

Mark Scheme

June 2013

GCE Physical Education (6PE01/01) Unit 1: Participation in Sport and Recreation

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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	Mark
1(a)	<ol> <li>Validity refers to whether the test measures the component of fitness required of it.</li> <li>Reliability refers to whether the test results can be trusted,         <ul> <li>accurate within the context of lack of measuring or human error</li> <li>whether the only changing variable would be one of fitness, that the protocol and environment (external variables) remain the same so that the results are repeatable</li> </ul> </li> <li>NB. Ref point 2; "Taking an average", without appropriate</li> </ol>	(2)
Question	context is too vague to score a mark  Answer	Mark
1(b)	NB No mark for Talent Identification e.g predicting potential.  NB No mark for "Fitness tests are conducted to improve fitness/performance".  1. To identify current fitness levels/ascertain if fit enough to compete. NB Health is not an appropriate answer.  2. To identify strength and weaknesses.  3. To plan a training programme.  4. To monitor the effectiveness of a training programme  5. To measure progress.  6. To gauge levels compared to previous standards / other competitors / national results.  7. To ascertain the effects of an injury.  8. To set short and long term goals  • SMART targets.  9. To influence motivation/confidence.	(4)

Question Number	Answer		Mark
1(c)	1 mark for any one endurance be 1 mark for any power based tes 1 mark each for any identified cappropriate to the identified fitn	t. omponent of fitness if it is	
	Endurance	e athlete	
	(NCF) Multistage     fitness test     Do NOT accept Bleep test	<ol> <li>VO2Max</li> <li>Do NOT accept</li> <li>Cardiovascular</li> <li>endurance / CV fitness</li> </ol>	
	3. Gas Analysis / Douglas Bag Test	4. VO2Max	
	5. Lactate blood testing	<ol><li>Lactate threshold / OBLA/ Anaerobic threshold</li></ol>	
	7. 12 minute Cooper Run / Harvard Step test	8. Cardiovascular endurance / aerobic fitness / CV fitness / VO2 Max	
	9. Localised Abdominal curl test / 25 rep max test	10.Muscular endurance	
	Power base		1
	11.30m flying sprint test 13.1 rep max / hand grip dynomometer	12.Speed 14.Max strength	-
	15.Sergeant Jump / standing broad (long)jump /	16.Power	(4)
	17. Wingate test	18. Anaerobic capacity	

Question Number	Answer		Mark		
2(a)	Benefit must be linked to a specific adaptation, e.g. increased SV (points 2, 12 & 16 only scores one mark for each adaptation linked to it).  NB adaptations must be cardiovascular and not cardio respiratory.				
	Adaptation	Benefit			
	1. Cardiac (heart) hypertrophy / or similar meaning eg increase heart size	2. Increased end diastolic volume / increased SV / increased Q / Bradycardia / greater 02 delivery / greater force			
	3. Increased S V	4. Greater O2 delivery per beat / Bradycardia			
	5. Increased Q	6. Greater O2 delivery per minute			
	7. Vascularisation / capillarisation	8. Greater rate of gas exchange of 02 / removal of CO2 / waste (eg lactic acid).			
	9. Increased production of EPO / RBC production	10.Greater O2 carrying capacity / increased aerobic fitness			
	11.Increased thickness of ventricular myocardial	12.Increased contractile force of contractions / Facilitates increased end diastolic volume / increased SV & Q. / > SV			
	13.Bradycardia	14.heart does not have to work as hard / greater fitness capacity			
	15.Heart grows stronger/Increased contractile force of Ventricular myocardia / cardiac contractions	16.Increased SV / Q			
	17.Increase blood/plasma volume	18.Increase thermoregulation/ reduce viscosity			
			(8)		

Question	Answer	Mark
2(b)	Max of any two from each category of speed, power, flexibility & CVE  If no link is provided to the specific components then candidates can score a maximum of 4 marks for identified changes.  NB No marks for loss of muscle fibres  NB No mark for atrophy for CVE  NB Muscles contract slower is too vague	
	<ol> <li>(Speed)</li> <li>muscle atrophy leading to</li> <li>Less powerful contractions or         <ul> <li>less frequent contractions leading to shorter and slower or stride length or</li> <li>loss of elasticity and contractile potential.</li> </ul> </li> <li>Reduced Anabolic capacity leading to         <ul> <li>less training or</li> <li>lower rate of fibre recruitment or</li> <li>lower rate of type IIb fibre recruitment or</li> <li>degeneration of neuron pathways</li> <li>loss of strength</li> </ul> </li> </ol>	
	(Power)  5. Reduced Anabolic capacity leading to 6. Less powerful contractions or • lower rate of fast twitch / type II fibre recruitment  7 Muscular atrophy leading to • Less muscle mass or  8. loss of strength or • degeneration of neuron pathways or • loss of elasticity and contractile potential  9. Less anabolic hormones leading to 10 Slower recovery time or • less training  Flexibility  11. Reduced muscle & tendon elasticity caused b 12. collagen fibres build up 13. Wear and tear of muscle and connective tissue • joint structure  14. Damage to Synovial membrane • less synovial fluid	
	<ul> <li>increased viscosity of synovial fluid</li> <li>C V Endurance</li> <li>15. Reduced MHR caused by</li> </ul>	

