



Pearson
Edexcel

Mark Scheme (Results)

Summer 2018

Pearson Edexcel GCE

In Physical Education (6PE03/01)

Paper 01 Unit 3: Preparation for Optimum
Sports Performance

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Question Number	Answer	Additional Guidance	Mark
Q01	<ul style="list-style-type: none"> • Static – stretching muscles while the body is at rest. Lengthening the muscle to the end of the range of movement and holding the stretch. • Ballistic-Stretching in a bouncing motion to push body beyond normal range of motion • Dynamic-using momentum to extend the range of motion. • PNF – isometric contraction before the stretch • Active – voluntary contractions by the athlete • Passive – use of an external force to aid stretch e.g. partner/gravity/body weight 	<p>No marks awarded for just naming</p> <p>1 mark for each of the bullet points up to a maximum of 3.</p>	(3)

Question Number	Answer	Additional Guidance	Mark
Q02	<ul style="list-style-type: none"> • Athletes need a balance of the 7 food groups • Energy in the diet from protein, carbs and fats to sustain endurance • Great quantity of carbohydrates for energy conversion for aerobic v power athletes • Carb loading allows maximal energy for aerobic performance • Carbohydrates enable fats to be metabolised • Protein will enable muscle tissue to heal – important for a power athlete • Vitamins and minerals aid bodily functions • Water aids transport and thermoregulation/proper hydration essential • Replacement of electrolytes due to sweating is needed through diet • Reference to time of intake of different nutrients relative to performance • Reference to named supplement linked to effects on performance 	<p>1 mark for each of the bullet points up to a maximum of 6.</p>	(6)

Question Number	Answer	Additional Guidance	Mark
Q03	<ul style="list-style-type: none"> • The intensity of performance • The duration of performance • The stage in the activity • The diet and hydration of the athlete • Fitness levels of the athlete • Muscle fibre type/proportions • Pacing strategy 	<p>Factors must be explained and not just named.</p> <p>1 mark for each of the bullet points up to a maximum of 5.</p>	(5)

Question Number	Answer	Additional Guidance	Mark
4	<ul style="list-style-type: none"> • Phosphagen replenishment/ATP-PC stores replenished • Lactate removal by other muscles, heart, liver, kidneys • Oxymyoglobin replenishment • Reduction in body temperature • Hormones return towards resting levels • Enzyme activity return towards resting levels • Oxidation of lactate in the muscle fibre • Conversion of lactate to protein/glucose and glycogen 	<p>1 mark for each of the bullet points up to a maximum of 5.</p>	(5)

Question Number	Answer	Additional Guidance	Mark
Q05	<ul style="list-style-type: none"> • Hypertrophy of the heart • More capillaries / vascularisation • More mitochondria • More haemoglobin 	<p>1 mark for each of the bullet points up to a maximum of 3.</p>	(3)

Question Number	Answer	Additional Guidance	Mark
Q07	<ul style="list-style-type: none"> • Talent ID in schools • Boarding schools attended • Full time coaches to work with athletes • Spartakiad/mini Olympics to test athletes further • Centres of excellence • State funded and controlled • Supportive medicine/drugs given to athletes • Centralised • Support of athletes through military teams • Long hours of training • Children relocated into national centres, sometimes away from families • Athletes that did not meet the standards required were sent home. • While at the boarding schools, students would have 2 hours of academic study and 6 hours of sports coaching and physical training a day. • "Shamateur" support of athletes through trade unions and military teams 	<p>1 mark for each of the bullet points up to a maximum of 6.</p>	<p>(6)</p>

Question Number	Answer	Additional Guidance	Mark
Q08	<ul style="list-style-type: none"> • Differing climatic/environmental conditions will need different clothing: Humidity, heat, wind and rain will affect selection for temperature control • Streamlining may be needed and athletes may choose something to allow a more streamline position e.g. swim suit • Cultural needs may have restrictions e.g. covering certain body parts for certain religions • Event regulations may mean athletes have to change equipment/wear certain items e.g. colour of kit • Sponsors may require particular branded items to be worn • Playing surface may influence grip: studs, spikes and footwear selection. • Protection e.g. selection of the right protective wear for a GK • Indoor or outdoor playing may influence clothing chosen • A previous injury may require specific support. 	<p>1 mark for each of the bullet points up to a maximum of 4.</p>	<p>(4)</p>

