

Physical Education

Advanced Subsidiary GCE

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

Mark Scheme for June 2011

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Question Number	Expected Answer	Marks
Section A – Historical Studies (Option A1)		
1 (a)	Explain the impact of teachers' industrial action on the participation of young people in physical activity in the 1970s and 1980s. Describe three positive impacts of the National Curriculum for Physical Education in state schools today. 5 marks for 5 of:	[5]
Explain the impact of teachers' industrial action on the participation of young people in physical activity in the 1970s and 1980s.		
Sub max 2		
1 (less provision)	Reduced extra-curricular activity which reduced participation (in schools) or reduced opportunity or provision (for physical activity) or reduced Saturday fixtures	
2 (lifetime sport)	(potential) impact on lifelong involvement (in physical activity) / eg young people less likely to be inspired by (role model) PE Teachers	
3 (community)	Increased community or club participation (due to reduced school provision)	
4 (non-specialists)	Fewer non-specialist staff helping with extra-curricular programme	
..describe three positive impacts of the National Curriculum for Physical Education in state schools today.		
Sub max 3		
5 (standards)	Higher standards/clear national standards/ progress (due to assessment)	
6 (consistency)	A consistent experience wherever a child goes to school/same offered in all schools/easy transfer between schools	
7 (balance)	A balanced PE experience	
8 (pupil rights)	Learners gain the right to certain content	
9 (participation)	Leads to great likelihood of lifelong participation	
10 (adaptation)	Schools can adapt the curriculum to suit themselves or their strengths	
11 (support)	Support provided (especially to non-specialist teachers)	
12 (variety/skills)	Variety or broad range of skills developed/thinking or analytical or social skills developed/accept examples of skills or values such as fair play or integrity or independence or problem solving / experiencing different roles e.g. leader or official	
13 (time)	Protected time/government targets/5 hour offer	
14 (wellbeing)	Stress relief / increase in confidence / healthy lifestyle	

Compulsory on its own = TOO VAGUE

Question Number	Expected Answer	Marks
(b)	<p>Contrast the pre-industrial social and cultural factors relating to popular recreation with the post-industrial social and cultural factors relating to rational recreation.</p> <p>5 marks for 5 of: <u>need both pre and post factor for each mark</u></p>	[5]
Pre-industrial factors		Post-industrial factors
1	Seasonal time/Agricultural (lifestyle)/irregular	Machine time/Industrial (lifestyle) / regular
2	Limited transport or communication	Improved transport or communication
3	(widespread) illiteracy	(increased) literacy/business or administrative skills
4	Harsh difficult or lifestyle/Uncivilised (society)/limited law and order/limited policing system/army used to keep peace	(more) civilised lifestyle/(More) civilised/increased law and order/police system / the influence of RSPCA
5	Feudal system/two-class society	(emergence of new) middle class/three class society
6	Lack of or limited or low technology	More advanced or improved technology

(c)	<p>Explain the comparatively low status of lawn tennis in public schools at the end of the nineteenth century and possible barriers to participation in tennis by young people today.</p> <p>5 marks for 5 of: Sub max 3 for explanation of comparatively low status</p>	
Lawn tennis had comparatively low status because:		
1 (space)	courts took up a comparatively large amount of space (which could arguably be better used for a larger numbers of boys)	
2 (manliness)	the game did not encourage or require manliness or courage (as was fashionable at the time) or physical endeavour	
3 (teamwork/ leadership)	the game did not encourage or require teamwork or co-operation or develop leadership (which were thought to be an essential aspect of games at the time)	
4 (girls)	Lawn tennis had a reputation as a game for girls/the boys' sisters played it	
5 (invention)	Lawn tennis was a new invention (and was treated with some scepticism or suspicion)	
6 (major team games)	games such as cricket or football/rugby had highest status or held pride of place	
Possible barriers to participation in tennis by young people today.		
Sub max 2 from following points		
7 (finance)	Lack of money to buy or for specialist kit or equipment or for club membership or for hiring of facilities/difficulty or cost of maintaining courts to suitable standard in schools	
8 (coaching)	Specialist teaching or coaching required/lack of specialist coaches	
9 (difficult)	A (comparatively) difficult game to play/not easy to pick up a racquet and be able to play/more difficult than eg football or badminton	
10 (time)	Lack of time to play/pressure from other activities or commitments/ summer game so limited time available in schools (in summer term) / often not played (much) in schools	
11 (transport)	Unable to get to courts or club/lack of transport	
12 (facilities/ space)	Poor quality of or lack of courts/(in schools) tennis uses large amount of space for (relatively small) numbers occupied/pressure on court space for car parks (or equivalent)	
13 (weather)	Unpredictability of or poor (British) weather	
14 (class)	(perceived to be) middle class game / elitist	

Question Number	Expected Answer	Marks
(d)*	Discuss the influence of public schools on the development of bathing and swimming at different stages during the nineteenth century. Evaluate how nineteenth century social and cultural factors continue to impact on participation and performance in bathing and swimming today.	[20]
	<u>Level 4: – a comprehensive answer</u>	[18-20]
	<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 from L3 are likely to include:</p> <ul style="list-style-type: none"> • detailed knowledge and excellent understanding of all aspects of the question • the three stages of public school development are discussed successfully • effective evaluation of the factors that affect both participation and performance in bathing today • insightful comment/understanding of how the past affects the present • sound structure and balance between parts of the question 	
	<u>Level 3: – a competent answer</u>	[13-17]
	<ul style="list-style-type: none"> • good knowledge & 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 from L2 are likely to include:</p> <ul style="list-style-type: none"> • good knowledge and understanding of most aspects of the question • public school development (not necessarily each stage) discussed with some success • competent evaluation of the factors that impact on participation and/or performance in bathing today • some understanding of how the past affects the present • an attempt at structuring/answering the question with balance between parts of the question 	

