OCR
Oxford Cambridge and RSA

GCE

Physical Education

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

Advanced GCE

Mark Scheme for June 2016

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

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

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

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

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

Annotation	Meaning
✓	**= Correct response**
BOD	= Benefit of the doubt
REP	= Repeat
TV	= Too Vague
DEV	= Development (levels scheme)
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)
S	= Sub max

Question			Answer	Marks	Guidance
1	(a)		**Explain how characteristics of popular recreation affected the physical competence, health of participants and opportunities for participation.** **4 marks for 4 of:**	4	

1. (**Physical competence and health of participants**)	skills were not developed / force rather than skill (in mob games)
2. (upper class competence)	(but) … upper class would develop skills in real tennis or cricket
3. (occasional)	(occasional) meant little opportunity for health benefits or skill development
4. (violence)	fierce rivalries or grudge matches led to violence / injuries common or cruelty/violence leads to injuries/death/poorer health
5. (Occupation)	Occupational (pedestrianism) leads to better health/skills
6. (**opportunities for participation** - number of participants / rules / simple)	no restriction on number of participants / all could play or few rules enabled all to play or simple rules/limited equipment allowed all to play
7. (rural)	(rural) therefore more space to play to improve health or easy access
8. (local)	(local) variations in rules or lack of transport meant regional competitions could not take place/lack of opportunities for participation or local meant that lots in the area could take part
9. (gender)	Male-dominated / female participation in some activities (eg. smock races)
10. (occasional)	Occasional opportunity or annual event / fairs / wakes Or upper class had more free time and therefore higher levels of participation
11.(literacy)	Lack of literacy limits participation (of peasants) in more skilful / complex activities

Question	Answer	Marks	Guidance
(b)		6	• Maximum of 6 marks • Sub max 4 marks • Do not accept melting pot on its own (must be qualified for point 7)

Influence of the Clarendon Report. **Six marks for:** **Sub-max 4:**	
1. (Team games)	Recognised/stressed the importance of team games or sport should be compulsory/part of school life
2. (Moral integrity)	…for character development / moral integrity / (more important than skilled performance) or development of teamwork/loyalty/leadership
3. (Individual games)	Gymnastics/Hare and Hounds seen as inferior
4. (Grammar school)	Influenced growth of Grammar/middle class schools
5. (Facilities)	Influenced building of specialist facilities / purchase/maintenance of high quality playing fields
6. (Improvement)	Identified areas for improvement or pointed out schools fail to educate or schools had an unbalanced curriculum or led to a more balanced curriculum
Explain how public schools were central to the development of team games in the mid-nineteenth century. **Sub-max 4:**	
7. (Local variations)	Boys brought local variations to schools / developed school-specific rules or skills or boundaries
8. (Free time)	Boys played regularly / had lots of free time to play sport
9. (House system)	House system expanded / central to development of team games
10. (Encouragement by heads)	Heads / the school **encouraged** boys to organise / play team games / inter-house matches or games seen as character building or encouraged teamwork/leadership
11. (Masters)	Assistant masters/old boys with enthusiasm for team games appointed or professionals/coaches appointed to develop skills
12. (Anti-social)	Boys discouraged from anti-social activities or acted as social control or led to less bullying/brutality or poaching / gambling / games kept boys out of trouble or channelled boys' energy
13. (Role models)	Boys/sixth form boys who excelled at sport became role models/highly respected by other pupils

Do not accept (on its own) examples of specific school activities e.g. Eton wall game

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td></td><td>(c)</td><td></td><td>
<table>
<tr><td colspan="2">Describe the objectives, content and methodology of the 1950s publications.
5 marks for:
Sub-max 3 marks:</td></tr>
<tr><td>1. (Objectives)</td><td>Holistic / educational / more than physical benefits / physical, intellectual, social and emotional development / enjoyment or to develop creativity or to develop mind and body</td></tr>
<tr><td>2. (Content)</td><td>(Educational) gymnastics / dance / movement to music / games / swimming</td></tr>
<tr><td>3. (Methodology)</td><td>Decentralised / problem solving / decision-making / child-centred / heuristic / guided discovery / exploring / think for themselves</td></tr>
<tr><td colspan="2">How did the building of gymnasia result in more effective participation for young people?
Sub-max 2 marks:</td></tr>
<tr><td>4. (Facility - new)</td><td>Encouraged educational gymnastics/ed gym or dance</td></tr>
<tr><td>5. (Indoor)</td><td>Indoor facility increased participation</td></tr>
<tr><td>6. (apparatus)</td><td>Apparatus provided opportunity for problem-solving approach / increased creativity / stimulated cognitive/intellectual abilities</td></tr>
<tr><td>7. (variety)</td><td>Variety of equipment or more varied activities/experiences</td></tr>
</table>
</td><td>5</td><td></td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td></td><td></td><td></td><td>
(d)* Explain how swimming has developed from a popular recreation activity to being a rational recreation activity.
Discuss the factors that impact on contemporary participation and performance in swimming.
<table>
<tr><td>Level 4 (18-20 marks)
A comprehensive answer:
• detailed knowledge & excellent understanding
• detailed analysis and excellent critical evaluation
• well-argued, independent opinion and judgements which are well supported by relevant practical examples
• very accurate use of technical and specialist vocabulary
• high standard of written communication throughout.</td><td>Discriminators from L3 <u>are likely</u> to include:
• Detailed explanation of development of swimming with a wide range of popular and rational recreation characteristics
• Detailed discussion of factors impacting on swimming today.
• Both participation and performance covered.
• Knowledge consistently and accurately applied to swimming.</td></tr>
<tr><td>Level 3 (13-17 marks)
A competent answer:
• 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.</td><td>Discriminators from L2 <u>are likely</u> to include:
• Good explanation of development of a good range of popular and rational recreation characteristics
• Good discussion of factors impacting on swimming today.
• Both participation and performance covered, although one area may show less knowledge than the other.
• Knowledge accurately applied to swimming.</td></tr>
</table>
</td><td>4</td><td></td></tr>
</table>

Question	Answer	Marks	Guidance

Level 2 (8-12 marks) **A limited answer:** • 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.	**Discriminators from L1 <u>are likely</u> to include:** • **Description** of some of the characteristics from both popular and rational recreation, with some limited development. • **Some limited** discussion of the factors impacting on swimming today. • Knowledge sometimes applied accurately to **swimming.**
Level 1 (1 – 7 marks) **A basic answer:** • 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.	**At L1 responses <u>are likely</u> to:** • **Basic** description of a few characteristics but rarely developed. • **Basic** knowledge of factors impacting on swimming today • Knowledge shown often more generic rather than applied to **swimming** • Some inaccuracies
0 marks = No response or no response worthy of credit.	

