

Mark Scheme (Results)

Summer 2012

GCE Physical Education (6PE03)
Unit 3: Preparation for Optimum
Sports Performance

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Question Number	Answer	Mark
1	<ol style="list-style-type: none"> 1. Carbo loading to maximise glygogen levels 2. Creatine loading – to maximise phosphocreatine store 3. Sodium loading to buffer rise in lactic acid associated with the Lactic acid pathway 4. Protein loading/shakes after exercise to help with repair and restoration of muscle fibres 5. Carbo loading after performance to replace glygogen stores /window of opportunity 2 hours 6. Hydration 7. Eating for weight gain/ or weight loss/bulk eating/use of diuretics /calorie intake change depending on work load. 8. Adding stimulants to diet eg caffeine. 	(4)

Question Number	Answer	Mark
2(a)	<p><u>Definition (submax 2)</u></p> <ol style="list-style-type: none"> 1 A reduced capacity to complete work /Inability to meet demands 2 Exhaustion (physical or mental) resulting from prolonged exertion or over stimulation/overtraining <p><u>Factors (submax 3)</u></p> <ol style="list-style-type: none"> 1. Lack of /reduction in available energy/CHO/Creatine/depletion of fuel 2. Lack of oxygen 3. Depletion or leaking of calcium ions/loss of electrolytes 4. Build up of lactic acid/ Change in pH levels 5. Dehydration 6. Not long enough period of rest/recovery /over training 7. Not adjusting to anew climate /failing to acclimatise properly /environmental stress 8. Stimulation of pain receptors 9. Central Governor Theory 10. Repeated eccentric contractions 	(4)

Question Number	Answer	Mark
2(b)	<ol style="list-style-type: none"> 1. CG theory suggests that fatigue is an emotional response that begins in the brain/psychological 2. Traditional theories suggest that fatigue is a physiological response that starts in the muscles 3. Traditional theories suggest that fatigue was a result of fuel/glycogen depletion and build up of lactic acid 4. The build up of lactic acid alters the pH of the muscle cells and this inhibits the metabolic processes/enzyme function 5. Central Governor in the brain paces the muscles to hold them back from the brink of fatigue/never allows complete glycogen depletion 6. When the CG decides this threshold is being reached it creates distressing/fatigue sensations/protective mechanism 7. CG theory suggests a reduction in muscle fibre recruitment 	(4)

Question Number	Answer	Mark
3	<ol style="list-style-type: none"> 1. Pre game routines are rituals or specific pre planned programmes that players go through in their Short term preparation phase 2. They are behaviour patterns that the performer has rehearsed or use many times before/familiarity 3. Includes putting on kit and equipment in a specific order in order to put the performer in control /check equipment 4. Often linked to superstitions 5. Get the player in control of their own feelings and help reduce anxiety /increase individual's confidence 6. Optimise arousal (increase or decrease as appropriate)/ helps with motivation 7. Are part of the selective attention focus where the players begin to shut out irrelevant information/<u>maximising</u> concentration 8. Often cues such as sights and smells can induce anxiety in players – pregame routine is a method of controlling this anxiety 9. Link to aggression /can be used to channel aggression/ can be used to intimidate opposition 10.Link to cultural/religious rituals 	(6)

Question Number	Answer	Mark
4(a)	<ol style="list-style-type: none"> 1. Ambient temperature/temperature at pitch/court side 2. Level of humidity 3. Strength/direction of wind 4. Indoor or outdoor/whether a stadium roof is open or closed 5. Protection/reducing injury 6. Pitch/Court surface/playing surface 7. Demands from kit sponsors- new design/colour/logo/sponsors needs 8. Checking kit is legal 	(4)

Question Number	Answer	Mark
4(b)	<ol style="list-style-type: none"> 1. Thermoregulation is the ability to maintain core body temperature 2. If core body temperature rises by more than 1-2° C then body metabolism is inhibited and performance decreases/fatigue more rapid onset 3. If core body temperature rises by more than 2° C then heat exhaustion can occur 4. Overheating can lead to hyperthermia/heat stroke 5. In dry heat sweating is effective but the danger is dehydration 6. Heat acclimatisation results in earlier onset of sweat response 7. Heat acclimatisation results in body become more efficient in retaining fluid from diet/ less salts/sodium lost in sweat 8. Training increases plasma volume so blood is less viscous/blood less thick delayed dehydration 9. To prevent early onset of fatigue. 	(4)

Question Number	Answer	Mark
4(c)	<ol style="list-style-type: none"> 1. Normal Strategy is acclimatisation – 3-5 days in the environment /warm weather training. 2. Use of ice vest and capes 3. Use of ice drinks/slurry /pre cooled drinks 4. Pre Game cooling/Ice baths 5. Clothing- Clima cool /moisture wicking 6. Use of climate chambers (DON'T accept just Altitude chamber) 7. Isotonic or electrolyte drink 	(3)