	<p><u>Level 2: – a limited answer</u></p> <ul style="list-style-type: none"> • limited knowledge & 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 from L1 <u>are likely</u> to include:</p> <ul style="list-style-type: none"> • limited knowledge and understanding of some aspects of the question • an attempt has been made to discuss the influence of public schools with limited success • an attempt has been made to evaluate the factors that impact on participation and/or performance today but with limited success • an attempt at structuring/answering the question but not necessarily with balance between parts of the question 	[8-12]
	<p><u>Level 1: – a basic answer</u></p> <ul style="list-style-type: none"> • basic knowledge & 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 <u>are likely</u> to:</p> <ul style="list-style-type: none"> • demonstrate basic knowledge and understanding of some aspects of the question • demonstrate basic discussion of the influence of public schools • demonstrate little or no attempt at evaluating the factors that impact on participation and/or performance today 	[0-7]

Indicative content: candidate responses are likely to include: (suggested development points are bulleted)

Influence of public schools: on the development of bathing and swimming at different stages during the nineteenth century	
Stage one (bullying and brutality)/beginning of nineteenth century:	
1 (pop rec)	Informal bathing (in natural facilities) <ul style="list-style-type: none"> like popular recreation / fun use of rivers or ponds/river as natural playground
2 (adopted)	Brought to schools by boys who had swum <ul style="list-style-type: none"> (informally) at home/adopted from activity pursued at home
3 (recreation/survival/health)	(Motives as for popular recreation) survival or health <ul style="list-style-type: none"> Headmasters desperate to keep boys safe
4 (competition)	Informally competitions <ul style="list-style-type: none"> arranged races by boys themselves
5 (evaluative point)	Did have impact on development but (arguably) less so than public provision
Stage two (social control)/mid nineteenth century:	
6 (rationalisation)	More regular <ul style="list-style-type: none"> more regulated or structured
7 (therapeutic)	Considered beneficial or therapeutic <ul style="list-style-type: none"> part of healthy lifestyle
8 (lessons)	Swimming lessons / some teaching <ul style="list-style-type: none"> need to keep boys safe
9 (competition)	Inter-house competitions
Stage three (athleticism)/late nineteenth century:	
10 (technical)	Technical development/specialist facilities <ul style="list-style-type: none"> eg diving boards or changing huts
11 (teachers/attendants)	Specialist swimming teachers or masters <ul style="list-style-type: none"> swimming attendants to ensure safety
12 (competition)	Galas and competitions <ul style="list-style-type: none"> inter-house and inter school competitions
13 (Ducker)	Examples such as a Duck Pond (Ducker) at Harrow School
14 (facilities)	Purpose built baths in some schools <ul style="list-style-type: none"> facilities increased status or prestige of school
15 (status)	Low status compared to major team games
Evaluate how nineteenth century social and cultural factors continue to impact of participation and performance in bathing and swimming today.	
19th century factors... ...their impact today	
16 (size/overcrowding)	Most towns today are well provided with range of facilities including leisure pools <ul style="list-style-type: none"> Examples of provision Can affect performance
17 (hygiene/washing)	No impact today – washing facilities at home for majority <ul style="list-style-type: none"> Although some men only or women only baths available
18 (pollution)	Less pollution / impact today <ul style="list-style-type: none"> blue flags (or equivalent) on beaches/cleaner beaches & sea/less pollution impact of environmentalists
19 (disease)	Swimming to combat obesity and as part of balanced active healthy lifestyles today <ul style="list-style-type: none"> health spas with relaxation pools etc/overcoming or combating stress health link to performance

20 (safety)	It is widely believed that all children should learn to swim/swimming <ul style="list-style-type: none">• is part of National Curriculum• could go on to be good performers
21 (class)	Class should not affect opportunity today <ul style="list-style-type: none">• as Govt aims for free swimming for all / but still not available for some
22 (local amenity)	Some towns have prestigious facilities which draw people from surrounding areas <ul style="list-style-type: none">• improved transport• better performance

Question Number	Expected Answer	Marks
Section A – Comparative Studies (Option A2)		
2 (a)	Explain the high status of Outdoor Education in Australian schools and why provision for Outdoor Education is different in the UK. 4 marks – sub max 3 for Australia	[4]
Explanation of high status: Outdoor Ed. has high status in Australian schools because:		
Sub max 3		
1 (HBL)	Can contribute to a healthy balanced lifestyles	
2 (climate)	Favourable climate/climate encourages Outdoor Education	
3 (wilderness)	Genuine wilderness exists/there is unexplored or unpopulated territory	
4 (variety/quality)	Varied (natural)environment or landscape/outback and beach environment/outstanding natural resources/aesthetically appealing/chance to show or appreciate the beauty or variety of the environment	
5 (accessibility)	Easily accessible (from towns)	
6 (survival)	Important (to learn the skills) in a country with hostile environment or severe climate or genuine wilderness	
7 (bush culture)	OEd a reflection of bush culture or frontierism/bush culture can be experienced/outdoor adventure part of pioneering spirit	
8 (pride/awareness)	Increases national pride or nationalism/raise awareness of aboriginal heritage (Ayres Rock renamed Uluru)	
9 (tradition)	Tradition of outdoor activities (from British colonial times)/outdoor life traditional in Australia	
10 (schools)	It is examined in schools so status raised/many schools have (high quality) OE programmes so status raised	
11 (associations/network)	States have outdoor education associations (eg The Victorian Outdoor Education Association – VOE) which supports teachers of OE/state associations are linked via national network (Outdoor Education Australia – OEA)/OEA supports the practice and delivery of outdoor education throughout Australia	
...and why provision for Outdoor Education is different in the UK.		
Sub max 2		
Accept any suitable comparative point such as:		
12 (climate)	Less suitable climate	
13 (environment)	Less suitable or varied or accessible natural facilities	
14 (skills)	(arguably) less need to learn the skills in (most parts of) UK	
15 (status)	Lower status in schools/not (generally) examined in schools	
16 (schools)	Constraints on schools eg funding or specialist staffing or equivalent suitable school constraint	