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td></td><td>(d)</td><td></td><td>Indicative content:
<table>
<tr><th colspan="2">Development of swimming from popular to rational recreation</th></tr>
<tr><td>1. (bathing – pop rec)</td><td>Bathing
• Rural/local/simple in nature
• Use of rivers/lakes/ponds/sea/natural facilities</td></tr>
<tr><td>2. (military/survival – pop rec)</td><td>Swimming for survival/safety
• Occupational
• an important military skill
• part of the chivalric code in medieval England</td></tr>
<tr><td>3. (disease – pop rec)</td><td>Fear of water-borne diseases
• In the Middle ages/up to early C18</td></tr>
<tr><td>4. (therapeutic – pop rec)</td><td>Considered beneficial or therapeutic
• Early C18 onwards
• Health/hygiene
• Water therapy/cure
• Spa towns</td></tr>
<tr><td>5. (sea bathing – pop rec)</td><td>Seaside resorts/sea bathing
• Eg. Scarborough
• Bathing machines afforded privacy
• Pulled into the sea by men or horses</td></tr>
<tr><td>6. (class)</td><td>Upper class unwilling to mix with lower class
• Restricted access for lower class
• gentry had own baths</td></tr>
<tr><td>7. (railways)</td><td>Development of railways made seaside resorts accessible for all
• Excursion trains/cheap fares
• Creation of Bank Holidays</td></tr>
<tr><td>8. (swimming races – pop rec)</td><td>Little evidence of any pre-industrial swimming races
• Informal races took place/youngsters would race each other</td></tr>
<tr><td>9. (public schools - pop rec)</td><td>Not encouraged/not character-building like team games
• Encouraged for therapeutic effects
• Ref. Harrow Duck pond or river Avon at Rugby
• Separate areas for different ages
• Attendants paid to supervise areas where non-swimmers</td></tr>
</table></td><td>20</td><td></td></tr>
</table>

Question	Answer	Marks	Guidance
	learned to swim • Ref. Charterhouse – purpose-built facility in 1863		
10. (Industrial revolution)	Industrialisation of towns led to overcrowding/poor living conditions • Pollution of rivers/rivers not suitable for bathing or washing • Diseases/cholera epidemics		
11. (Wash Houses Act)	Public baths built • As safe place to wash rather than swim • Grants provided to local authorities • Separate facilities/first and second class/penny baths • The bigger the baths the higher the status		
12. (swimming – rat rec)	Plunge baths for swimming • Separate facility to public wash-house/middle class influence		
13. (outdoor pools – rat rec)	Open air pools/lidos built for public/private use • Ref. specific named pool		
14. (stroke development – rat rec)	Development of modern swimming techniques • Influence of John Trudgen/Trudgen crawl became freestyle		
15. (ASA – rat rec)	Amateur Swimming Association formed • In 1886 • Codification of all aspects of sport • Exclusion clause applied to prevent professionals/swimming teachers (who dominated early swimming events)		
16. (clubs – rat rec)	Impact of London Swimming Clubs • Metropolitan Swimming Association		
17. (other sports – rat rec)	Development of water polo/diving/synchronised swimming/open water swimming		
18. (Olympic Games – rat rec)	Swimming events were part of the first Modern Olympics • Freestyle only in 1896		
19. (Captain Webb – rat rec)	Captain Webb • Swam the English Channel (in 1875) • National hero/role model/stimulated interest in swimming		
Factors that impact on contemporary participation and performance in swimming.			
20. (provision)	Most major towns have a range of facilities for swimming • Lack of 50m pools for elite development		

Question			Answer		Marks	Guidance
			21. (opportunity)	Access/cost/transport issues • unsociable training times for elite performers/club swimmers • free swimming (for U16s and over 60s) • cost of swimming too high for some		
			22. (schools)	Swimming on the National Curriculum • Importance of all children learning to swim/safety • Learn to Swim Stages 1 to 10 / Learn to Swim Framework • Focus on Primary schools • Limited access to swimming at secondary schools • Some schools/colleges specialise in swimming		
			23. (coaching)	ASA coaching awards/level 1-3 awards • Availability (or lack of) to top coaching locally		
			24. (status/role models)	Arguably still has lower status than traditional team games • But status is rising due to success at Olympic Games • Eg. named performer		
			25. (cultural factors)	Cultural factors/ethnicity • Cultural reasons for participation/restricting participation • Body image		
			26. (media)	Role of media in promoting swimming • Lack of media coverage of most swimming events		
			27. (health)	Health/therapeutic effects of swimming • Aqua aerobics as a safe low-impact exercise • Ante-natal swimming/parent and baby classes • Blue flag beaches		
			28. (technology)	Pool technology to improve access for all • Hoists/lifts for disabled access • Teaching aids/wave machines/biomechanical equipment for elite • Swimwear designed to reduce drag		

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>2</td><td>(a)</td><td></td><td>
What is meant by the terms inter-mural sport and intra-mural sport?
Compare them in terms of organisation, status and ethos.
5 marks for:
<table>
<tr><td>1. (Inter-mural sport)</td><td colspan="2">Sports played between two (or more) separate institutions</td></tr>
<tr><td>2. (Intra-mural sport)</td><td colspan="2">Sports played within a specific institution</td></tr>
<tr><td></td><td>Inter-mural</td><td>Intra-mural</td></tr>
<tr><td>3. (organisation)</td><td>By the State High School Athletic Associations</td><td>By the individual school or university</td></tr>
<tr><td>4. (status)</td><td>High</td><td>Lower</td></tr>
<tr><td>5. (ethos)</td><td>Lombardianism / elitism</td><td>Radical ethic / participation ethic</td></tr>
</table>
</td><td>5</td><td>• Points 3-5 must directly compare inter and intra mural sport.</td></tr>
<tr><td></td><td>(b)</td><td></td><td>
Aim of Title IX.
Sub-max 2:
<table>
<tr><td>1. (equality)</td><td>Gender equality / removal of gender discrimination</td></tr>
<tr><td>2. (education)</td><td>Applies to all educational establishments that receive govt/federal funding</td></tr>
<tr><td>3. (proportion)</td><td>Equality should be proportional to number of men and women participating (and take into account the costs of the activity) or equality of funding</td></tr>
<tr><td colspan="2">Benefits. Sub max 2:</td></tr>
<tr><td>4. (Participation)</td><td>Increase in female provision / participation/female status</td></tr>
<tr><td>5. (Sports)</td><td>Increase in range of sports offered or increase in opportunities</td></tr>
<tr><td>6. (Coaches)</td><td>Equal pay for female coaches (compared to male counterpart at same institution)</td></tr>
<tr><td colspan="2">Drawbacks. Sub max 2:</td></tr>
<tr><td>7. (Funding)</td><td>Reduced funding to male sports / some male sports dropped due to reduced funding or wish to maintain funding to big 4 sports</td></tr>
<tr><td>8. (Pressure/injury)</td><td>Increased pressure on female athletes to achieve success / increased risk of injury / eating disorders or greater competition for male sponsorship</td></tr>
<tr><td>9. (coaches)</td><td>Reduced number of female coaches / more male coaches coaching women’s sports</td></tr>
<tr><td>10. (child protection)</td><td>Evidence of increased number of allegations of sexual abuse by male coaches to female athletes</td></tr>
</table>
</td><td>5</td><td>• Maximum of 5 marks
• Sub max 2 marks for aims, benefits and drawbacks</td></tr>
</table>