16. Reduced contractile elasticity of heart muscle reducing the potential for as many cardiac cycles in 1 minute Leading	(8)
to 17. reduced Q during maximal exercise	

Question Number	Answer	Mark
3 (a)	<ol> <li>Carbohydrates</li> <li>Fats</li> <li>Proteins</li> </ol>	(3)
Question Number	Answer	Mark
3 (b)	NB this question is about generic functions not specific minerals/vitamins.  Can only accept "healthy or health benefits" for vitamins.  1. Vitamins – Facilitate bodily function  • healthy or health benefits eg skin  • immune system(or similar)  • prevents deficiency illnesses.  2. Minerals- are structural  • present in chemical reactions.  • aid vitamin absorption  • essential to many bodily functions.  3. Water – Transport  • blood /osmosis  • thermoregulation  • cell function  • remove waste products.  NB No mark for "Hydration" it is a measure of water content so not a function of water.  4. Fibre – Digestion absorption/  • relieves constipation.	(4)

Question Number	Answer	Mark
4	Indicative content will largely identify the band in which an essay falls, the structure and quality of written communication (QWC) will help to identify the position within the band	
	Indicative content;	
	Candidates will be able to define what circuit training is, stating that it involves different exercises at different stations but offer little else. They might begin to identify that they can be designed for groups or individuals and with very little equipment.	
	Candidates will build on their understanding of what circuit training is and will begin to identify that a circuit can be set up with stations for different components, but they may be confused and suggest that one circuit can benefit several components of fitness.  Candidates will express clearly that a circuit can be designed to benefit a given component of fitness and will explain how the types of stations, duration at a station, rest period between stations number of stations and number of circuits completed will affect the component of fitness targeted.	
	Candidates will demonstrate a very clear understanding of how circuits can benefit two contrasting components of fitness. They will state the components and describe two circuits, illustrating clearly how they differ and so how they will benefit the required and stated components of fitness.	
	<ul> <li>e.g. for an aerobic station the following could be offered;</li> <li>Stations that require a greater amount of time at a given station with little rest in between and require the athlete to work at 60 - 75% of MHR</li> <li>Lots of stations performed in sequence with little rest in between in order to maintain a set / high HR</li> <li>Stations that work on different body parts, again enabling the athlete to work at a high intensity for a longer period.</li> <li>Repeated circuits</li> </ul>	
	<ul> <li>For a power athlete the following could be offered;</li> <li>Fewer stations with longer rest in between allowing for optimal recovery.</li> <li>Many stations but only performing for a short duration at each, again with longer rest periods</li> <li>Stations that are power based such as bounding etc</li> </ul>	(12)

Level	Mark	Descriptor
Level 0	0	No rewardable material
Level 1	1-3	<ul> <li>The candidate will accurately identify two contrasting components of fitness.</li> <li>Candidates will identify that circuit training involves working at different stations</li> <li>They may provide examples of the types of exercises that can be carried out.</li> <li>Purely descriptive</li> <li>They will make errors by stating that a circuit can aid many components of fitness at the same time</li> </ul>
		Candidates will produce brief and narrative answers, making simple statements, showing little relevance to the question. The material will be mostly generalised. No attempt at the analytical demands of the question.  The skills needed to produce effective writing will not normally be present. The writing may have some coherence and will be generally comprehensible, but lack both clarity and organisation. High incidence of syntactical and/or spelling errors.
Level 2	4-6	<ul> <li>Candidates will identify that circuit training involves working at different stations</li> <li>They may provide examples of the types of exercises that can be carried out.</li> <li>They may begin to identify that circuits can be adapted through types of exercise / no. of repetitions / number of sets / time at a station etc.</li> <li>The use of intensity might be generally appropriate for the two contrasting components of fitness, however the application might be more in tune with interval training.</li> <li>The answer will be generally descriptive but there will be examples of some discussion, i.e. referencing the intensity and type of circuit to the type of fitness benefit being targeted.</li> <li>Answers in this band will only adapt the intensity and recovery time between the two circuits. Other variables will not have been considered.</li> </ul>
Level 3	7-9	Candidates will produce statements with some development in the form of mostly accurate and relevant factual material. There will be some attempt at analyse, with limited success. Range of skills needed to produce effective writing is likely to be limited. There are likely to be passages which lack which lack clarity and proper organisation. Frequent syntactical and/or spelling errors are likely to be present.  • Candidates will identify that circuit training involves working at different stations  • They will identify that circuits can be adapted through types of exercise / no. of repetitions / number of sets / time at a station etc  • Contrasting components of fitness will be identified and the
		<ul> <li>Contrasting components of fitness will be identified and the intensities / different circuits will be related to these.</li> <li>The description and application will be clearly and accurately</li> </ul>