Question Number	Expected Answer	Marks
(b)	<p>Describe the cultural values in Australia that can affect participation and performance in physical activity. Explain how one of these values stems from Australia's historical relationship with the UK.</p> <p>5 marks – sub max 4 from Australia Do not accept identification of points such as 'bush culture' on own – description required</p>	[5]
Dominant values in Australia - Sub max 4 marks		
1	(Bush culture)	(legacy of) bush culture which is showing determination or courage or persistence as a result of coping in a difficult environment
2	(Equality/ democracy)	Australia as an egalitarian society meaning that it is democratic or equal/social class and privilege are (allegedly) irrelevant/Australia as (allegedly) the land of the fair go meaning that racism or discrimination does not exist or has been overcome/Australia is democratic meaning that citizens are encouraged to be active in political or civic life or enjoy human rights or is a country where laws and procedures apply equally to all citizens
3	(Melting pot/Multi-culturalism)	Australia as a social melting pot which is a blend of different peoples or backgrounds or immigrants/Australia is (now) committed to multi-culturalism or is a multi-cultural society meaning that many or different races or ethnic groups or cultures exist together
4	(Fair play)	Fair play or sportsmanship or justice is respected or admired or is important (to the sporting ethos of) Australia
5	(Teamwork)	Teamwork or co-operation or joint effort is respected or admired
6	(Individuality)	Individuality or independence or self-reliance is respected or admired
7	(Competitiveness)	Competitiveness or the desire to achieve or win is important to many Australians / national pride
8	(Participation)	Taking part in sport or physical activity is fashionable or high status or important for health
Explain how one of these values stems from Australia's historical relationship with the UK. –		
Sub max 1		
9	Fair play/Teamwork/ Competitiveness / Participation / Democracy from games culture of (nineteenth century) English public schools which was taken to and then copied in Australia	

Question Number	Expected Answer	Marks
(c)	<p>If discrimination exists in society it may be evident in the sport of that society.</p> <p>Discuss discrimination in high level sport in the USA. To what extent is the situation in the USA the same in sport in the UK?</p> <p>6 marks – sub max 5 for discrimination in sport in USA</p>	[6]
Discuss discrimination in high level sport in the USA.		
1	(WASP)	Dominance by WASPs (white Anglo-Saxon protestant males)
2	(AA – discrim)	History of discrimination against African Americans in society and/or in sport/(social) stereotyping of African Americans in certain sports eg boxing or athletics but not in others such as ice hockey
3	(AA – success/stars)	More recent (since 1950s) success by African American performers/more recent opportunity or provision or esteem for performers from minority groups to be successful/sport stars created/opportunities for wealth and or fame/opportunities for going from rags to riches
4	(Tokenism)	Tokenism which is the hiring of a number of people from a minority ethnic group to give appearance of equality or as a symbolic effort (perhaps to meet minimum requirement of law)
5	(Stacking)	Stacking is the grouping or directing of certain ethnic groups into (or away from) certain positions in sports teams/the disproportionate concentration of ethnic minorities into certain positions in sports teams/(eg ethnic minority players grouped into peripheral positions or away from decision making positions)
6	(Centrality)	Centrality is notion that key or leadership or decision making positions in a sports team are held by WASPs or whites or those at the top of the social pecking order /(eg coaches or managers are still predominantly white)
7	(Links)	Stacking and centrality are linked sociological concepts/stacking and centrality mirror the hierarchical nature of American society
8	(Glass ceiling)	A discriminatory barrier that prevents social minorities from rising to positions of power or responsibility / an (invisible) barrier that determines the level to which a (demographic) minority can rise in society or an organization / discrimination against groups e.g. women
9	(Role models)	The 'glass ceiling' can sometimes be broken or broken with difficulty which leads to the performer becoming a role model eg the Williams sisters
10	(multi-culturalism)	USA committed to multi-culturalism/stacking and centrality (arguably) becoming less evident (as more opportunities arise for those from ethnic minorities / pluralism
To what extent is the situation the same in sport in the UK?		
Sub max 2		
11	(UK)	Credit relevant point/s that illustrate the presence or absence of a USA factor operating or not operating in the UK/eg black athletes as sports stars achieving wealth and fame
12	(UK)	

Question Number	Expected Answer	Marks
(d)*	Compare the background and contemporary status of American football in the USA and Rugby Union in the UK. Evaluate the impact of commercialism on American football in the USA and Rugby Union in the UK.	[20]
	<u>Level 4: – a comprehensive answer</u>	[18-20]
	<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 from Level 3 are likely to include:</p> <ul style="list-style-type: none"> • detailed knowledge and excellent understanding of all aspects of the question • direct comparisons are made successfully between the background and contemporary status of American football in the USA and Rugby Union in the UK; other stand alone points may also be made • effective evaluation of the impact of commercialism on American football in the USA and Rugby Union in the UK • sound structure and balance between parts of the question 	
	<u>Level 3: – a competent answer</u>	[13-17]
	<ul style="list-style-type: none"> • good knowledge & 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 from Level 2 are likely to include:</p> <ul style="list-style-type: none"> • good knowledge and understanding of most aspects of the question with some success, direct comparisons are made between the background and contemporary status of American football in the USA and Rugby Union in the UK; other stand alone points may also be made • competent evaluation of the impact of commercialism on American football in the USA and Rugby Union in the UK • an attempt at structuring/answering the question with balance between parts of the question 	

