic threshold</p> <ul style="list-style-type: none"> meaning the players can work at all intensities for longer delay OBLA aids removal of lactic acid 		
	24. (energy drinks – post match)	<p>Coaches could provide hypertonic energy drinks to aid recovery to help replenish glycogen.</p> <ul style="list-style-type: none"> To help replenish glycogen Help rehydration/ recovery to enable them to perform again quickly. 		
	25. (nutrition –post game)	<p>The coach could advise/ encourage the player to eat a high carbohydrate meal 1 hour after the football game to help restore glycogen</p> <ul style="list-style-type: none"> More effective recovery if combined with protein. 		
	26. (ice/ cooling aids)	<p>If performing in hot conditions then ice/ cooling aids could be used to reduce core temperature</p> <ul style="list-style-type: none"> to prevent fatigue. Aid up recovery by bringing more oxygen to remove lactic acid Remove waste products to help recovery Reduce DOMS Prevents swelling / DOMS 		
	27. (Loading / supplementation)	<p>Soda loading</p> <ul style="list-style-type: none"> Speeds up the buffering process Neutralises lactic acid more quickly <p>Creatine supplementation</p> <ul style="list-style-type: none"> Increases PC stores <p>Carbohydrate loading</p> <ul style="list-style-type: none"> Increases glycogen stores 		

		28. (Very high intensity training)	Very high intensity training / strength training <ul style="list-style-type: none">• Increases muscle mass / storage capacity for ATP/PC		
		29. (cool down)	Complete an (active cool down) <ul style="list-style-type: none">• Heart rate / respiratory rate maintained• helps to maintain oxygen supply to the muscles• helps to remove lactic acid		

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