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<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td></td><td>(c)</td><td></td><td>
Compare the growth and development of Rugby League in Australia and in the UK. 5 marks for:
<table>
<tr><th></th><th>Australia</th><th>UK</th></tr>
<tr><td>1. (Early days)</td><td colspan="2">Both sports broke away from rugby union / Northern Union in UK (in 1895) / ‘Rugby rebellion’ in Aus / NSW RL formed (in 1907) or RL more dominant than RU in Aus and RL less dominant than RU in UK</td></tr>
<tr><td>2. (Professionals)</td><td colspan="2">In both countries players wanted broken-time payments / payment for time off work or for playing instead of working / both sports became professional (at early stage of development)</td></tr>
<tr><td>3. (Laws)</td><td colspan="2">Laws were adapted (in UK) <u>and</u> adopted in Australia / eg. play-the-ball introduced / rucks/mauls eliminated / teams reduced from 15 to 13</td></tr>
<tr><td>4. (Geography - early)</td><td>New South Wales and Queensland
Or Barassi line</td><td>Northern England</td></tr>
<tr><td>5. (Geography – recent)</td><td>Inclusion of Melbourne team in NRL / attempts to include team from Perth / amateur leagues in all major cities</td><td>Inclusion of London team in Super League / failed attempts to include teams from South Wales and Gateshead / Rugby League conference involves teams from all over UK</td></tr>
<tr><td>6. (Season)</td><td>Winter sport</td><td>Originally winter sport / Switched to summer (in 1996)</td></tr>
<tr><td>7. (Internationals)</td><td colspan="2">Australia/Kangaroos and UK have played regular internationals since early C20</td></tr>
<tr><td>8. (State of Origin)</td><td>State of Origin/NSW v Queensland a huge media event (official trial for test selection)</td><td>No equivalent in UK / Lancashire v Yorkshire failed to attract public/media support</td></tr>
<tr><td>9. (media)</td><td>National coverage on terrestrial TV generates high profile</td><td>Sky TV limits audience viewing figures / Some cup games on terrestrial TV but viewing figures low</td></tr>
<tr><td>10. (Development)</td><td colspan="2">Mini footy/mini league/Mod league/modified codes to introduce game to youngsters exist in both countries</td></tr>
<tr><td>11. (Schools)</td><td>(Mainly) taught in schools in NSW and Queensland / National</td><td>(Mainly) taught in schools in Northern Counties / National Schools cup</td></tr>
<tr><td>12. (Pathways)</td><td colspan="2">Academies at professional clubs produce elite players in both countries</td></tr>
<tr><td>13. (Women)</td><td colspan="2">Women's leagues exist in both countries</td></tr>
</table>
</td><td>5</td><td>

Candidates must compare Aus and UK for each point to earn credit.
Use highlighter for a point made about one country and when compared use a tick and give a mark

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

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<tr><td></td><td></td><td></td><td>
<table>
<tr><td colspan="2">2 (d)* Compare and critically evaluate how schools in Australia and the UK help to prepare young people for lifelong participation in sport.</td></tr>
<tr><td>Level 4 (18-20 marks)
A comprehensive answer:
• detailed knowledge & excellent understanding
• detailed analysis and excellent critical evaluation
• well-argued, independent opinion and judgements which are well supported by relevant practical examples
• very accurate use of technical and specialist vocabulary
• high standard of written communication throughout.</td><td>Discriminators at Level 4 <u>are likely</u> to include:
• Detailed knowledge and excellent understanding of primary and high school sport and physical education in both Australia and the UK.
• Direct comparisons consistently made between systems in Australia and the UK.
• Detailed critical evaluation of both systems.
• Excellent structure and balance between parts of the question.</td></tr>
<tr><td>Level 3 (13-17 marks)
A competent answer:
• 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.</td><td>Discriminators at L3 <u>are likely</u> to include:
• Good knowledge and understanding of school sport and physical education in both Australia and the UK.
• Mostly direct comparisons made between the systems in Australia and in the UK; other relevant stand-alone points may also be made.
• Good critical evaluation of both systems.
• Good structure and balance between parts of the question.</td></tr>
</table>
</td><td></td><td></td></tr>
</table>

Question	Answer	Marks	Guidance
	Level 2 (8-12 marks) **A limited answer:** • 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.	**Discriminators at L2 <u>are likely</u> to include:** • Limited knowledge of school sport in Australia and the UK • Limited comparisons between school sport in Australia and the UK are made; most points are stand-alone • Some evidence of evaluation of at least one system. An attempt at structure.	
	Level 1 (1 – 7 marks) **A basic answer:** • 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.	**At L1 responses <u>are likely</u> to:** • Basic knowledge of school sport in Australia and the UK • Few comparisons made between the two. • Basic structure - focus more on either Australia or the UK rather than balanced • Limited or no attempt at evaluation of either system	
	0 marks = No response or no response worthy of credit.		

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td></td><td>(d)</td><td></td><td>
Indicative Content:
<table>
<tr><th colspan="3">Compare and critically evaluate how schools in Australia and the UK help to prepare young people for lifelong participation in sport.</th></tr>
<tr><th></th><th>PE in Australia</th><th>PE in UK</th></tr>
<tr><td>1. (Primary schools)</td><td>Fundamental Skills Programme
• Basic skills taught</td><td>Similar system</td></tr>
<tr><td>2. (Decentralised)</td><td>Decentralised system
• State-led</td><td>Decentralised system, but …
• National Curriculum</td></tr>
<tr><td>3. (Time - Primary)</td><td>3 hours per week
• Mandatory (in most states)
• Recommended 60 mins per day</td><td>2 hours per week
• Recommended / dependent on priorities of school leaders</td></tr>
<tr><td>4. (PASE)</td><td>PASE
• Professional development programme for non-specialist teachers (primary and secondary support)
• Most primary teachers are PE trained</td><td>Some training and support available
• Less funding/opportunity for PE specific INSET
• Most primary teachers are not PE specialists
• PE and Sport Premium
• Govt funding to primary schools to promote PE</td></tr>
<tr><td>5. (Curriculum)</td><td>VELS (Victorian Essential Learning Standards)</td><td>NC is similar (as a framework that allows schools flexibility in planning, assessing and reporting).</td></tr>
<tr><td>6. (Support initiatives)</td><td>Bluearth foundation
• Charity supporting primary schools to get children active</td><td>Role of Youth Sport Trust (Initiatives include):
• Change4Life
• Fit4Schools</td></tr>
<tr><td>7. (SEPEP – Sport education and PE project)</td><td>Framework to deliver effective PE lessons
• Student-led
• Students assume range of roles – (eg. leader/ coach/official/performer)
• Sports afternoons (as well</td><td>Many schools are now adopting elements of SEPEP model
• Students assume range of roles as in Aus
• Inter-house or inter-form sports
• Some schools have games afternoons</td></tr>
</table>
</td><td>20</td><td>
• Highlight point made for one country.
• Use KU when comparison made
• Use DEV when comparative point is developed
• Use DEV when critical analysis is made
• Candidates may choose to evaluate both systems when making comparisons, rather than a separate paragraph - credit when seen.

• 3 and 8 – Only credit UK 2hrs per week once, unless it is made clear that this refers to both primary and secondary education
</td></tr>
</table>

Question	Answer			Marks	Guidance
		as PE lessons)			
	8. (Time – secondary)	100 minutes of PE **and** 100 minutes of sport per week.	2 hours per week • Not mandatory		
	9. (club links)	Sports linkage scheme • Sharing of sports facilities in local community	Similar schemes have been promoted • by Youth Sport Trust		• Exemplary schools (pt 10) no longer exist but still credit this as knowledge
	10. (exemplary schools)	Exemplary Schools • Share good practice	Innovation schools • Similar role		
	11. (awards)	State Award Schemes • For individuals who excel in a range of sports • And show fair play • De Coubertin award	Local authority award schemes • Similar criteria to Aus		
	12. (sports leaders)	Sports Leader Programme • Opportunities to coach/officiate/run sporting events • Link to SEPEP	Sports Leaders Programme • Similar to Aus • Level 1, 2, 3 programmes • Coaching/officiating roles credited in GCSE/A-level PE		
	13. (role models)	Sports person in schools project • Elite athletes as role models • Expectation/link to funding form AIS	Similar • Less structured approach • No link to funding		
	14. (teacher games)	Teachers participate in Teacher Games • Motivates and inspires students/teachers as role models	No comparison in UK • Some teachers may perform in sport to a high standard and act as role models		
	15. (Outdoor ed)	Outdoor education programme / Outward Bound Movement • Optional programme • Duke of Edinburgh Award	Similar • Outdoor education a part of NC • Optional programme • Duke of Edinburgh Award		
	16. (Inter-school sport - secondary)	School Sport Australia • Organise interstate	Local/County/National competitions • Eg. Sainsbury's School Games		