reflective of circuit training. Examples of how the circuits can be adapted other than by intensity will be included, i.e changing the types of exercises, e.g. for endurance...

- o Lots of stations performed in sequence with little rest in between in order to maintain a set / high HR
- Stations that work on different body parts, again enabling the athlete to work at a high intensity for a longer period.
- Repeated circuits
- E.g. for power / strength;
  - Fewer stations with longer rest in between allowing for optimal recovery.
  - Many stations but only performing for a short duration at each, again with longer rest periods
  - Stations that are power based such as bounding etc
- The answer will be have some descriptive content but will be more discussion based at the top ends of the mark band.

Candidates answers will show some understanding of the focus of the question and will be broadly analytical. They will, however, include material which is descriptive, and thus only implicitly relevant to the question's focus, or which strays from that focus. The candidate will demonstrate most of the skills needed to produce effective extended writing but there will be lapses in organisation. Some syntactical and/or spelling errors are likely to be present.

### 10-12

- Candidates will identify that circuit training involves working at different stations
- They will identify that circuits can be adapted through types of exercise / no. of repetitions / number of sets / time at a station
- Contrasting components of fitness will be identified and the intensities / different circuits will be related to these.
- Intensities might also be described in terms of a percentage rather than simply stating high or low.
- The answer will be predominantly discussion based with the contrasting fitness components being related directly to each element of the circuits being described.
- The discussion and application of how the circuits can be adapted will be thorough and will include the types of exercises that might be better suited to each type and also how the circuits can best be applied, i.e. order and sequence of exercises, types of exercises, number of circuits, duration of the training session.
- The best answers might also include two detailed circuits.

Candidates will offer an analytic response which is sustained and relates well to the focus of the question, and addresses the key issues contained in it. The analysis will be supported by accurate factual material, which is relevant to the question. The skills needed to produce convincing extended writing in place. Good organisation and clarity. Very few syntactical and/or spelling errors may be found. Excellent organisation and planning.

### Level 4

Question Number	Answer	Mark
_	<ul> <li>Max of 4 for constraints and 4 for the definitions.</li> <li>1. Opportunity;</li> <li>2. is defined as the chance to take part, a lack of money, access, resources can all contribute to deny people the opportunity to take part in physical activity.</li> <li>3. Provision;</li> <li>4. refers to whether or not the facilities that you require are available and accessible. A lack of facilities in a rural area can restrict physical activity.</li> <li>5. Esteem;</li> <li>6. is the degree to which you are regarded by others or how might regard yourself. Stereotypes which in turn fuel and perpetuate myths, (Black people cannot swim, White people cannot sprint),</li> <li>7. Time;</li> <li>8. or leisure time, is time away from compulsory activities that include eating, sleeping, working. A working single parent may lack time.</li> <li>9. Resources;</li> <li>10.refers to the physical equipment required to take part in an activity. Some activities require more resources than others (golf compared to jogging). People from low socio economic groups are more likely to lack resources.</li> <li>11.Fitness</li> <li>12.A lack of fitness may be perceived as justification for not taking part in physical activity due to an inability to cope with the demands of the (sporting) activity</li> <li>Fitness is defined as being able to meet the demands of the sporting environment</li> </ul>	
	<ul><li>13.Ability</li><li>14.A lack of experience or requisite skills can lead to people feeling unable to take part in physical activity</li></ul>	(8)

