

Mark Scheme (Results)

Summer 2013

GCSE Physical Education (5PE03/01)

Unit 1: The Theory of Physical Education

## **Edexcel and BTEC Qualifications**

Edexcel and BTEC qualifications come from Pearson, the world's leading learning company. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information, please visit our website at [www.edexcel.com](http://www.edexcel.com).

Our website subject pages hold useful resources, support material and live feeds from our subject advisors giving you access to a portal of information. If you have any subject specific questions about this specification that require the help of a subject specialist, you may find our Ask The Expert email service helpful.

[www.edexcel.com/contactus](http://www.edexcel.com/contactus)

### **Pearson: helping people progress, everywhere**

Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at:

[www.pearson.com/uk](http://www.pearson.com/uk)

June 2013

Publications Code UG037249

All the material in this publication is copyright

© Pearson Education Ltd 2013

## 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.
- Mark schemes will indicate within the table where, and which strands of QWC, are being assessed. The strands are as follows:
  - i) ensure that text is legible and that spelling, punctuation and grammar are accurate so that meaning is clear*
  - ii) select and use a form and style of writing appropriate to purpose and to complex subject matter*
  - iii) organise information clearly and coherently, using specialist vocabulary when appropriate.*

## Section A: Computer Marked

Question Number	Answer	Mark
<b>1</b>	<b>A</b> Physical challenge; playing with friends; making new friends	<b>1</b>

Question Number	Answer	Mark
<b>2</b>	<b>C</b> Labelled C	<b>1</b>

Question Number	Answer	Mark
<b>3</b>	<b>D</b> 1500 m runner	<b>1</b>

Question Number	Answer	Mark
<b>4</b>	<b>B</b> Progressive overload	<b>1</b>

Question Number	Answer	Mark
<b>5</b>	<b>D</b> Weight	<b>1</b>

Question Number	Answer	Mark
<b>6</b>	<b>D</b> Carbohydrates	<b>1</b>

Question Number	Answer	Mark
<b>7</b>	<b>D</b> People	<b>1</b>

Question Number	Answer	Mark
<b>8</b>	<b>C</b> Cultural	<b>1</b>

Question Number	Answer	Mark
<b>9</b>	<b>A</b> Resources	<b>1</b>

Question Number	Answer	Mark
<b>10</b>	<b>A</b> You have 12 minutes to run as far as possible and you are allowed to walk.	<b>1</b>

Question Number	Answer	Mark
<b>11</b>	<b>C</b> A partner holds a metre rule and drops it, you catch it. The distance required to catch the ruler is measured	<b>1</b>

Question Number	Answer	Mark
<b>12</b>	<b>D</b> You measure the difference between your height when standing with your arm stretched upwards and the height jumped.	<b>1</b>

Question Number	Answer	Mark
<b>13</b>	<b>A</b> Specificity	<b>1</b>

Question Number	Answer	Mark
<b>14</b>	<b>B</b> FITT	<b>1</b>

Question Number	Answer	Mark
<b>15</b>	<b>C</b> 108 bpm : 144 bpm	<b>1</b>

Question Number	Answer	Mark
<b>16</b>	<b>C</b> Weaker bones	<b>1</b>

## Section B: ePEN Marking

Question		Answer	Do not accept	Additional Guidance	Marks	Total
17		<p>An <b>explanation</b> that makes reference to the following:</p> <p><b>Micronutrients</b></p> <ol style="list-style-type: none"> <li>Insufficient can lead to deficiency illnesses <b>OR</b> lack of <u>vitamins/minerals</u> can lead to ill health/ <b>OR</b> micronutrients are <u>vitamins and minerals</u> (1)</li> <li>for example, without enough calcium an individual could suffer with osteoporosis/weak bones making it difficult to lead a healthy, active lifestyle (1)</li> </ol> <p><b>OR</b> (if approached from positive viewpoint)</p> <ol style="list-style-type: none"> <li>(The correct ratio of) micronutrients are vitamins <u>and</u> minerals <b>OR</b> they help to maintain health/body systems (1)</li> <li>For example, iron prevents anaemia. <b>OR</b> vitamin D helps increase strength of bones (1)</li> </ol>	<p><i>Pt 2.</i> <i>Keep us fit</i></p> <p><i>Pt 3.</i> <i>Answer that includes a list of more than vitamins and minerals or 'bodily functions'</i></p>	<p>Explanation must be linked to correct aspect of diet.</p> <p><i>Pt 1.</i> Credit other specific examples of impact of vitamin or mineral deficiencies</p> <p><i>Pt 2/4.</i> Credit other <u>specific</u> examples of impact of health but must state vitamin or mineral name and purpose, e.g. calcium to strengthen bones</p>	2x1	(2)