Question	Answer	Marks	Guidance

	competitions • Pacific School Games	
17. (Inter-school sport - primary)	Sporting Schools • Develop inter-school competition between primary schools	No similar initiative • Dependent on Sports development officers at local level

Critical evaluation of the effectiveness of both systems

18. (status)	Higher status given to school sport and PE in Australia • Reference to increased time allocation in Australia • Reference to PASE / more CPD available in Australia • Reference to lower status of extra-curricular sport in UK / optional in UK • References to other differences between systems in each country
19. (ethos)	Participation ethic exists in both Australia and UK • Importance of fair play / key criterion for school sports awards in both countries • However, Lombardian ethic may be argued (in some schools/sports) • Inclusive systems in both countries (gender/disability/etc)
20. (lifestyle)	Active outdoor lifestyle promoted from young age more in Australia • However, increasing rates of inactivity in young people in Australia • Evidence of high absentee rates in High school Sport education in Australia • Increasing obesity in young people in both countries
21. (geography)	Favourable climate in Australia for outdoor sports • Higher status / greater opportunity for swimming in schools
22. (history)	Many elements of PE and school sport are copied from UK system • Eg. house competitions • However, SEPEP model is being copied in (some) UK schools
23. (Govt)	References to national and local government agendas for sport • Lottery funding / support for school sport in UK or AUS • Financial cutbacks due to squeeze on public spending
24. (social determinants)	Egalitarian society in Australia / class-based society a perception or limiting factor in UK • Both countries promote sport for all / equality of opportunity • Evidence of continued discrimination against Aborigines in Australia

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>3</td><td>(a)</td><td></td><td>(Explain why goal setting is important for sports performers.)

Four marks for:
<table>
<tr><td>1. (motivation)</td><td>Can motivate / encourage/strive to perform well
Or promotes approach behaviour</td></tr>
<tr><td>2. (persistence)</td><td>Can encourage persistence or sticking to training/competition.</td></tr>
<tr><td>3. (focus)</td><td>Can give direction / focus / end product or know what you are aiming for.</td></tr>
<tr><td>4. (anxiety)</td><td>Can help to control anxiety / stress / arousal.</td></tr>
<tr><td>5. (skills/methods)</td><td>Can help to develop skills / methods / strategies / tactics.</td></tr>
<tr><td>6. (confidence)</td><td>Gives you confidence that you have direction / know what you are doing or that you have the ability to achieve your goal/s.
Or promotes mastery orientation</td></tr>
<tr><td>7. (reward / achievement)</td><td>Measured goals can give evidence of/check for improvement / gives reward / positive reinforcement when you have achieved a result.</td></tr>
</table></td><td>4</td><td>• Must be explanation rather than single word answers</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td></td><td>(b)</td><td></td><td>(Using practical examples, describe the peak flow experience associated with the zone of optimal functioning in sport)

Five marks for:
<table>
<tr><td>1. (Emotion)</td><td>An affective / emotional response or you feel enjoyment /excitement / satisfaction / fulfilment or feels effortless or you feel in control.
Eg enjoy playing in the tennis match.</td></tr>
<tr><td>2. (Success)</td><td>Associated (more) with good / excellent performers / performance or task difficulty at the right level or performer is playing well / experiencing success
Eg elite athletes more likely to experience peak flow.</td></tr>
<tr><td>3. (Confidence)</td><td>High level of confidence / sports confidence / self efficacy
Eg a football player feels very confident in their own ability.</td></tr>
<tr><td>4. (Low anxiety)</td><td>Is relaxed or lack of stress response or not anxious or anxiety is controlled/ calm.
Eg the hockey player feels relaxed when playing</td></tr>
<tr><td>5. (Optimum arousal)</td><td>Ideal / optimal level of arousal of the performer or controlled arousal
Eg the volleyball player is psyched up but not psyched out.</td></tr>
<tr><td>6. (Motivated)</td><td>Well motivated or high level of inner drive / self motivation or high level of effort.
Eg the netball player shows a high level of effort in running into space</td></tr>
<tr><td>7. (Individualised)</td><td>Optimum level differs between individuals or different individuals experience peak flow in different ways.
Eg different players in a hockey team may experience peak flow in different ways.</td></tr>
<tr><td>8. (Concentration)</td><td>Performer has maximum concentration / focus or has appropriate / good attentional control or (often) narrow/internal attention or cue utilisation is good.
Eg the sprinter can focus completely on the gun at the start of the race.</td></tr>
<tr><td>9. (Autonomous)</td><td>Movements are (almost) automatic or has little conscious control or is autonomous.
Eg the basketball player shoots a lay-up without thinking about their movements.</td></tr>
</table></td><td>5</td><td>• Must use at least two practical examples to gain maximum marks.
• Three marks maximum if one or no practical examples.
• Use EG to indicate valid examples given</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td></td><td>(c)</td><td></td><td>
Explain the factors that affect social facilitation and social inhibition when applied to performance in sport.

Six marks for:
<table>
<tr><td colspan="3">1. Dominant response/habit more likely to occur or learned responses are automatic or motor programmes are run</td></tr>
<tr><td>Social Facilitation</td><td>Factors</td><td>Social Inhibition</td></tr>
<tr><td>2. Arousal / drive / anxiety <u>increased</u> so it heightens your readiness / psychs you up</td><td>Arousal</td><td>3. over-aroused causes errors in skills / judgements</td></tr>
<tr><td>4. If the performer is highly skilled more likely to be helpful or can lead to mastery orientation</td><td>Skill /Ability Variable</td><td>5. If the performer is a novice then more likely to hinder or performance deteriorates or shows incorrect dominant response or can lead to learned helplessness or show avoidance behaviour</td></tr>
<tr><td>6. Extroverts or Type A or Nach (personalities) likely to perform better with an audience or Reticular activating system (RAS) favours extroverts when audience present</td><td>Personality variable</td><td>7. Introverts or Type B or Naf (personalities) likely to perform worse with audience present or RAS does not favour introverts</td></tr>
<tr><td>8. (Depends on nature of the task) Gross/dynamic/simple skills are helped
Or if event important</td><td>Task Variable/ Importance of event</td><td>9. Fine/complex skills hindered
Or event is unimportant</td></tr>
<tr><td>10. If audience in familiar setting performance helped or +ve - 'homefield' advantage</td><td>Environment (home/away)</td><td>11. Disadvantage if away or unfamiliar/hostile environment</td></tr>
<tr><td>12. Anxiety/arousal raised by being judged or perceived judgement of others - could be positive by</td><td>Evaluation Apprehension</td><td>13. Evaluation apprehension causes social inhibition or anxiety/arousal raised by being</td></tr>
</table>
</td><td>6</td><td>

Give separate marks when candidates differentiates between social facilitation (SF) and Social inhibition (SI)
Sub max 5 if only cover SF or SI
Give point 1 wherever it may occur in the candidate's answer