Question Number	Answer	Mark
6	1 mark for definition, max of 3 for target groups and max of 3 for each explanation.	
	<ol> <li>A target group is a group of people in society, linked by specific characteristics, with low participation rates with regards to physical activity         <ul> <li>struggles to access sport and or recreation.</li> </ul> </li> <li>Gender / Women</li> </ol>	
	<ul><li>3. Adult women are less likely to take part in physical activity in general.</li><li>4. Race / Ethnicity / religious minority</li></ul>	
	5. Different racial or ethnic groups are likely to take part in some activities, i.e. Asian boys may take part in cricket but not football	
	<ul> <li>Asian women may have cultural obstacles to group activities such as swimming.</li> <li>lack of role models</li> </ul>	
	<ul><li>6. Age (Elderly or young)</li><li>7. Elderly people may lack the physical fitness to take part in some sporting activities</li></ul>	
	8. Young (below teenagers) (particularly girls) may also be a target group for some sports	
	<ol> <li>Socio Economic Background.(Low economic group.)</li> <li>People with little disposable income may lack the resources to take part in physical activity.</li> </ol>	
	11.Disabled 12.Limited provision for disabled to take part in sport.	(7)

Question Number	Answer	Mark
7	1. Gifted and Talented 2. Run by the Youth Sport Trust and targeted at 14–17-year-olds in a range of sports and held at UKSIs, offering training and support.	
	3. World class pathways Performance Pathway at three key levels: World Class Podiur World Class Development and World Class Talent.	m,
	5. Sporting Giants/ Tall & Talented to identify tall athletes with the potential to join the performance programme	e
	<ul> <li>7. AASE</li> <li>9. Any correctly applied NGB initiative</li> <li>3. Advanced apprenticeships for sporting excellence,</li> <li>10. Described as appropriate applied NGB</li> </ul>	
	11. Talent transfer / talent swap shop  12. Provided the opportunity for existing athletes to try other Olympic sports  13. Pitch to  14. Aimed at apprenticeships in	
	podium football and Rugby who do not get contracts at 18 being able try out for other sports	to
	<ul> <li>15. Girls for Gold 16. Strategy using high profile female girls to encourage girls into sport.</li> <li>17. School Games 18. Annual school level Olymp</li> </ul>	
	(Sainsbury's style championship s- give young people experience of a large tournament	
	19. Sports search 20. On line system – measure biometrics and fitness to offer best fit sports	(6)
	21. Talented Athlete Scholarship Scheme 2012 (TASS)  22. is a Government funded programme to assist athletes with an opportunity of medalling at the 2012 Olympics	ng

Question Number	Answer	Mark
8(a)	<ol> <li>Any two out of the following</li> <li>The LTAD is a plan / programme designed to introduce people into sport</li> <li>And to plan a route or progression from grass roots to elite performer (progress up the pyramid) / identify potential elite performers.</li> </ol>	
	<ol><li>And beyond performance (retirement – coaching/officiating) / post physical maturation.</li></ol>	(2)
Question Number	Answer	Mark
8(b)	<ol> <li>The example MUST be related to a category to score a mark.</li> <li>Early Specialisation</li> <li>Sports such as gymnastics and swimming</li> <li>Late specialisation</li> <li>Team games and track and field athletics / sports that require strategically understanding.</li> </ol>	(4)
Question Number	Answer	Mark
8(c)	<ul> <li>NB: For a mark to be awarded for each stage (numbered 1 to 6), the stage must be correctly identified AND the description provided must be similar in meaning to any one of the bullet points listed underneath that stage. This means candidates are expected to name AND describe each stage of development for one mark, up to a total of 6 marks.</li> <li>If only one part is provided e.g. the name of the stage and not the description, no mark can be awarded. Or if only the description is provided and it does not indicate the name of the stage, no mark can be awarded.</li> <li>1. Fundementals.</li> <li>The main objective should be the overall development of the athlete's physical capacities and fundamental movement skills</li> </ul>	
	Basic fundamental skills are learnt  Learn to train. The main objective should be to learn all fundamental sports skills Further development or extension of basic skills being learnt and mastered/learn general overall sports skills  Train to train The main objective should be the overall development	

- of the athlete's <u>physical capacities</u> (focus on aerobic conditioning) and <u>fundamental movement skills</u>.
- Emphasis on building the basic fitness components of aerobic base, strength and speed as well as sports specific skills and fitness
- learning the correct techniques of fitness.

## 4. Train to compete.

- The main objective should be to <u>optimise fitness</u> <u>preparation</u>, <u>sport/event specific skills</u> and <u>performance</u>.
- Opportunity to perform within a competitive environment is required
- Inclusion of tactical skills /performing skills under a variety of competitive conditions during training

#### 5. Train to win.

- The main objective should be to maximize fitness preparation and sport event specific skills as well as performance
- athletes train to peak for major competitions
- training is characterized by high intensity and relatively high volume with appropriate breaks to prevent over training
- Technical and tactical skills as well as psychological fitness are learnt.