Question Number	Answer	Mark
5	<p>SAQ training (max 3 marks) Characteristics</p> <ol style="list-style-type: none"> a. SAQ is different as it trains the neuro muscular system/muscle memory b. Initial movements become more automatic and efficient means more explosive and precise performance c. Explosive training done in short bursts and changing direction d. Involves drills such as horizontal ladders e. Resisted training/with sleds, harnesses, weights, inclines or on sand /parachute f. Contrast training/resistance activity followed by plyometric activity g. Assisted running – use of harnesses and tow ropes <p>Adaptations (max 3 marks)</p> <ol style="list-style-type: none"> 1. Improvement in kinesthetic spatial awareness/coordination 2. Improved reaction time/improved efficiency of the neuro muscular system /improved neurological firing/improved synchronization of muscles 3. Increase in ATP/PC stores 4. Increase in anaerobic enzyme function (e.g. Creatine kinase) /other anaerobic adaptations 6 Initial movements become more automatic and efficient means more explosive and precise performance 7 Strengthen ligaments and tendons 8 Increased muscle fibre recruitment 	(6)

Question Number	Answer	Mark
6(a)	<ol style="list-style-type: none"> 1. Specific – goals should be clear and concise 2. Measurable – goals set need to be assessed through a formal process/evaluate progress 3. Agreed – goals discussed and agreed with others such as coach/manager/performance director Accepted/Acceptable/Achievable 4. Realistic – goals set are achievable and within reach of the performer 5. Time-bound –goals reflect ST and LT objectives of the performer 	(5)

Question Number	Answer	Mark
6(b)	<ol style="list-style-type: none"> 1. Performance profiling helps players set goals/aids setting specific targets 2. Players are motivated if they see their performance improves towards the standard they have set 3. PP identifies key elements or characteristics that players need to improve/gap analysis/use of wagon wheels to ID strengths and weaknesses 4. PP can help to relate the individual performance against that of the team /or another individual 5. PP helps create awareness of own responsibility, own role /help develop coach-athlete relationship. 6. To aid in identifying an appropriate intervention/plan 7. To measure/monitor any changes over time 	(4)

Question Number	Answer	Mark
7	<ol style="list-style-type: none"> 1. Successful performers will represent high school/ first step 2. Good performers attract college scouts 3. Colleges offer best performer athletic/scholarships 4. Schools and college sport reflects/structured same as professional games 5. Every college game is recorded and analysed/ players scored 6. At end of college season top players go into draft/drafted 7. Teams that finish at bottom of the league get first choice of best players 8. Only route to professional game /status 9. Helps give exposure/experience of media attention 10. High standard of facilities/playing in stadiums in front of paying spectators /large crowds get you used to arousal and pressure 11. High class coaching 	(6)

Question Number	Indicative content
8	<ol style="list-style-type: none"> 1 Two basic models of elite programme / decentralised vs centralised 2 State funded programmes / centralised as in Eastern European models 3 De-centralised systems/autonomous/self funded programmes such as UK 4 Adapted/compromise programmes which are a mix of centralised and decentralised such as Australian model 5 Traditional route to excellence through school and then into club sport 6 US developed system of university scholarship to enable athletes to train as well as pick up an education 7 US scholarship model now common around the world / particularly common in traditionally amateur sports 8 East Germany/Eastern Bloc developed idea of centralised elite sports programme/use of institutes 9 Institute model copied by France in 1970s and Australia in 1981 10 Institute/National academy model now copied by most nations 11 Advantages of putting best athletes with best coaches in best facilities 12 Most efficient in terms of time and facilities/resources 13 Conclusion that modern athletes have to train full time 14 Providing scholarships/grants allows athletes to concentrate on sport 15 Linked work with Athlete Career Education (ACE) programmes 16 Academy system allows use of sports science support to maximise performance enhancement 17 Use of talent ID/sports search/screening of school aged children to identify potential talent 18 Counter argument/spending/focus on elite can have negative effect on base/grass roots top of pyramid only as good as the base 19 Discussion of sport for all programmes/ sport for all/ Active Australia 20 Social and environmental factors can affect a country's excellence programme/discussion of population effect 21 Conclusion/contemporary review

Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-4	An answer that mostly fails to address the question and contains many inaccuracies and irrelevancies. Very little evidence of synoptic analysis with statements that demonstrate a lack of understanding. A poorly structured answer. Incorrect spelling, punctuation and grammar. Incorrect use of terminology. Many inaccuracies.
Level 2	5-8	An answer that fails to address many parts of the question. There is little evidence of synoptic analysis with sweeping statements that may contain some relevant information but generally remain unsupported by evidence or accurate examples and suggest limited understanding. Irrelevant points and repetition may be used to pad out the answer. A poorly structured answer in which there may be errors in spelling, punctuation and grammar. Incorrect use of terminology. A significant proportion of material is irrelevant.
Level 3	9-12	An answer that describes accurately at least two contrasting systems of elite sports support. There is little evidence of analysis although some basic understanding of the various systems of elite support (2+) may be used. Relevant points may be supported by examples but only partially developed – there may be some inaccuracy in dates and names. Limited attempt at a conclusion. A basic structure is evident. Some incorrect use of terminology. There may be errors in spelling, punctuation and grammar. A number of inaccuracies.
Level 4	13-15	The answer gives detailed description of the use of at least two contrasting systems of elite sports support but answer may be biased towards one model. Some analysis and debate is evident, although this may be lacking both in depth and balance - various systems of elite support may be used - it makes an attempt to compare systems. An obvious attempt to structure the essay. Fundamentally sound use of terminology. Generally clear and concise with limited inaccuracies. Satisfactory spelling, punctuation and grammar.
Level 5	16-18	An answer that discusses a number of contrasting systems of elite sports support - makes some reference to the impact. A good understanding is demonstrated of a range of elite sport support systems. Factual information and accurate examples, many taken from global games, are used in support of points made. Will include a conclusion and an attempt at synthesis – but this may be more descriptive. Must make clear comparisons between systems. A well structured answer with predominantly accurate use of spelling, punctuation and grammar. Correct use of terminology. Clear and concise but may occasionally make an irrelevant comment.
Level 6	19-20	An answer that debates in detail a range of contrasting systems of elite sports support .There is in-depth understanding a range of elite sport support systems. Includes correct use of technical language and factual information throughout, demonstrating a clear understanding of the subject matter. A range of accurate practical examples predominantly taken from global games supports the vast majority of points. A range of contemporary and original statements are included.

		<p>There is a clear attempt at syntheses through a reasoned conclusion this should include a discussion of the merits and limitations of several systems. A well structured answer with continuous prose. Predominantly accurate use of spelling, punctuation and grammar. Correct use of terminology. Clear, concise and relevant throughout.</p>
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Question Number	Indicative content
9	<p>Advantages</p> <ul style="list-style-type: none"> No need for acclimatization Familiarity of climate and environment No change in culture/food /sleep patterns Chance to train/practice in final venues Long term planning and training in venues Pride of representing home country Motivation from friend and family supporting / home support Chance to practice journey and pre competition strategies Statistical record that home nations over achieve No jet lag Save money on expensive holding camps Less time lost from training due to travel No home sickness, being able to go home <p>Disadvantages</p> <ul style="list-style-type: none"> Pressure to win/ fulfil expectations Media affect/hype Lack of team bonding /atmosphere/ too familiar Funding going to facilities rather than training /coaching programmes Distraction from family and friends

Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-4	An answer that mostly fails to address the question and contains many inaccuracies and irrelevancies. Very little evidence of synoptic analysis with statements that demonstrate a lack of understanding. A poorly structured answer. Incorrect spelling, punctuation and grammar. Incorrect use of terminology. Many inaccuracies.
Level 2	5-8	An answer that fails to address many parts of the question. There is little evidence of synoptic analysis with sweeping statements that may contain some relevant information but generally remain unsupported by evidence or accurate examples and suggest limited understanding. Irrelevant points and repetition may be used to pad out the answer. A poorly structured answer in which there may be errors in spelling, punctuation and grammar. Incorrect use of terminology. A significant proportion of material is irrelevant.
Level 3	9-12	An answer that describes accurately the impact of home advantage on some elements of training and performing. There is little evidence of analysis although some basic understanding of how the impact of Home advantage – may focus on just the positive aspects. Relevant points may be supported by examples but only partially developed – there may be some inaccuracy in dates and names. Limited attempt at a conclusion. A basic structure is evident. Some incorrect use of terminology. There may be errors in spelling, punctuation and grammar. A number of inaccuracies.
Level 4	13-15	The answer gives detailed description of the impact of Home

		<p>advantage – with some discussion on positive <u>and negative</u> impacts though may be biased towards one phase. Some analysis and debate is evident, although this may be lacking both in depth and balance - will be mainly concerned with the positive impact. It makes an attempt to address the key issues raised in the question. An obvious attempt to structure the essay. Fundamentally sound use of terminology. Generally clear and concise with limited inaccuracies. Satisfactory spelling, punctuation and grammar.</p>
Level 5	16-18	<p>An answer that <u>discusses</u> the impact of Home advantage – makes sound reference to both the positive and negative impact. A good understanding is demonstrated through some detailed analysis and may challenge some of the theories that relate to home advantage in sport as merely fashion.</p> <p>Factual information and accurate examples, many taken from global games, are used in support of points made. Will include a conclusion and an attempt at synthesis – but this may be more descriptive. A well structured answer with predominantly accurate use of spelling, punctuation and grammar. Correct use of terminology. Clear and concise but may occasionally make an irrelevant comment.</p>
Level 6	19-20	<p>An answer that <u>debates</u> in detail the impact of Home advantage. There is in-depth understanding of both the positive and negative impacts. Includes correct use of technical language and factual information throughout, demonstrating a clear understanding of the subject matter. A range of accurate practical examples predominantly taken from global games supports the vast majority of points. A range of contemporary and original statements are included. There is a clear attempt at syntheses through a reasoned conclusion this should include a discussion of the merits and limitations of competing at a home competition. A well structured answer with continuous prose. Predominantly accurate use of spelling, punctuation and grammar. Correct use of terminology. Clear, concise and relevant throughout.</p>

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