Question		Answer	Do not accept	Additional Guidance	Marks	Total
18	a	<p>One purpose from:</p> <ul style="list-style-type: none"> <li>• increase participation/encourage people to participate/get people active (1)</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• keep/remain/regular/retain people in sport (1)</li> </ul> <p><i>Credit <u>increase/maintain</u> health/fitness (as ultimate aim of initiatives)</i></p>	<p><i>Start, stay, succeed on own.</i></p>	<p><i>Credit response that indicates opportunity is being given, i.e. any alternative for getting people to start or helping them to stay involved</i></p> <p><i>If stated credit response related to talent identification e.g. spot young players with high ability</i></p>	1x1	(1)

Question		Answer	Do not accept	Additional Guidance	Marks	Total
18	b	<p>A description that makes reference to any one of the following developed points:</p> <ol style="list-style-type: none"> <li>Improves social health through involvement with others through participation (1) rather than being isolated (1) <i>Additional example answer: Social benefit through making friends(1) improving their ability to interact/work with others</i></li> <li>Improves physical health through weight reduction <u>if overweight</u> (1) e.g. less chance of diabetes (1) <i>Additional example answer: healthier because drop in blood pressure(1) leading to less chance of CHD (1)</i></li> <li>Improves physical health through improving fitness (1) e.g. reduces risk of heart disease (1) <i>Additional example answer: keeping fit gives you better health (1) leading to drop in cholesterol levels (1)</i></li> <li>Improves mental health through positive use of time/don't sit at home bored (1) if previously unengaged (1) <i>Additional example answer: mentally better due to stress relief (1) therefore less likely to suffer with depression (1)</i></li> </ol> <p><i>Accept other health benefits if linked with becoming more active</i></p>	<p><i>Do not accept the following:</i></p> <ul style="list-style-type: none"> <li><i>A description that does not link to the stated purpose</i></li> <li><i>Purposes relating to healthy diet</i></li> <li><i>Purpose relating to education unless in context of increasing participation</i></li> <li><i>Improves health unless qualified</i></li> </ul>	<p>Pt 2 accept other <u>long term</u> benefits to physical health, e.g. (retain) can lead to increased bone density <u>therefore less</u> risk of osteoporosis</p> <p>If (a) is blank DO NOT mark (b)</p> <p>If the response given for Q04a is incorrect, but the description provided for Q04b is correct, the candidate is able to access the full mark range for Q04b.</p>	1x2	(2)

Question		Answer	Do not accept	Additional Guidance	Marks	Total
19	(a)	<p>Any <b>one</b> of the following:</p> <ul style="list-style-type: none"> <li>• PAR-Q</li> <li>• PARQ</li> <li>• Physical activity readiness questionnaire</li> <li>• Personal activity readiness questionnaire</li> <li>• Physical readiness assessment questionnaire</li> </ul>	<p><i>Anything else</i></p> <p><i>Phonetic spelling for PAR-Q</i></p> <p><i>PARQ</i></p> <p><i>PAQ</i></p>	<p><i>must be correctly stated</i></p> <p><i>Accept phonetic spellings for rest of correct answers</i></p> <p>Only accept <b>FIRST</b> response given on line.</p>	1x1	(1)
19	(b)	<p>An <b>explanation</b> that makes reference to any <b>two</b> of the following points to develop response:</p> <ol style="list-style-type: none"> <li>1. (A form of ) <u>physical</u> activity</li> <li>2. (That if completed regularly can) to improve fitness/ cardiovascular fitness (and health)</li> <li>3. It is not competitive (sport)</li> </ol>	<p><b>Pt 2</b> specific aspects of fitness e.g. strength</p> <p><b>Pt 2</b> health/stamina</p> <p><b>Pt 3</b> response that says can be either/both competitive/ non-competitive</p>	<p><b>Point 2</b> <i>Accept fitness on own as health mentioned in question</i></p> <p><b>Point 2</b> <i>Accept done to get fit OR for fitness/CV fitness</i></p>	1x2	(2)