	<p><u>Level 2: – a limited answer</u></p> <ul style="list-style-type: none"> • limited knowledge & 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 from Level 1 <u>are likely to include:</u></p> <ul style="list-style-type: none"> • limited knowledge and understanding of some aspects of the question • with limited success, direct comparisons are made between the background and contemporary 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 evaluation of the impact of commercialism on American football in the USA and Rugby Union in the UK with limited success • an attempt at structuring/answering the question but not necessarily with balance between parts of the question 	[8-12]
	<p><u>Level 1: – a basic answer</u></p> <ul style="list-style-type: none"> • basic knowledge & 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 responses <u>are likely to:</u></p> <ul style="list-style-type: none"> • demonstrate basic knowledge and understanding of some aspects of the question • demonstrate a basic comparison of the background and contemporary status of American football in the USA and Rugby Union in the UK; stand alone points are likely to outnumber direct comparisons • demonstrate little or no attempt at evaluating the impact of commercialism on American football in the USA and Rugby Union in the UK 	[0-7]

Indicative content: candidate responses are likely to include: (suggested development points are bulleted)

Compare the background and contemporary status of American football in the USA and Rugby Union in the UK.		
	American Football – USA	Rugby Union – UK
Background:		
1	In early 1800s (originally) there were no generally accepted rules /mob game <ul style="list-style-type: none"> • 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/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 	RFU <ul style="list-style-type: none"> • 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/lead to 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	Originally called 'grid-iron'/pitch markings were originally horizontal and vertical	Pitch markings present
8	Rules increased or encouraged physicality	Rules restrict physicality
9	Game reflected 'frontier' or 'pioneering' spirit'	Game reflected values of public schools or Empire <ul style="list-style-type: none"> • eg leadership/courage/ determination
10	Initially little protective clothing	No protective clothing until (relatively) recently
11	Forward pass made legal	No forward pass
12	Strong rivalry between universities	Strong rivalry between universities
13	Became professional early in development	Became professional in 1995 <ul style="list-style-type: none"> • '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 <ul style="list-style-type: none"> • stacking and centrality 	Middle class game <ul style="list-style-type: none"> • more egalitarian • more discrimination
16	An American game that supported isolationist policy of USA/is America's own <ul style="list-style-type: none"> • game has been mainly rejected elsewhere 	Game spread to C18 countries of Empire
17	Embraced commercialism	Resisted commercialism

Contemporary status		
18	Very high status	Very high status <ul style="list-style-type: none"> Especially in some parts of the UK (eg south of England)
19	Most popular spectator sport in USA	Not the most popular sport <ul style="list-style-type: none"> behind Premiership Football League in UK growing business
20	Game is entertaining or sensational or intense or hard-hitting <ul style="list-style-type: none"> which arguably raises its status or popularity 	Skill or creativity or flair as or more important than intensity <ul style="list-style-type: none"> greater intensity since game went professional
21	Entertainment off the pitch <ul style="list-style-type: none"> eg cheerleaders or mascots 	Increasingly has entertainment off the pitch <ul style="list-style-type: none"> eg cheerleaders or mascots
22	Outright winners (no draws) <ul style="list-style-type: none"> win ethic 	There are draws <ul style="list-style-type: none"> participation ethic
23	Has high media profile or hype	Increasing media product or hype <ul style="list-style-type: none"> impact of Sky TV
24	Is strictly linked to big business/is highly commercialised	Increasingly linked with business and commercialism
25	Gives access to the American Dream <ul style="list-style-type: none"> to very few/produces sport stars eg accept any suitable example 	Gives opportunity for fame and fortune <ul style="list-style-type: none"> to very few/produces sport stars eg Wilkinson
26	High status in High Schools <ul style="list-style-type: none"> little league / modified competitions 	High status in schools <ul style="list-style-type: none"> High status especially in independent schools Mini rugby / modified competitions
27	Image of game has been knocked by scandal <ul style="list-style-type: none"> eg drugs and deviance 	Image of game has been knocked by scandal <ul style="list-style-type: none"> eg drugs and deviance
28	Image has stayed largely the same	Image or status of game has (arguably) changed since onset of professional era
Evaluate the impact of commercialism on American football in the USA and Rugby Union in the UK.		
Both games		
29	Strong links between the game, sponsorship and media <ul style="list-style-type: none"> the golden triangle 	
30	Money made from ticket sales or merchandise or media rights or satellite or cable TV deals <ul style="list-style-type: none"> Examples 	
31	Arguably the link with commercialism increases temptation to cheat <ul style="list-style-type: none"> eg drug taking 	
32	Laws of games designed (AF) or modified (RU) to make game more entertaining or attractive <ul style="list-style-type: none"> Examples 	
33	Sponsorship – impact of involvement by multinational companies <ul style="list-style-type: none"> eg ... (accept suitable example) 	
American Football		
34	Massive media interest <ul style="list-style-type: none"> huge amount of air time eg 130 million/highest TV audience in US 	
35	Super Bowl – showpiece event and championship game of NFL <ul style="list-style-type: none"> Super Bowl as championship game of NFL 	

36	Regular TV commercial breaks <ul style="list-style-type: none">• Longer breaks
37	Teams bought or sold as franchises/teams move within country when bought or sold <ul style="list-style-type: none">• eg accept relevant example
38	Draft system operates where players are 'bought/sold'
Rugby Union	
39	Increasing impact of commercialism <ul style="list-style-type: none">• copying USA model/becoming Americanised• salary cap
40	League (competition) structure put in place <ul style="list-style-type: none">• European cup developed (increased commercial potential)
41	..since Rugby Union became professional (in 1995)
42	Onset of professionalism/commercialism stopped 'rush' of union player to league code
43	Impact of Rugby World Cup as commercial stimulant