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

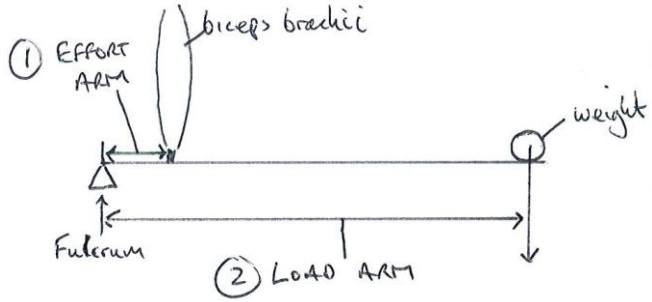
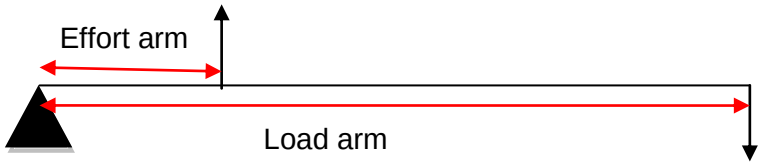
Question			Answer			Marks	Guidance
			raising determination/motivation		judged or perceived judgement of others can lead to deterioration in performance		
			14. Proximity/size of the audience/how close the crowd are to the player /If audience is closer or crowd is larger then arousal / arousal is higher - can be positive through higher motivation / determination / effort	**Proximity/ size of audience**	15. Proximity/size of the audience/how close the crowd are to the player or how large the crowd - can increase anxiety or cause over-arousal (and decrease performance).		
			16. Distraction can help performer cope or deal with stress	**Distractions**	17. Distractions caused by audience widens attentional focus or utilisation of too many cues or performer becomes distracted./lacks concentration or dismisses relevant cues		
			18. Attention narrows for those who are used to audiences or those with high levels of ability or for simple skills or could make performer even more determined or motivated to concentrate/ utilise cues more effectively	**Attention Narrowing**	19. Attention narrows and could lead to hypervigilence or focus on too few cues		

(d)* Using practical examples of sports performance and healthy lifestyle, explain and critically evaluate the theories of personality.	
Level 4 (18-20 marks) A comprehensive answer: • detailed knowledge & excellent understanding • detailed analysis and excellent critical evaluation • well-argued, independent opinion and judgements which are well supported by relevant practical examples • very accurate use of technical and specialist vocabulary • high standard of written communication throughout.	**Discriminators from L3 <u>are likely</u> to include:** • A comprehensive understanding of each personality theory, with detailed explanations. • A good range of relevant and detailed practical examples for sport **and** healthy lifestyle • Both positive and negative effects are fully explored as a critical evaluation for each theory
Level 3 (13-17 marks) A competent answer: • 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.	**Discriminators from L2 <u>are likely</u> to include:** • Shows good understanding of each personality theory, with detailed explanations for most. • A range of relevant and detailed practical examples for sport **or** healthy lifestyle but sport performance examples dominates • Both positive and negative effects as a critical evaluation are explored for at least two theories.
Level 2 (8-12 marks) A limited answer: • 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.	**Discriminators from L1 <u>are likely</u> to include:** • Shows some understanding of most personality theories, with some explanation. • A range of relevant practical examples for sport **or** healthy lifestyle • Both positive and negative effects are superficially evaluated for at least one theory.
Level 1 (1 – 7 marks) A basic answer: • 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.	**At L1 responses <u>are likely</u> to:** • Shows basic knowledge of at least one personality theory. • Mostly description rather than explanation • Few practical examples for sport **or** healthy lifestyle • Basic evaluation
0 marks = No response or no response worthy of credit.	

Question			Answer	Marks	Guidance
3	(d)		**(Trait theory)** 1. **Trait** perspectives or Type A/Type B • Examples – extroversion/introversion/stable/neurotic/aggressive/competitive / Nach/Naf. • natural/innate behaviours • stable and enduring. 2. In sport you will display similar behaviours to other situations or behaviours are generalised. - Eg you are an extrovert at work and you are an extrovert when you play football or when you attend an exercise class Critical evaluation 3. Sports performance may be affected positively - eg you want to play in a team or participate in a group exercise activity 4. or negatively by your innate personality characteristic. - Eg you are neurotic so you will not go out jogging in public 5. Other • Trait theory explains well why personality is uncontrolled /instinctive/ spontaneous • Trait theory explains well why our personalities are mainly constant / generalised or predictable • Trait theory does not take into consideration the environment or influence of others/role models • Trait theory can be seen as too generalised or does not explain why behaviour might change in different situations **(Social learning theory)** 6. **Social Learning** • we observe and copy behaviour. • learning requires (vicarious / social) reinforcement • Copy significant others / role models. • more likely to copy those who show consistent behaviour / people that are similar in age / gender etc 7. In sport/lifestyle this may be the most successful • high / media profile. • Eg A hockey player copying a GB International • Eg Copying a co-worker who seems fit and healthy 8. For lifestyle this may be a celebrity or via media coverage	**20**	• *Examples are expected from sports performance and from BAHL.* • *BAHL points are those that do not refer to improving skilled performance in a sports type activity. Look for reference to regular exercise, avoiding unhealthy behaviour or having an optimistic outlook etc* • *'Does not consider other theories' (as a critical evaluation) = TV*

Question			Answer	Marks	Guidance
			9. Critical evaluation • Social learning theory explains well why we often show the same personalities as our parents / other significant other • The media and other influences can affect our personalities • Social learning theory does not explain why we adopt personality characteristics that are different to others who are significant to us • Twins / people who are exposed to same role models but have different personalities • Genetics (research) shows links between personality and behaviour 10. Sports performance or lifestyle choice may be affected by other people • if significant – can be positive if others show functional or healthy behaviour • can be negative if they show dysfunctional or unhealthy behaviour. **(Interactionist theory)** 11. **Interactionist theory** 12. Characteristics determined by interaction between traits/personality and situation or environment / B = f(p,e). 13. Behaviour changes depending on the demands / of the situation/environment. • Demands are often perceived rather than real/actual or it is merely perceptual • Personality can be different on the pitch than off the pitch • Personality viewed as having a psychological core/role related behaviour 14. In sport or in exercise/lifestyle behaviour you may be competitive because the situation demands that you are. 15. Critical evaluation • Interactionist explains well that those who have been exposed to positive environmental experiences often show positive personality characteristics for BAHL • Interactionist theory takes into consideration both traits and the environment so explains well why people in similar environments behave differently. • Interactionist theory explains why our behaviour is often unpredictable • Interactionist theory does not explain why our personalities may be different when faced with a situation experienced before eg a player was aggressive in a competitive situation last week but is not aggressive in a similar situation this week. 16. Sports performance or lifestyle behaviour may be affected positively or negatively depending how the performer / person perceives the requirements of the situation. a. Eg An overweight person may not join a fitness club because they perceive the gym environment as threatening. b. Eg A competitive tennis player will react in a competitive manner in a high status tennis match		

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>4</td><td>(a)</td><td></td><td>(axes of rotation)
3 marks for:
Description practical example
<table><tr><td>1. Longitudinal - from top to bottom</td><td>e.g. spinning skater or eq</td></tr><tr><td>2. Transverse - from side to side</td><td>e.g. somersault or eq.</td></tr><tr><td>3. Frontal - from front to back</td><td>e.g. cartwheel or eq</td></tr></table></td><td>3</td><td>• Must have practical example as well as description to gain mark
• Need to state name of axis to get description
• Accept other relevant examples
E.g.:
1. 360 twist, discus rotation, slalom skier turning around pole etc.
2. High board diver piked somersault, tumble turn in swimming etc.
3. Goalkeeper diving to top corner to save a goal etc.</td></tr>
</table>

Question			Answer	Marks	Guidance
4	(b)		**6 marks for 6 of:** **(submax 2)** Diagram of effort arm and load arm   E/ effort L/ load	**6**	• Must have correct unit to get point 4