Question	Answer	Do not accept	Additional Guidance	Marks	Total
20 (a)	<p><i>Credit any specific technique or description of action where strength is critical to performance. E.g.</i></p> <ul style="list-style-type: none"> <li>• Hitting the ball hard (squash)</li> <li>• Holding off tackle (rugby)</li> <li>• Sprinting between hurdles (hurdles)</li> <li>• Knockout in boxing</li> <li>• Holding body weight (gym)</li> </ul> <p>Accept strength as aspect of 'power'.</p>	<p><i>Do not accept examples where strength would not be of benefit</i></p> <ul style="list-style-type: none"> <li>• Fitness tests</li> </ul>	<p><i>Answer must link to named activity.</i></p> <p><i>If no named activity or generic activity (e.g. athletics) use first stated activity in candidate responses as activity for all aspects of question</i></p>	1x1	(1)
20 (b)	<p><i>Credit any specific technique or description of action where muscular endurance is critical to performance. (Not 100m) E.g.</i></p> <ul style="list-style-type: none"> <li>• Still getting into correct position on court in fifth game (squash)</li> <li>• Towards the end of the match still able to tackle (rugby)</li> <li>• Play 90 minutes of game (without muscles tiring)</li> <li>• Last 50m of 400m (hurdles)</li> </ul> <p>Accept example that implies <u>muscles</u> have been working for extended periods.</p>	<p><i>Do not accept the following:</i></p> <ul style="list-style-type: none"> <li>• Anaerobic activities</li> <li>• Any correct answer from (a)</li> <li>• Running/jogging</li> <li>• Fitness tests</li> </ul>	<p><i>Answer must link to named activity.</i></p> <p><i>If no named activity use first stated activity in candidate responses</i></p>	1x1	(1)
20 (c)	<p><i>Credit any specific technique or description of action where flexibility is critical to performance. E.g.</i></p> <ul style="list-style-type: none"> <li>• Stretch to reach drop shot (squash)</li> <li>• During tackling (rugby)</li> <li>• Technique when clearing hurdle</li> <li>• Splits (gym)</li> </ul> <p>Accept example linked to increase pace; good technique; increased range of motion or technique where evident that flexibility required, e.g. 'splits'; Fosbury Flop.</p>	<p><i>Do not accept the following:</i></p> <ul style="list-style-type: none"> <li>• Any correct answer from (a) or (b)</li> <li>• Stretching</li> <li>• Fitness tests</li> </ul>	<p><i>Answer must link to named activity.</i></p> <p><i>If no named activity use first stated activity in candidate responses</i></p>	1x1	(1)

Question	Answer	Do not accept	Additional Guidance	Marks	Total
21	<p>An <b>explanation</b> that makes reference to <b>three</b> of the following:</p> <ol style="list-style-type: none"> <li>1. Resting heart rate is lower because this is the heart rate whilst the individual is inactive (1)</li> <li>2. At rest the body has its lowest demand on the circulatory system/lower demand for oxygen/less blood flow/less CO<sub>2</sub> (1)</li> <li>3. <u>therefore</u> resting heart rate does not need to be high/heart doesn't need to work as hard (1)</li> <li>4. recovery heart rate is higher as the body needs increased blood flow/more oxygen to recuperate after exercise/pay back oxygen debt (1)</li> </ol>		<p><i>Pt 2 - at rest muscles don't need as much O<sub>2</sub></i></p> <p><i>Pt 4 Accept specific example of 'recuperate' for credit, e.g. more oxygen to pay off oxygen debt; to remove lactate/lactic acid</i></p>	1x3	(3)