Question Number	Expected Answer	Marks
Section B – Sports Psychology (Option B1)		
3 (a)	Identify four different types of attribution proposed by Weiner’s attribution model and give a practical example for each type identified.	[4]
Four marks for: (must have practical example for each)		
1	External/extrinsic/environmental/uncontrollable attributions + practical example eg the weather/luck/task difficulty/other players etc.	
2	Internal/intrinsic/dispositional/personal/controllable attributions + practical example eg effort/determination/ability etc	
3	Stable/unchanging/persistent/enduring attributions + practical example eg task difficulty/opposition/ability etc	
4	Unstable/changeable attributions + practical example eg effort /tactics etc.	
(b)	Describe how goal setting can impact on participation and performance in sport.	[5]
5 marks for 5 from: opposites to count for negative influences of goal setting		
1	Motivation can motivate/encourage to participate/play/join-in/to do well/ strive for better performances or personal bests	
2	Can increase confidence /self esteem / self efficacy / mastery orientation	
3	Can encourage persistence/sticking to the task/not giving-up	
4	Can give direction/focus/end product to aim for/concentration	
5	Can help to control anxiety/stress/arousal	
6	Must be SMART/SMARTER (specific/measurable/achievable/realistic/time-phased) (SMARTER to include exciting/recorded) to be relevant	
7	Can help to develop skills/strategies/tactics	
(c)	Explain the causes and effects of evaluation apprehension on sports performance or lifestyle behaviours.	[6]
6 marks for 6 from: Sub max 4 marks for causes (Causes) No marks for repeating question eg Evaluate		
1	Caused by (perception that) others are judging your performance/lifestyle	
2	More acute/likely if those who are watching are of high status/role models/friends/parents/people we look up to	
3	More likely for those that have (high trait/state) anxiety in the situation	
4	More likely for those that have low self esteem/lack confidence/those that attribute their behaviour internally / have had negative experiences.	
Sub max 4 marks for effects (total of 6 marks available only) (Effects)		
5	Causes increase in anxiety/stress/arousal	
6	Leads to doubt/lack of confidence/facilitates need to avoid failure behaviour/ avoidance behaviour / prejudiced against the activity	
7	Can cause performer to give up/’choke’/revert to poor lifestyle / poor performance/social inhibition	
8	Can lead to poor attentional control/difficult to concentrate/make decisions/affects perceptual awareness/makes the wrong decision about lifestyle	
9	Can motivate to try harder/be more determined to win/facilitates need to achieve behaviour/determined to stick to healthy lifestyle	

Question Number	Expected Answer	Marks
(d)*	Evaluate critically theories of aggression that seek to explain why negative responses often occur in sporting situations. Use practical examples for the theories you evaluate.	[20]
	<u>Level 4: – a comprehensive answer</u>	[18–20]
	<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 from Level 3 are likely to include:</p> <ul style="list-style-type: none"> • all (4) main theories likely to be explained - (Instinct/frustr-agg/Agg cue/Social learn theory) • nature versus nurture likely to be referred to appropriately • practical examples are consistently used effectively for each theory identified and gives appropriate context • there are relevant evaluative points made for each theory • frequent use of/links with relevant psychological terminology/theories • the negative aspects of aggressive responses are referred to effectively 	
	<u>Level 3: – a competent answer</u>	[13-17]
	<ul style="list-style-type: none"> • good knowledge & 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 from Level 2 are likely to include:</p> <ul style="list-style-type: none"> • at least three main theories explained • practical examples are often used effectively to give context • there are relevant evaluative points made for most theories identified • some use of/links with relevant psychological terminology/theories 	

	<p><u>Level 2: – a limited answer</u></p> <ul style="list-style-type: none"> • limited knowledge & 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 from Level 1 are likely to include:</p> <ul style="list-style-type: none"> • theories are described rather than explained • practical examples are sometimes used effectively to give context • there are few evaluative points made for each theory • little use of/links with relevant psychological terminology/theories 	[8–12]
	<p><u>Level 1: – a basic answer</u></p> <ul style="list-style-type: none"> • basic knowledge & 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 responses are likely to:</p> <ul style="list-style-type: none"> • few theories are described and are at times inaccurate. • practical examples, if used, are often irrelevant • little or no evaluative material • little or incorrect use of/links with relevant psychological terminology/theories. 	[0-7]

Indicative content: candidate responses are likely to include: (suggested development points are bulleted, *= possible evaluation comments)

Theories of aggression that seek to explain why negative responses often occur in sporting situations.		
(Instinct theory)		
1	Instinct/natural/innate tendencies / stable/enduring <ul style="list-style-type: none"> • personality characteristics/personality defects/ mental illness 	
2	A response to protect/survive	
3	Anger/high arousal <ul style="list-style-type: none"> • stress as triggers 	
4	Can be caused by others' aggression <ul style="list-style-type: none"> • retaliation 	
5	*But not all people are aggressive	
6	*But aggression shown by people at different times <ul style="list-style-type: none"> • depends on the situation/environment. 	
(Frustration-aggression hypothesis)		
7	Frustrating circumstances blocks your goal <ul style="list-style-type: none"> • Frustration causes aggression 	
8	Aggressive to achieve catharsis <ul style="list-style-type: none"> • to feel better/to release frustration 	
9	Often aggression if punished leads to more aggression <ul style="list-style-type: none"> • lack of catharsis 	
10	Often caused by perceived/actual unfairness <ul style="list-style-type: none"> • eg refs'/officials' poor decisions 	
11	Frustration caused by poor personal performance <ul style="list-style-type: none"> • eg having a poor game 	
12	*But not all behave like this in frustrating circumstances	
13	*Does not take into consideration differing circumstances/environment	
14	*Aggression is never satisfying to most and creates regret <ul style="list-style-type: none"> • leads to low self-esteem 	
(Aggressive Cue hypothesis)		
15	Signals/cues/stimuli from the environment <ul style="list-style-type: none"> • situation trigger aggression (innately) 	
16	Because cue is identified with expected/desired behaviour/we have learned this response from previous experiences	
17	Conditioned response/S-R bond that has been learned <ul style="list-style-type: none"> • operant conditioning 	
18	You get praise/reinforcement if you are aggressive	
19	*The same cue can elicit different responses at different times for the same person	
20	*The same cue can elicit different responses for different people	
21	*We have the perceptual ability/control to be able to recognise inappropriate aggression and avoid it	
(Social learning theory)		
22	Watching/observing others who are aggressive likely to be copied <ul style="list-style-type: none"> • vicarious processes 	
23	Learn aggressive behaviour from significant others <ul style="list-style-type: none"> • role models with possible examples 	
24	Reinforcement of aggressive behaviour will increase chance of copying	
25	Copying more likely if same sex model	
26	Males more likely to be physically aggressive than females	