1. (effort arm)	From fulcrum / elbow to insertion of biceps/ effort
2. (load arm)	From fulcrum / elbow to weight in hand/ load

(submax 2) Calculation of moment of force

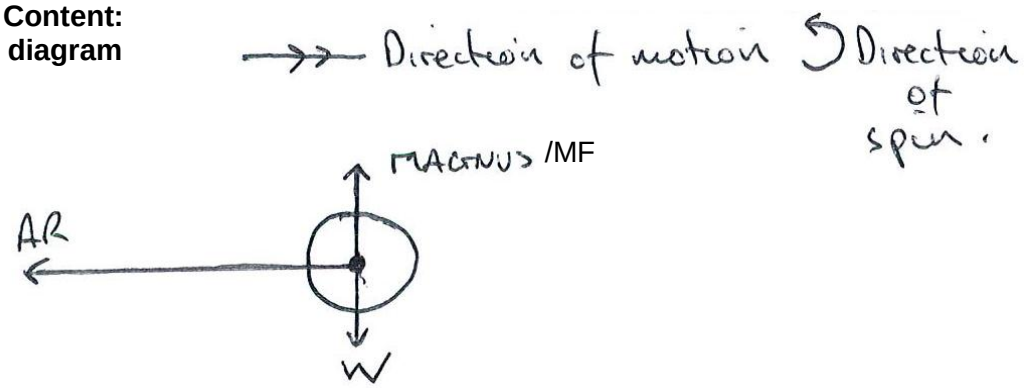
3 (moment of force)	Moment of force = Force x (perpendicular) distance from fulcrum or MF = 100 x 0.25
4	Moment of force = 25Nm

(submax 2) Evaluation

5 (disadvantages)	(Inefficient because it requires a) greater effort to move an equivalent load (than a class 2 lever) / mechanical disadvantage / struggle to move heavy loads
6 (advantages)	(Performer can move load through a) large range of movement / speed of load faster than speed of effort / generate faster load speeds/ greater acceleration

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>4</td><td>(c)</td><td></td><td>
6 marks for 6 of:
Sub max 3 marks:
Friction
<table>
<tr><td>1. (sliding)</td><td>Friction occurs when two surfaces (have a tendency to) slide over one another.</td></tr>
<tr><td>2. (direction)</td><td>Friction acts in the opposite direction to motion.</td></tr>
<tr><td>3. (parallel)</td><td>Friction acts parallel to the two surfaces (in contact).</td></tr>
</table>
Sub max 4 marks for:
Description of factors (must have practical example for mark)
<table>
<tr><th>Factor</th><th>Description</th></tr>
<tr><td>4. Roughness of surface 1 eg footwear, skis, tyres</td><td>Rougher means more friction / smoother means less friction</td></tr>
<tr><td>5. Roughness of surface 2 eg court, ground, road</td><td>Rougher means more friction / smoother means less friction</td></tr>
<tr><td>6. Down force of object eg spoilers / aerofoils on F1 cars</td><td>Greater down force means more friction</td></tr>
<tr><td>7. (Normal) Reaction force eg games player pressing into ground to change direction</td><td>Greater (normal) reaction means more friction</td></tr>
<tr><td>8. Temperature of surfaces eg tyres, roads, ski slopes</td><td>Hotter means more friction</td></tr>
</table>
</td><td>6</td><td>
• Point 4 refers to the performer
• Point 5 refers to the ‘playing’ surface
• Description of factors (must have practical example for mark
</td></tr>
</table>

(d)* Levels of Response	
Level 4 (18-20 marks) A comprehensive answer: • detailed knowledge & excellent understanding • detailed analysis and excellent critical evaluation • well-argued, independent opinion and judgements which are well supported by relevant practical examples • very accurate use of technical and specialist vocabulary • high standard of written communication throughout.	**At level 4 answers are likely to show:** • Accurate FBD showing W, AR and MF. • Detailed explanation of how backspin causes the deviation in the flight path of the ball. • Detailed explanation of how backspin causes the deviation in the bounce of the ball. • Advantages and disadvantages of the use backspin in sport covering both the flight path and the bounce. • Good use of practical examples in the critical evaluation.
Level 3 (13-17 marks) A competent answer: • 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.	**At level 3 answers are likely to show:** • FBD accurately showing W and AR. • Good explanation of how backspin causes the deviation in the flight path of the ball. • Good explanation of how backspin causes the deviation in the bounce of the ball. • Advantages and disadvantages of the use backspin in sport covering either the flight path or the bounce. • Some use of practical examples in the critical evaluation.
Level 2 (8-12 marks) A limited answer: • 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.	**At level 2 answers are likely to show:** • FBD showing W and AR. • Limited explanation of how backspin causes the deviation in the flight path of the ball. • Limited explanation of how backspin causes the deviation in the bounce of the ball. • Advantages or disadvantages of the use backspin in sport covering either the flight path or the bounce. • Little use of practical examples in the critical evaluation.
Level 1 (1 – 7 marks) A basic answer: • 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.	**At level 1 answers are likely to show:** • An attempt at a FBD. • Description of the effect of backspin on the flight path of the ball. • Description of the effect of backspin on the bounce of the ball. • Little attempt at an evaluation of the use of back spin in sport. • Little or no use of practical examples in the critical evaluation.

Question			Answer	Marks	Guidance
4	(d)*		**Indicative Content:** **Free body diagram**  	**20**	

1. (Weight)	Acting downwards from CM (centre of mass) • Arrow short in length
2. (AR)	Acting from CM • Opposite direction of motion • Larger than W arrow
3. (Magnus force)	Acting upwards from CM / surface of ball • Perpendicular to direction of motion

Explanation of backspin on flight path

4. (Air flow)	Air travels further over the top of the ball (or opp.) • Therefore, air travels faster over the top of the ball • Airflow assisted/accelerated by direction of spin • Venturi created above the ball
5. (Air pressure)	This creates low air pressure over the top of the ball • Creating (a high to low) pressure gradient (upwards)
6. (Magnus force)	This creates (an additional) force acting upwards on the ball • Called the Magnus force
7. (Effect)	Counteracts the force of weight/ reduces the effects of W • Ball hangs in the air / stays in the air for longer • Covers greater distance

Explanation of backspin on the bounce

8. (friction)	Surface of ball trying to slide forwards on ground • Friction acts in opposite direction / backwards
9. (effect)	(Resultant / net) force acts backwards • Causes ball to decelerate / slow down / lose momentum • Ball 'sits up'

Evaluation of backspin

10. (flight path lengthens)	Flight path lengthens • (advantage) Hit ball further eg drive in golf, goalkick in football • (disadvantage) Ball travels too far before landing eg sliced backhand in tennis.
11. (slower flight)	Ball travels slower / hangs in the air (to reach same point) • (advantage) Gives more time to recover before next shot eg defence in table tennis. • (advantage) Easier for teammate to control eg long diagonal pass in football • (advantage) Ball does not roll as far after landing eg approach shot in golf • (disadvantage) gives more time for opponent to intercept / attack eg opponent has time to move in and volley in tennis
12. (bounce)	Backspin makes ball sit up/stop on landing • (advantage) Drop shots with backspin make opponent move further eg tennis. • (advantage) Gives more control over ball on landing eg pitch in golf • (disadvantage) Easier for an opponent to attack eg tennis

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>5</td><td>(a)</td><td></td><td>Explain how the majority of ATP would be resynthesised by a marathon runner
5 marks for 5 of:

<table>
<tr><td>1) (aerobic)</td><td>Aerobic system/ aerobic reaction/ aerobic glycolysis (therefore oxygen is present)</td></tr>
<tr><td>2) (fuel)</td><td>(Fuel used is) glucose/ glycogen / fats/ FFA’s</td></tr>
<tr><td>3) (stages)</td><td>(Aerobic) glycolysis, Krebs cycle <u>and</u> electron transport chain/ ETC</td></tr>
<tr><td>4) (aerobic glycolysis site)</td><td><u>Glycolysi</u>s takes place in sarcoplasm</td></tr>
<tr><td>5) (Location or site)</td><td><u>Krebs/ ETC</u> takes place in mitochondria (matrix and cristae)</td></tr>
<tr><td>6) (yield)</td><td>Produces 36/ 38 ATP per mole of glucose/ glycolysis 2 ATP/ krebs cycle 2ATP/ ETC 32-34 ATP</td></tr>
<tr><td>7) (Glycolysis)</td><td>Glucose to pyruvic acid/ pyruvate</td></tr>
<tr><td>8) (Link reaction)</td><td>Pyruvic acid combines with co enzyme A to form Acetyl CoA</td></tr>
<tr><td>9) (Krebs cycle)</td><td>Acetyl CoA combines with oxaloacetic acid to form citric acid
or CO_2 produced</td></tr>
<tr><td>10) (ETC)</td><td>Hydrogen atoms combine with coenzymes NAD and FAD/ NADH/ FADH
or hydrogen is split into H^+ and e-.
or H2O produced</td></tr>
<tr><td>11) (duration)</td><td>(Aerobic system resynthesises ATP) for long duration/ 3 minutes +</td></tr>
<tr><td>12) (intensity)</td><td>(Aerobic system resynthesises ATP) during low/ moderate intensity/ sub maximal</td></tr>
</table>
</td><td>5</td><td>• For point 3 candidates must recognise that there are 3 stages. Cannot gain the point for just naming one of the stages.</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>5</td><td>(b)</td><td></td><td>
Give one method of flexibility training and explain the physiological adaptations that would take place following prolonged use.
5 marks for 5 of:

Sub max 1 for method
<table>
<tr><td>1)</td><td>Static stretching/ active/ passive/ isometric</td></tr>
<tr><td>2)</td><td>Dynamic</td></tr>
<tr><td>3)</td><td>Ballistic</td></tr>
<tr><td>4)</td><td>Proprioceptive neuromuscular facilitation/ PNF</td></tr>
</table>
Sub max 4 for adaptations:
<table>
<tr><td>5) (connective elasticity)</td><td>Increased elasticity/ connective tissues</td></tr>
<tr><td>6) (connective resting)</td><td>Increased (resting) length of muscle/ connective tissue</td></tr>
<tr><td>7) (muscle spindle)</td><td>Muscle spindles adapt to the increased length</td></tr>
<tr><td>8) (Increased ROM)</td><td>Increased range of motion /RoM (at a joint)</td></tr>
<tr><td>9) (stretch reflex)</td><td>Reduced stimulus to the stretch reflex / stretch reflex inhibited</td></tr>
</table>
</td><td>5</td><td>Do not accept for pt 5/ 6 – muscle/ connective tissue stretching further

Accept adaptations if method is incorrect.</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>5</td><td>(c)</td><td></td><td>
Identify two types of ergogenic aids that would benefit an aerobic athlete and explain how they enhance performance
5 marks for 5 of:
Sub max 2 for types of ergogenic aid
<table>
<tr><td>1) (food)</td><td>Use of dietary manipulation / carb loading / pre competition meals / high carb food / post competition meal / caffeine</td></tr>
<tr><td>2) (fluid)</td><td>Energy drinks / fluid intake / high carb drink</td></tr>
<tr><td>3)</td><td>Gene doping</td></tr>
<tr><td>4)</td><td>Blood doping</td></tr>
<tr><td>5)</td><td>EPO/ Rh EPO</td></tr>
<tr><td>6) (Cooling aids)</td><td>Cooling jacket / ice packed towels/ ice baths/ ice vests</td></tr>
<tr><td>7) (training aids)</td><td>Pulleys or valid aerobic example/ Oxygen tents</td></tr>
</table>
Sub max 3 for explanation of how enhance performance - Maximum of two for each aid.
Food (2 marks sub sub max)
<table>
<tr><td>8) Carboloading/ caffeine</td><td>Carbohydrate loading increases body’s store of glucose/carbohydrate/ glycogen prior to performance
Or caffeine increases FFA metabololism</td></tr>
<tr><td>9) Pre comp meal/ high carb snack</td><td>High CHO meal 2 -4 hours before event increased glycogen stores so athlete has more fuel for aerobic energy system so can resynthesise ATP</td></tr>
<tr><td>10) During performance</td><td>High CHO snack during performance benefits athletes in activity lasting longer than 45 minutes by replenishing glycogen stores</td></tr>
<tr><td>11) Benefit</td><td>For an aerobic athlete this would allow them to perform for longer as a greater fuel supply for the system.</td></tr>
</table>
Fluid (2 marks sub sub max)
<table>
<tr><td>12) Drinks</td><td>Hypo/ hyper or isotonic type of drinks
or variety of drinks that have varying levels of glucose</td></tr>
<tr><td>13) Benefit</td><td>Reduces risk of dehydration</td></tr>
<tr><td>14) Benefit</td><td>Restores glycogen stores enabling athlete to perform for longer period of time</td></tr>
<tr><td>15) Benefit</td><td>Quicker recovery / quicker restoration of glycogen stores ready for performance again</td></tr>
</table>
</td><td>5</td><td>

Point 7 – Credit should be given for any suitable aid/ equipment that provides resistance for an aerobic athlete, for example pulleys would include ergometer type machines that swimmers may use, or aids such as parachutes.
Explanations must correctly match the type of ergogenic aid that the candidate has identified.
Maximum of two marks for each of the two aids chosen - up to maximum of three marks

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

Question	Answer	Marks	Guidance

Gene doping (2 marks sub sub max)

16) Super athletes	Genetic manipulation could produce super athletes
17) Benefit	Could manipulate genes/ DNA in order to gain certain qualities such as endurance
18) Specific gene	Certain genes have been identified as having sporting benefits, such as ACE gene improving efficiency of mitochondria.

Blood doping/ EPO/ (2 marks sub sub max)

19) EPO	Stimulates red blood cell production
20) Blood removed	RBCs are removed and stored so body adapts to training with less RMB/ less haemoglobin/ performs with less O_2
21) New blood	Body makes more blood/ more RBCs/ more haemoglobin (to make up for the loss)
22) Blood returned	Original blood is injected back so more RBCs/ haemoglobin so can transport more oxygen
23) More O_2	More oxygen available means athlete can perform aerobically for longer/ delaying fatigue Or increase aerobic capacity
24) More O_2	Performing aerobically for longer means less lactic acid built up so delaying fatigue.

Cooling aids (2 marks sub sub max)

25) Reduces temperature	Cools core body temperature before performing in hot conditions.
26) Benefit	Helps body to sustain intensity and speed or reducing thermal strain, or maintains performance for longer.
27) Aids recovery	Aids recovery by delivering/ flushing oxygen..
28) Removes lactic acid	Ice bath/ post performance cooling aids will help the removal of lactic acid which will aid recovery.