Question	Answer	Do not accept	Additional Guidance	Marks	Total
22 (a)	<ul style="list-style-type: none"> <li>• Measureable</li> </ul>	<i>Anything else</i>	Accept - Phonetic spelling:  Only accept <b>FIRST</b> response on line.	1x1	(1)
22 (b)	Credit explanation consisting of any <b>three</b> aspects of linked explanation:  <ol style="list-style-type: none"> <li>1. B is time bound/has time limit/time frame (1)</li> <li>2. this means the performer has a <b>deadline/endpoint</b> by which to achieve their target/they have given themselves a month to <b>complete</b> /when to <b>achieve/accomplish</b> by(1)</li> <li>3. therefore each session they can see if they are moving closer to their target or if it needs to be re-established (1)</li> <li>4. This will allow them to maintain their motivation (1)</li> </ol>	<i>Do not credit reference to other aspects of SMART principle</i>  <i>Pt 1 - No credit for stating 'B' without explanation</i>	<i>Point 1 - Credit first point if candidate makes this point by referring to A and C as not being time-bound or provides actual statement from question and says time-bound</i>  <i>Point 3/4 only credit if clear this is in relation to time bound (i.e. not 'measureable' target)</i>	3x1	(3)

Question	Answer
23	A discussion of the relative importance of agility and reaction time in activities like badminton and 400m that makes reference to:
<p><b>Indicative content</b></p> <p><b>A - Definition of terms unrelated to activities - Simple statements</b>  Agility is being able to change position quickly (and to control the movement of the whole body)  Reaction time is the time between the presentation of a stimulus and the onset of movement</p> <p><b>B - Importance in badminton (NB Must be applied to appropriate sporting situation)</b>  <b>Badminton player - Agility</b></p> <ul style="list-style-type: none"> <li>• agility required <u>to</u> allow <u>quick</u> change of direction after completing one shot to play the next (SS) <u>e.g.</u> from backhand clear to front court forehand net shot (DS).</li> <li>• <i>Response needs to relate to agility rather than speed, however, given dimensions of badminton court if talking of 'covering court when returning shuttle' this implies need for change in direction (DS)</i></li> </ul> <p><b>Badminton player - Reaction Time</b></p> <ul style="list-style-type: none"> <li>• Reaction time required <u>to</u> change decision based on new information (SS) <u>e.g.</u> when shuttle hits top of net and changes flight path/to deal with an unexpected shot</li> <li>• OR <u>because</u> shuttle moves quickly very little time (SS) <u>to</u> decide where shuttle is going/how to respond (DS)</li> </ul> <p><b>C - Importance in 400m (NB Must be applied to appropriate sporting situation)</b>  <b>400m runner Agility</b></p> <ul style="list-style-type: none"> <li>• Agility used running bends (at speed) (SS) <u>to</u> allow them to maintain pace/lane positioning (DS).</li> <li>• Not used much in 400m <u>as</u> not changing direction (SS) <u>but</u> do need to stay in lane and run bends/need some agility to move from start position to sprint position efficiently (DS)</li> </ul> <p><b>400m runner - Reaction Time</b></p> <ul style="list-style-type: none"> <li>• Reaction time required to respond quickly to the starter's gun (SS) without it they will set off after others giving them a disadvantage/need it to get in front of others (DS)</li> </ul> <p><i>Credit discussion of these components in relation to other components if discussing 'relative' importance</i>  <i>e.g. Agility is not vital in 400m compared to badminton as not changing direction in 400m (SS) power is much more important <u>because</u> need this to be the fastest over distance (DS)</i></p> <p><b>D - Relative importance (accept other accurate/reasonable alternate arguments)</b></p> <ul style="list-style-type: none"> <li>• Both agility &amp; reaction time important to badminton player. Without agility all opponent needs to do is move them around court to win points.(SS) Without good reaction time they will be too slow in deciding what shot to play so either miss the shuttle or give opponent too much time to play their next shot.(DS)</li> <li>• Reaction time more important to sprinter <u>because</u> limited need for agility in event as part of event is run on straight track/not trying to avoid other runners <u>whereas</u> essential they get a good start (DS)</li> </ul> <p><i>Credit discussion around relative importance of components for one activity compared to the other, e.g. both components more important to badminton players than 400m runner because used throughout the game e.g. quickly changing direction to retrieve a shot compared to 400m runner who only uses agility to run bends</i></p> <p><b>E - Possible 'arguments' for conclusions</b></p> <ul style="list-style-type: none"> <li>• However, good agility more important to a badminton player than reaction time because if they can't change direction quickly they won't be able to cover the court and return shots.</li> <li>• However, good reaction time more important to a badminton player than agility because if they can't make quick decisions they won't be able to outwit their opponent and therefore they won't be able to win rallies.</li> </ul>	