27	Live/realistic models more likely to be copied	
28	*At times we do not copy those that model behaviour (role models) – which opposes social learning view.	
29	*Counter-cultural behaviour/wanting to be different/strong sense of independence can lead to role models/required behaviour being countered/ignored.	
30	*Sometimes can't help ourselves be aggressive/innate feelings counteract what we ought to be doing/how we are behaving.	
(Others possible approaches) (external factors)		
31	Displaced aggression/other influences outside of sport <ul style="list-style-type: none"> • it's not what happens in sport but other external factors 	
32	*Difficult to prove	
33	*One person who experiences the same external factors as another can behave very differently	
(Culture)		
34	Socialisation/cultural norms and values determine your behaviour/it is expected <ul style="list-style-type: none"> • cultural determinants 	
35	*Can't help our innate feelings	
(Expectations of the game/sport)		
36	Game determinants/expected/norms in the game / to intimidate/dominate opponent <ul style="list-style-type: none"> • examples of such activities eg ice hockey 	
37	*Different people playing the same sport react differently	
38	People behave in spite of the game's norms because of other influences <ul style="list-style-type: none"> • people bring expected norms to a sport and sport is not a determinant for behaviour/too many other stronger influences other than the sport that dictates behaviour. 	

Question Number	Expected Answer	Marks
Section B – Biomechanics (Option B2)		
4 (a)	<p>What is meant by the terms, line of gravity, and, base of support? Use practical examples to show how a performer can maximise their stability.</p> <p>4 marks in total Sub max 2 marks for:</p>	[4]
	1 (line of gravity) extends from the CM (vertically) down to the ground/shows the application and direction of weight.	
	2 (base of support) the area on the ground enclosed by the points of contact of the performer's body on the ground or eq.	
	2 marks from: (must use practical examples)	
	3 by lowering CM (eg bending knees in order to tackle in rugby)	
	4 Increasing base of support. (eg widening stance in judo)	
	5 by making line of gravity/CM/weight within/central to base of support (eg standing straight/no leaning when rebounding in basketball)	
	6 Increasing body mass (eg sumo wrestling)	
(b)	<p>Explain how a performer generates spin on a ball and describe the effects of spin on the bounce of a ball.</p> <p>5 marks in total from: (generation of spin) sub max 3</p>	[5]
	1 Eccentric/off centre/moment of force must be applied	
	2 Force applied outside CM of the ball	
	3 Gives ball angular momentum/motion	
	(effect of spin on bounce) sub max 3	
	4 Topspin makes ball shoot forward/accelerate off surface/move at a smaller angle to the surface	
	5 Backspin makes ball sit up/decelerate off surface/move at a greater angle to the surface	
	6 Sidespin has little or no effect on bounce of the ball / allows ball to keep on swerving in same direction	

Question Number	Expected Answer	Marks
(c)	<p>Explain the factors that affect the Moment of Inertia of a performer. Describe how a sprinter uses this concept to improve the efficiency of the recovery phase of the stride action.</p> <p>6 marks in total: (MI) Sub max 4 marks</p>	[6]
1	(Definition) MI is the tendency of a body to resist changes in angular motion or rotation/is the rotational equivalent of inertia or mass	
2	(Identification) depends on mass of the body.	
3	(Explanation) larger the mass the greater the MI/or opposite.	
4	(Identification) depends on distribution / distance of mass of the body from axis of rotation / $MI = \Sigma mr^2$ / length of lever	
5	(Explanation) further the mass is from axis of rotation the greater MI/or opposite.	
6	(Explanation) Greater MI therefore there is greater resistance to rotation	
	(recovery)	
7	Knee is bent / flexed.	
8	Brings mass of leg closer to hip joint/axis of rotation.	
9	This reduces MI of the leg.	
10	Enables leg to come through faster/easier/ less force/effort required	

(d)*	<p>Explain the methods used to reduce the forces acting on a ski jumper whilst descending down the ski ramp before take off. Compare the ski jumper's use of the Bernoulli Effect during flight with that of a Formula 1 car when racing and explain how its use improves the performance of each.</p>	[20]
	<p><u>Level 4: – a comprehensive answer</u></p>	[18–20]
	<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 <p>Discriminators from Level 3 are likely to include</p> <ul style="list-style-type: none"> • detailed knowledge and excellent understanding of the methods used to reduce the forces of friction and air resistance acting on a ski jumper • detailed knowledge and excellent understanding of the Bernoulli Effect and how it improves performance of both the ski jumper and the formula 1 racing car • direct comparisons are made successfully between the Bernoulli Effect in relation to the flight of the ski jumper and a formula 1 racing car when racing; other stand alone points may also be made • sound structure and balance between parts of the question 	
	<p><u>Level 3: – a competent answer</u></p>	[13–17]
	<ul style="list-style-type: none"> • good knowledge & 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 from Level 2 are likely to include</p> <ul style="list-style-type: none"> • good knowledge and understanding of the methods used to reduce the forces of friction and air resistance acting on a ski jumper • good knowledge and understanding of the Bernoulli Effect and how it improves performance of both the ski jumper and the formula 1 racing car • with some success, direct comparisons are made between the Bernoulli Effect in relation to the flight of the ski jumper and a formula 1 racing car when racing; other stand alone points may also be made • an attempt at structuring/answering the question with balance between parts of the question 	