Question Number	Answer	Additional Guidance	Mark
Q09	<ul style="list-style-type: none"> • Exposing the body to high altitude causes it to acclimatise to the lower level of oxygen available • This improves the delivery of oxygen to the muscles • In an attempt to increase red blood cells • To maintain aerobic fitness whilst injured • In preparation for a performance at altitude • Increased sea level performance 	<p>1 mark for each of the bullet points up to a maximum of 4.</p>	<p>(4)</p>

Question Number	Answer	Additional Guidance	Mark
Q10	<ul style="list-style-type: none"> • Check progress and how you are getting on/baseline • Identify strengths and weaknesses to be able to plan competition strategy • Training plan can take into account goals set/structure training • Engages and motivates the athlete • Reducing anxiety/controlling arousal • Can aid confidence/self esteem • To aid concentration/focus • To aid mental preparation • Can be demotivating if the goals are too tough 	<p>1 mark for each of the bullet points up to a maximum of 6.</p>	<p>(6)</p>

Question Number	Indicative Content	Mark
*Q11	<p>A discussion to include some of the following indicative content:</p> <ul style="list-style-type: none"> • Monitoring of fitness • Tracking of Training • Use of Media developments to look for opposition strengths and weaknesses e.g. hawkeye/prozone • Muscle activity analysis • Force and acceleration measurement • Altering of the training environment e.g. hypoxic chambers • Video analysis/computer animation • Use of thresholds of training and internal monitoring e.g. lactate , heart rates • Use of developed equipment and clothing <p>Counter Arguments</p> <ul style="list-style-type: none"> • Some sports reluctant to use technology • Is technology taking away from spontaneity in training? • When does technology end and cheating begin? <p>Other valid points to be credited where appropriate.</p>	20
Band	Description	
0	No rewardable material	0
1	<ul style="list-style-type: none"> • A limited discussion that includes descriptive comment and/or lists, with minimal or no detail. • Subject specific terminology is not used and/or inappropriately used • The response is mostly appropriate; though include many factual inaccuracies and irrelevancies. • The response is poorly structured with frequent errors in spelling, punctuation and grammar. 	1-5
2	<ul style="list-style-type: none"> • A basic discussion that includes mostly descriptive comment, and contain some detail. • Subject specific terminology is sometimes used, though there may be some inaccuracies in its application. • Responses are appropriate; though include some factual inaccuracies and/or irrelevancies. • The response has a basic structure with frequent errors in spelling, punctuation and grammar. 	6-10
3	<ul style="list-style-type: none"> • A good discussion that includes some detail. 	11-15

	<ul style="list-style-type: none"> • Subject specific terminology is consistently used, though there may be some inaccuracies in its application. • Responses are relevant and appropriate. • The response has a sound structure with some errors in spelling, punctuation and grammar. 	
4	<ul style="list-style-type: none"> • A comprehensive discussion that is coherent and includes a full detail. • Subject specific terminology is used with minimal error in its application. • Responses are insightful, realistic and current. • The response has clear and effective structure with minimal error in spelling, punctuation and grammar. 	16-20

Question Number	Indicative Content	Mark
Q12	<p>A discussion to include some of the following indicative content:</p> <p>The effects of:</p> <ul style="list-style-type: none"> • Home advantage • Crowd effect/proximity of the crowd • Importance of the competition • Evaluation apprehension • Environmental Factors • Coach • Officiating • Equipment/Technology • Social Facilitation • Scheduling of competition • Media/social media • Opposition • Pressure from sponsors <p>Any valid points to be credited where appropriate.</p>	(20)
Band	Description	

0	No rewardable material	0
1	<ul style="list-style-type: none"> • A limited discussion that includes descriptive comment and/or lists, with minimal or no detail. • Subject specific terminology is not used and/or inappropriately used • The response is mostly appropriate; though include many factual inaccuracies and irrelevancies. • The response is poorly structured with frequent errors in spelling, punctuation and grammar. 	1-5
2	<ul style="list-style-type: none"> • A basic discussion that includes mostly descriptive comment, and contain some detail. • Subject specific terminology is sometimes used, though there may be some inaccuracies in its application. • Responses are appropriate; though include some factual inaccuracies and/or irrelevancies. • The response has a basic structure with frequent errors in spelling, punctuation and grammar. 	6-10
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Total for Paper – 90 marks