Level	Mark	Descriptor
Level 0	0	No rewardable material
Level 1	1-2	<p>i) A number of <b>simple statements</b> that identify a benefit of agility or reaction time for badminton players <b>and/or</b> 400 m runner E.g. good agility will allow badminton players to change direction quickly on court. Allows 400 m runner to run bend in track</p> <p>ii) A <b>developed</b> statement (discussing why agility/reaction time is important to specific activity) E.g. A fast reaction time is vital in badminton <b>because</b> the shuttle travels at high speed eg smash so there is little time to make an effective decision.</p> <p>Candidates will produce brief and narrative responses, making a limited number of simple statements, probably with limited reference to the question. Little knowledge and understanding of the range of requirements. Responses produced by candidates will be mostly generalised, and may not fully address the requirement of the question to discuss the relative importance of agility and reaction time on performance</p> <p>Candidates' writing communicates ideas using everyday language, but lacks clarity and organisation. There will be frequent errors in candidates' spelling, grammar and punctuation.</p>
Level	Mark	Descriptor (Question 16)
Level 2	3-4	<p>i) <b>Developed statements</b>, i.e. simple statements with explanation or additional information about the importance to performer. E.g. good reaction time is essential to both performers for following reasons....</p> <p>ii) Developed statements providing 'weighting' of importance. E.g. of the two components, reaction time is more important to the runner because...</p> <p>iii) Basic (but accurate) conclusion in line with previous points.</p> <p>Candidates' responses will be mostly accurate and include relevant factual material. Some knowledge and understanding of the importance of agility and reaction time. Candidates will have addressed the requirement of the question to discuss the relative value of each component in relation to performance with some success.</p> <p>Candidates' writing communicates ideas with accurate use of appropriate terminology, and the organisation of the response shows some direction and control. There will be few errors in spelling, punctuation and grammar.</p>
Level 3	5-6	<p>i) Developed statements (using relevant examples) <b>balanced and succinct</b>.</p> <p>ii) <b>Conclusion</b> provided based on points raised</p> <p>Candidates will offer factually accurate and sustained responses that relate well to the focus of the question and successfully addresses the discursive demands. Sound knowledge and understanding of these components of fitness and their relative importance. The discussion will be supported by accurate factual material that is relevant to the question. The relative importance of each to performance will be fully discussed with appropriate conclusions reached. Candidates' writing communicates ideas effectively using appropriate terminology, and organises material clearly and coherently. Spelling, punctuation and grammar will be accurate throughout the response.</p>

Further copies of this publication are available from  
Edexcel Publications, Adamsway, Mansfield, Notts, NG18 4FN

Telephone 01623 467467  
Fax 01623 450481  
Email [publication.orders@edexcel.com](mailto:publication.orders@edexcel.com)  
Order Code UG037249 Summer 2013

For more information on Edexcel qualifications, please visit our website  
[www.edexcel.com](http://www.edexcel.com)

Pearson Education Limited. Registered company number 872828  
with its registered office at Edinburgh Gate, Harlow, Essex CM20 2JE

Ofqual  




Llywodraeth Cynulliad Cymru  
Welsh Assembly Government