	<p><u>Level 2: – a limited answer</u></p> <ul style="list-style-type: none"> • limited knowledge & 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 from Level 1 are likely to include</p> <ul style="list-style-type: none"> • limited knowledge and understanding of the methods used to reduce the forces of friction and/or air resistance acting on a ski jumper • limited knowledge and understanding of the Bernoulli Effect and how it improves performance of both the ski jumper and the formula 1 racing car • with limited success, direct comparisons are made between the Bernoulli Effect in relation to the flight of the ski jumper and a formula 1 racing car when racing; 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 	[8–12]
	<p><u>Level 1: – a basic answer</u></p> <ul style="list-style-type: none"> • basic knowledge & 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 responses are likely to:</p> <ul style="list-style-type: none"> • demonstrate basic knowledge and understanding of the methods used to reduce the forces of friction and/or air resistance acting on a ski jumper • demonstrate a basic comparison the Bernoulli Effect in relation to the flight of the ski jumper and formula 1 racing car when racing; stand alone points are likely to outnumber direct comparisons 	[0–7]

Indicative content: candidate responses are likely to include: (suggested development points are bulleted)

Methods used to reduce the forces acting on a ski jumper whilst descending down the ski ramp before take off.			
(Force identification)			
1	Friction (between snow and skis) created by skis sliding over the snow acts against ski jumper		
2	Air resistance/Fluid Friction (acting against ski jumper as he travels down ramp) <ul style="list-style-type: none"> acts against ski jumper / opposite direction of motion increases as ski jumper's speed increases 		
3 (Reduce forces)	To achieve a higher speed/velocity <ul style="list-style-type: none"> To jump further. 		
(Reducing friction)			
4	Reducing roughness of/smooth surface of skis Use of wax on skis.		
5	Making ski tracks/ramp icier/smooth send trial jumpers down ramp first/ pouring water on ramp		
(Reducing air resistance)			
6	Streamlining. <ul style="list-style-type: none"> creating smooth flow around skier / reducing turbulent flow / drag reducing profile drag / turbulence behind 		
7	(id) Reduce frontal / forward cross sectional area. (ex) Tuck position		
8	(id) Reduce surface friction of air across skier. (ex) Specialist smooth ski clothing.		
9	(id) Reduce turbulence behind skier. (ex) Tear drop shape/change body shape to smooth air flow behind skier.		
Comparison:			
Ski jumper		Similar/diff	Formula 1 racing car
(Bernoulli Effect)			
10	Body forms an aerofoil shape	S/D	Spoiler/wing forms upside down aerofoil shape.
11	Creating angle of attack	S	Creating angle of attack
12	Air travels further over top of ski jumper.	D	Air travels further under spoiler/wing
13	Air travels faster over top of ski jumper	D	Air travels faster under spoiler/wing
14	Creates low pressure over top of ski jumper	D	Creates low pressure under spoiler/wing
15	(Bernoulli) Force formed from high to low pressure	S	(Bernoulli) Force formed from high to low pressure
16	Bernoulli / lift force upwards	D	Bernoulli force downwards/down force
(Improve performance)			
17	Keeps skier in air longer	18 Increases normal reaction	
19	Travels further	20 Increases friction between tyres and road surface	
21	Non parabolic flight path	22 Greater acceleration/can go round corners faster	

Question Number	Expected Answer	Marks
Exercise and Sport Physiology (Option B3)		
5(a)	Describe the physiological adaptations that you would expect to occur to skeletal muscle after the completion of a maximum strength training programme. 4 marks in total from:	[4]
1	Muscle hypertrophy (more total protein) / hyperplasia / muscle cells splitting / more fast twitch muscle fibres	
2	Increased concentrations /stores of PC / ATP	
3	Increased glycogen stores	
4	Increased tolerance to lactic acid / buffering	
5	less lactic acid produced for the same workload	
6	increase in levels of glycolytic enzymes	
7	Recruitment of additional motor units	
8	Training may reduce or counteract autogenic inhibition/tension threshold of golgi tendon organs	
9	Improved coordination (synchronisation of motor unit activation)	
(b)	Describe the main process involved in the Lactacid component of the recovery process. 5 marks in total from:	[5]
1	Lactic acid (accumulated during exercise) must be removed	
2	Lactic acid is converted back to pyruvic acid	
3	Pyruvic acid enters the TCA cycle / Krebs cycle / metabolised aerobically	
4	Broken down to carbon dioxide, water and (energy)	
5	Over 60% of lactic acid is used as a metabolic fuel	
6	Remaining lactic acid is taken to liver as lactate	
7	Then re-synthesised to glucose / glycogen	
8	Small amounts of lactic acid converted into protein / removed in sweat and urine / removed as a waste product	
9	The process takes about an hour	
10	Uses between 5 and 8 litres of oxygen	

(c)	<p>Outline and justify the advice you would give to an endurance performer about the content and consumption of the pre-competition meal.</p> <p>6 marks in total Sub max 2 marks for content of the meal</p> <p>Examples:</p>	
1	Any carbohydrate example e.g. Muffins/crumpets with jam/honey/oatcakes/pasta with tomato based sauce/baked potato/cereal with low fat milk/banana/creamed rice and fruit etc	
2	Any other carbohydrate example	
3	Drink approx 500ml of fluid (water/sports drink/diluted fruit juice)	
	Sub max 5 for justification	
4	Prevent dehydration	
5	Prevent depletion of glycogen	
6	Maintain blood glucose	
7	Maintain electrolyte balance	
8	Avoid an upset stomach	
9	Have high carbohydrate meal (+200g) approx 3 hours before event	
10	Preferably eat carbohydrates with low GI / complex for slow release of energy	
11	Smaller/simple carbohydrate 1-2hours before event	
12	choose foods you like and that you tolerate	
13	Reduce fat / spicy food content in pre comp meal (avoids upset stomach)	
14	Decrease the amount of fibre in pre comp meal (avoids upset stomach)	
15	liquid meals empty more quickly from the stomach	
16	Continue to drink small amounts of fluid until start time to remain hydrated	