# 6. Retirement and active lifestyle.

- The main objective should be to retain athletes for coaching, officiating, sport administration
- To include movement into non competitive sports or lifetime sports.

**(6)** 

Question Number	Answer	Mark
9	Indicative content will largely identify the band in which an essay falls, the structure and quality of written communication (QWC) will help to identify the position within the band	
	Indicative content;	
	Candidates will offer accurate definitions of both deviance and commercialisation. They will state that deviance is linked due to the pressure / need to win.	
	Candidates will refer to the commercialisation of the games in 1984 and reference facts around that / why it happened. Candidates will refer to the growth of commercialisation in sport referring to the 1976 Montreal bankruptcy to the refusal of California to fund the 1984 games.	
	They will reference the involvement of Uberroth and the consequent commercial activities.	
	This will be linked to the growth of deviant behaviour from drug taking to cheating with examples provided for each. They will identify that commercialisation necessitates that sport generates money, to generate money the team / individual needs to be successful. Therefore there is an increased pressure to succeed – leading to increased likelihood of deviance.	
	They will refer to the growth of deviance and provide examples of failed drug tests etc.	
	Candidates will identify other forms of deviance i.e. Taking bungs / bribery / throwing the game, falsifying birth dates, intimidation / cheating etc.	
	They will refer to the huge growth of sport as a commodity and make reference to the money that is involved (salaries, sponsorship etc.)	
	They may refer to the creation of WADA as verification that deviance is growing.	
	Candidates will provide a discussion by offering an alternative view and challenge the fact that deviance is increasing and also that it existed before the commercialisation of sports, providing examples of deviance pre 1980.	(12)

Level	Mark	Descriptor
Level 0	0	No rewardable material
Level 1	1-3	<ul> <li>The candidate will demonstrate an understanding of the concepts of deviance and commercialisation.</li> <li>There will be an assumption that deviance is related to commercialisation.</li> <li>The answer will be purely descriptive.</li> <li>Candidates will produce brief and narrative answers, making simple statements, showing little relevance to the question. The material will be mostly generalised. No attempt at the analytical demands of the question.</li> <li>The skills needed to produce effective writing will not normally be present. The writing may have some coherence and will be generally comprehensible, but lack both clarity and organisation. High incidence</li> </ul>
		of syntactical and/or spelling errors.
Level 2	4-6	<ul> <li>The candidate will demonstrate an understanding of the concepts of deviance and commercialisation.</li> <li>The answer will be based around an assumption that deviance is related to commercialisation.</li> <li>There will be some acceptance that deviance might occur for other reasons.</li> <li>There will be some elements of discussion present in answers at the top of the band.</li> </ul>
		Candidates will produce statements with some development in the form of mostly accurate and relevant factual material. There will be some attempt at analyse, with limited success. Range of skills needed to produce effective writing is likely to be limited. There are likely to be passages which lack which lack clarity and proper organisation. Frequent syntactical and/or spelling errors are likely to be present.
Level 3	7-9	<ul> <li>The candidate will demonstrate a clear understanding of the concepts of deviance and commercialisation.</li> <li>The candidates will make reference to different types of deviance in sport, providing contemporary examples of each to support the points being made.</li> <li>Discussion will exist in the form of questioning whether deviant behaviour has increased, providing examples of deviant behaviour in the past.</li> <li>The candidate will provide examples of deviant behaviour and demonstrate the commercial advantages gained, however there will be equal representation of deviant behaviour that provided no commercial benefit.</li> </ul>
		Candidates answers will show some understanding of the focus of the question and will be broadly analytical. They will, however, include material which is descriptive, and thus only implicitly relevant to the question's focus, or which strays from that focus. The candidate will demonstrate most of the skills needed to produce effective extended writing but there will be lapses in organisation. Some syntactical and/or spelling errors are likely to be present.

Level 4	10-12	<ul> <li>The candidate will demonstrate a clear understanding of the concepts of deviance and commercialisation.</li> <li>The answer will be based around a discussion, identifying that commercialisation has grown in sport, but challenging the assumption that deviant behaviour is new / growing and therefore that it is directly related to commercialisation.</li> </ul>
		Candidates will offer an analytic response which is sustained and relates well to the focus of the question, and addresses the key issues contained in it. The analysis will be supported by accurate factual material, which is relevant to the question. The skills needed to produce convincing extended writing in place. Good organisation and clarity. Very few syntactical and/or spelling errors may be found. Excellent organisation and planning.

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