Training Aids (2 marks sub sub max)

29) Specificity	(Provide a resistance) that is specific to the actual movement used in performance, e.g. swimmers using a pulley/ ergometer machine Or Eq
30) Benefit	Enables athletes to train specific muscles or to replicate movement or Eq

(d)* Levels of Response	
Level 4 (18-20 marks) A comprehensive answer: • detailed knowledge & excellent understanding • detailed analysis and excellent critical evaluation • well-argued, independent opinion and judgements which are well supported by relevant practical examples • very accurate use of technical and specialist vocabulary • high standard of written communication throughout.	At level 4 answers are likely to include: • Must have correct definition of body composition • good explanation of how body composition might be of benefit to two different sports. • selection of relevant tests to measure body composition • a range of positives and negatives for selected tests • evaluation/ independent opinion relating the tests to the performer's needs/ purpose of the test
Level 3 (13-17 marks) A competent answer: • 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.	At level 3 answers are likely to include: • correct definition of body composition • some explanation of how body composition might be of benefit to two different sports.. • selection of relevant tests to measure body composition • some positives and negatives for selected test(s) • some evaluation/ independent opinion relating the tests to the performer's needs/ purpose of the test • At the top of this level evaluation/ independent opinion relating the tests to the performer's needs/ purpose of the test
Level 2 (8-12 marks) A limited answer: • 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.	At level 2 answers are likely to include: • basic definition of body composition • limited explanation of how body composition might be of benefit to sport, which may or maybe not be linked to an example • some selection of relevant tests to measure body composition • limited positives and negatives for selected test(s) • limited evaluation/ independent opinion relating the tests to the performer's needs/ purpose of the test

Level 1 (1 – 7 marks) A basic answer: • 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.	<u>At level 1 answers are likely to include:</u> • attempted definition of body composition • limited, if any, description of how body composition might be of benefit to sport, • description of some relevant tests to measure body composition • limited or no attempt at evaluation of selected tests • little or no evaluation/ independent opinion relating the tests to the performer's needs/ purpose of the test • Possibly only 1 sport covered for body composition
0 marks = No response or no response worthy of credit. Mark **SEEN** at base of answer	

Question			Answer	Marks	Guidance
5	(d)		What is meant by the term body composition? Explain how different body compositions might be of benefit in two different sports. Critically evaluate methods of measuring body composition. **Indicative Content:** **(Body composition)** 1. Body composition Body composition refers to the chemical make-up of the body and is split into two components: fat mass and lean body mass (fat free mass) 2. Fat mass Fat mass is the percentage of body weight that is stored as fat 3. Lean body mass Lean body mass is the rest of the body i.e. non fat tissues such as muscle, bones and organs. **(Different body compositions benefit different sports)** 4. Low fat/ High lean Most athletes would not want a high fat mass, but aim to have a high lean body mass and low fat mass • A high fat mass would not generally be associated with sport • A high fat mass has health risks e.g. hypertension, CHD. 5. Lean body mass But lean body mass can be heavier by being more muscular • For example a rugby player would have a low body fat percentage but a very muscular lean body mass compared to a jockey. **(Different body compositions for different sports - explanation)** 6. Depends on sport The % each part makes up can vary depending on the sport • Rowers typically have a lower body fat percentage to be light in the boat • Sumo wrestlers traditionally have a higher percentage of body fat 7. Sports that require low body fat percentage Jockeys typically have a low percentage body fat in order to be as light as possible on the horse, so a high lean body mass • To be as light as possible their lean body mass would not be very muscular. 8. Cyclist Similar to a jockey in terms of wanting to be light so would have a low % fat mass • But they may have a slightly more muscular lean body mass than a jockey 9. Athletics (throwers) Throwers typically have a higher percentage body fat than track	**20**	• Point 5: Accept suitable examples for less muscular lean body mass linked to position, for example C in netball compared to GK. • Point 8 does not need to be made in comparison to a

Question			Answer	Marks	Guidance
			athletes 10. Athletics (runners) Runners have a low percentage fat mass, however sprinters may have a more muscular lean body fat percentage 11. Athletics (long distance) Long distance runners may have a less muscular lean body mass 12. Athletics (jumpers) Jumpers would benefit from a low percentage of body fat as they don't want to have to lift extra weight in their jump 13. Depends on position Ideal body composition may depend in which position the athlete plays • Defenders may benefit from more muscular lean body mass • Forwards may benefit from being lighter and more agile and therefore want a low fat and lean body mass/ less muscle mass **(Evaluation of methods of measuring body composition)** 14. (Hydrostatic weighing) Hydrostatic weighing is the most accepted/ regarded method. • Athlete is weighed totally immersed in water • Difference between athletes scale weight and underwater weight is athletes fat mass percentage • Density of water and trapped air in lungs are taken into account • Fat is less dense and floats in water so the more fat the individual has the greater the difference between the dry and wet weights 15. (Hydro – positives) Most accurate measure 16. (Hydro – negatives) Not available to most people • Requires specialist equipment • Expensive • Requires space to have a tank • Only estimates density of fat mass which varies according to age, gender and race • More of an elaborate process i.e. having to get weighed, then undressed, into tank, get dry.		jockey but showing an understanding of muscle lean body mass

Question			Answer	Marks	Guidance
			• Does not account for age, gender and race 17. (Biolectrical Impedence Spectroscopy/ BIS/ Bioelectrical Impedance Analysis description) Body fat scales use Bioelectrical Impedance analysis technique. • Sends a low safe electrical current through body. • Passes freely through fluids contained in muscle • Encounters resistance when it passes through fat tissue – which is bioelectrical impedance. • This is set against a person's height and weight and the scales compute a body fat percentage 18. (BIS/ BIA positives Reasonably accurate (if in 'correct' state i.e. no alcohol) • Simple process • Quick 19. (BIS/ BIA negatives) However it is affected by hydration • Requires specific scales/ more expensive • Figures based on average populations so might not be valid for athletes, • who have more lean muscle mass • Affected by lots of factors such as • Alcohol/ caffeine/ diet • Exercise performed • Time of day 20. (Skinfold callipers description) Skinfold callipers measure in millimetres the level of subcutaneous fat below the skin from selected sites on the body • E.g. Triceps/subscapula/biceps/suprailiac • Can use up to 6 sites, some being more gender specific • Sum of skinfold measures is used in an equation to estimate body fat percentage. 21. (callipers positives) Most commonly used method • Easy to use • Cheap • Relatively simple • Reasonably quick		

Question			Answer	Marks	Guidance
			22. (callipers negatives) Only an estimate • Easy to get inaccurate measure giving wrong overall percentage • Need to be trained to use the callipers properly • Need to be accurate with specific sites otherwise not accurate data • Less scientific a measure of body composition than the other methods • Does not account for age or gender 23. (BMI description) Body Mass Index is being used by the government to measure weight and obesity • Measure of body weight (kg) divided by height (m) squared • The normal acceptable/ healthy range is 18.5-24.9. • Below 18. 5 is underweight • Above 25 is overweight • Above 30 is classed as obese 24. (BMI positives) Useful guide • Better than just standard height and weight charts • Easy • Quick • Cheap • Accessible/ well known about/ Better than nothing as in indication for people/ NHS supported • Good method for member of public to use as a guide 25. (BMI negatives) Too simplistic • Does not actually measure body composition but is a measure of weight • Does not account for fat mass and lean body mass • Therefore actually not very accurate or helpful to an individual • Norm data varies by country • Norm data based on old figures not an up to date sample • Not suitable for children/ pregnant ladies/ older people/ athletes • Does not account for muscle therefore not very useful for sports performers as they often gain an 'obese' score, e.g. rugby players with high lean muscle mass 26. (BodPod description) Similar to hydrostatic weighing but measures air displacement • Carried out in an egg shaped device		

Question			Answer	Marks	Guidance
			27. (BodPod positives) Accurate • Scientific measure 28. (negatives) not available for most or highly specified equipment or unpleasant for subject		

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