(d)*	Analyse the information in the table and determine which fitness components need to be improved. Devise an appropriate training programme and highlight how your programme will result in an improvement in the health and fitness of the student.	[20]
	<u>Level 4: – a comprehensive answer</u>	
	<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 from Level 3 are likely to include:</p> <ul style="list-style-type: none"> • detailed knowledge and excellent understanding of the principles of training • detailed analysis of the information in the table • the principles of training are applied successfully and an appropriate training programme devised • detailed knowledge and excellent understanding of the health and fitness benefits of the training programme • sound structure and balance between parts of the question 	[18–20]
	<u>Level 3: – a competent answer</u>	[13–17]
	<ul style="list-style-type: none"> • good knowledge & 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 from L2 are likely to include:</p> <ul style="list-style-type: none"> • good knowledge and understanding of the principles of training • good analysis of the information in the table • the principles of training are applied with some success and a broadly appropriate training programme devised • good knowledge and understanding of the health and fitness benefits of the training programme • an attempt at structuring/answering the question with balance between parts of the question 	

	<p><u>Level 2: – a limited answer</u></p> <ul style="list-style-type: none"> • limited knowledge & 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 from L1 <u>are likely to include:</u></p> <ul style="list-style-type: none"> • limited knowledge and understanding of the principles of training • some evidence of analysis of the information in the table • the principles of training are applied and with limited success, a training programme devised, aspects of which may be appropriate, • limited knowledge and understanding of the health and/or fitness benefits of the training programme • an attempt at structuring/answering the question but not necessarily with balance between parts of the question. • 	[8–12]
	<p><u>Level 1: – a basic answer</u></p> <ul style="list-style-type: none"> • basic knowledge & 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 responses <u>are likely to:</u></p> <ul style="list-style-type: none"> • demonstrate basic knowledge and understanding of the principles of training • demonstrate little relevant analysis of the information in the table • the principles of training are applied and, with limited success, a training programme is devised, aspects of which may be broadly appropriate, • demonstrate basic knowledge and understanding of the health and/or fitness benefits of the training programme 	[0–7]

Indicative content: candidate responses are likely to include: (suggested development points are bulleted)

	Fitness components	
1	High RHR indicates aerobic capacity need to improve	
2	Bodyfat test score suggests body composition needs to improve	
3	Sit and reach score suggests lower back and hamstring flexibility needs to improve	
4	Sit up score suggests strength endurance of abdominal muscles needs to improve	
5	Wall squat score suggests that strength endurance of the quadriceps needs to improve	
6	12 minute run score suggests aerobic capacity needs to improve	
	Training programme	
7	Improve strength endurance with circuit training / interval training <ul style="list-style-type: none"> e.g. squats, burpees, sit-ups, press-ups etc 	
8	30:60 secs work:rest <ul style="list-style-type: none"> Work: rest ratio 1:2 	
9	Improve strength endurance with weight training <ul style="list-style-type: none"> e.g. leg extensions, bench press, squats etc 	
10	High reps, low weights <ul style="list-style-type: none"> High reps 10+ Low weight below 70% 1RM 	
11	2/3 sessions a week	
12	Improve flexibility by perform static (passive/active)/PNF etc flexibility work (during cool down periods) <ul style="list-style-type: none"> other examples eg ballistic detail of flexibility method 	
13	improve aerobic endurance with continuous training <ul style="list-style-type: none"> long duration and low intensity 20mins + Below 70% VO₂ max 	
14	fartlek <ul style="list-style-type: none"> form of continuous training with low intensity exercises interspersed with high intensity exercises eg jog, sprint, jog etc / running over different terrains 	
15	Interval training / repetition running (work rest intervals/distance) <ul style="list-style-type: none"> intervals to improve aerobic capacity work period 3 min plus 	
16	2/3 sessions a week	
17	use of training target heart rates <ul style="list-style-type: none"> 60 – 80% MHR 	
18	Change activity to maintain variety eg cycling, swimming, running	
	General	
19	Keep training diary <ul style="list-style-type: none"> to monitor intensity/duration/repetitions/work:rest ratios 	
20	Principles of training- overload; progression; variance <ul style="list-style-type: none"> overload to increase amount of work body does progression to increase workloads once adaptations have been made variance to maintain motivation / prevent RSI specificity moderation reversibility 	

21	Set realistic targets	
22	Re-test to monitor improvement	
23	Periodisation <ul style="list-style-type: none"> • Microcycle / Mesocycle / Macrocycle 	
	Health improvements	
24	Training programme should reduce RHR	
25	Increase in cardiac output / stroke volume	
26	Overall improvement of the VO ₂ max of the student <ul style="list-style-type: none"> • Increased lung capacity/RBC/mitochondria/capillary density/ or equiv. 	
27	Reduce risk of CHD / atherosclerosis / arteriosclerosis / hypertension <ul style="list-style-type: none"> • Reduced amount of LDLs / Increase in HDLs 	
28	Reduce risk of obesity/ (type II) diabetes / % Body fat should decrease <ul style="list-style-type: none"> • Increase in lean body mass / muscle hypertrophy / negative energy balance 	
29	Reduced risk of osteoporosis <ul style="list-style-type: none"> • Maintenance of bone density / calcium deposits 	
30	Reduced risk of lower back problems / improved posture / joint stability <ul style="list-style-type: none"> • Increased core stability / muscle / ligament strength / flexibility 	

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