



# **GCE MARKING SCHEME**

## **PHYSICAL EDUCATION AS/Advanced**

**JANUARY 2012**

## **INTRODUCTION**

The marking schemes which follow were those used by WJEC for the January 2012 examination in GCE PHYSICAL EDUCATION. They were finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conferences were held shortly after the papers were taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conferences was to ensure that the marking schemes were interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conferences, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about these marking schemes.

## PE2

- Q.1 (a) (i) **Identify one specific skill from your chosen practical activity and classify that skill on the continua below.** [3]

There are no marks for placing the skill on the continua but they have to be roughly in the correct position. The marks are awarded for justifying the answer. The skill has to be an accepted practical activity.

- Open/Closed – constantly changing environment or where environment stays the same
- Gross/fine – Large, whole body movements utilising the larger muscle groups or smaller more precise movements using smaller muscle groups.
- High organisation/low organisation – difficult to break down into sub routines or can be broken down into constituent parts.

3 x 1 mark

- (ii) **Using examples, explain how a teacher/coach could use variable practice to help prepare a performer to cope with open factors in sport and physical activity.** [3]

**All statements need to be qualified.**

- Varied practice – set up practices/drills that replicate game situations.
- Develop selective attention – Use of demonstration or modelling.
- Simple practices developing to more complex practices or similar
- Use of specific guidance
- Feedback ... different types (requires amplification)

1 mark for explanation of varied practice  
1 mark for brief description of the session  
1 amp

- (b) Describe the strategies a coach would use to develop sporting performance during the cognitive stage of learning. [4]

No marks for pure description of phase.

1 mark for description of characteristics of cognitive phase of learning e.g. beginner, slow progress, lots of mistakes etc.

**Possible strategies:**

- Give extrinsic feedback – types (requires amplification)
- Develop intrinsic motivation
- Give positive reinforcement
- Set realistic goals
- Use appropriate observational strategies – demonstrations/video
- Select appropriate practice method e.g. whole/part/whole
- Keep instruction simple/to a minimum/do not overload with information
- Provide extrinsic rewards
- Mechanical guidance
- Make activity fun and enjoyable
- Leadership styles (requires amplification)

4 x 1 for clear strategies on developing performance

Or 2 x 2 for amplified response on strategies and good application.

- Q.2 (a) (i) Complete the table for an interval training session focussing on developing a component of fitness of your choice. Explain your answer in the space provided. [3]

Table – The rests/reps/recovery must represent the component of fitness identified (exact numbers can vary).

- **Speed/strength/power**
  - High intensity exercise e.g. 90-100% max
  - Low reps (0-8 max)
  - Long recovery (3-4 mins between each set)
- **Anaerobic endurance/lactic tolerance**
  - Training will have slightly less (70-90%) intensity with
  - Shorter recovery time
- **Aerobic**
  - Longer duration activity working below anaerobic threshold
  - Less recovery time

1 mark for table/information representing the component of fitness

2 x 1 marks for explanation

**(ii) Describe in detail how the principles of training could be applied to further develop the component of fitness named in 2a(1).**

The answer should focus primarily on overload and progression. Specificity will be marked correct if it relates to the component of fitness.

1 mark if frequency/intensity and time are explained but there is no examples or specific training information.

2/3 marks if intensity, duration or frequency is clearly explained and specific information/examples are provided from one session to another.

**(b) Having developed the component of fitness in 2(a)(i) identify two physiological adaptations you would expect to occur and explain the effect the adaptations could have on your sporting performance. [4]**

The adaptation must relate to the type of interval training that the candidate has answered in 2(a)(i).

**Aerobic** – The candidate must identify the adaptation and explain how it improves performance

- Increased alveoli/capillarisation in lungs
- Hypertrophy of respiratory muscles
- Hypertrophy of cardiac muscles
- Improved vasomotor control
- Increased red blood cells
- Increased capillarisation at muscles
- Increased myoglobin content
- Increased number of mitochondria
- More efficient use of aerobic sources of fuel

**Performance benefits include efficiency in:**

- Work aerobically for longer/take longer to reach anaerobic threshold
- Faster recovery time
- Faster removal of lactic acid
- Faster replenishment of glycogen and CP stores
- Faster re saturation of myoglobin stores

**Anaerobic Adaptations include:**

- Muscular hypertrophy
- Increased cp stores
- Increased glycogen stores
- Increased nerve conduction velocity
- More Type IIb fibres (fast twitch fibres)
- Increased tolerance to lactic acid (buffering).

**Benefits Include:**

- Increase force production
- Increased max power output
- Increased tolerance to lactic acid
- Increased strength

If the candidates merely state they jump higher or become faster, then this is not sufficient there must be some link to a specific sporting situation or linked to force/power output or the adaptation.

(2 x 2 marks).

**Q.3 (a) Describe the possible reasons for social loafing within a team and explain the strategies a coach could use to minimise its effect. [5]**

Possible causes of social loafing (max 3 x 1 marks)

- A performer perceives others as working less hard than themselves and therefore has an excuse not to do so themselves
- Belief that their own efforts will have little impact to the team
- Lack of intrinsic motivation
- An individual may think that their contribution will not be noticed within the team. Individuals feeling 'off form' believing others will cover for them.
- Perceived standard of opposition – if the individual believes them to be inferior then there is a lack of effort.

What a coach can do to minimise the effects of social loafing (max 3 x 1 mark or 1 plus amp).

- Make every player realise the importance of their contributions to the team
- Give responsibilities to different players e.g. in charge of set pieces or defence at the back
- Vary the role or positions of the players within the team to give an understanding of the different roles within the team
- The coach needs to realise where loafing is more likely to occur e.g. after a long tournament when fatigue could be an issue.
- Use video and notational analysis to monitor the performance of all the players during training and matches
- Publicly acknowledge/praise both individual and team performance to help motivation
- Make the team aware that the coach understands loafing as a whole and will be scrutinising performances
- Speak to individuals in private regarding loss of form and lack of motivation when playing.
- Set individual goals
- individual personality profiling

**(b) Using examples, where appropriate, explain the reasons why some athletes have a very positive attitude towards sport. [5]**

- Success in or satisfaction from participation /enjoyment/achieving targets/good
- Experiences
- Belief in the value of the activity
- Opportunities and regular participation (behavioural)
- Encouragement of 'significant others' /amp
- Positive self concept – willing to try/intrinsic motivation
- Extrinsic motivation
- Individual's personality

If no examples are provided **then max of 3 marks** awarded  
1 + 1 for answer and relevant example.

**Q.4 (a) What is the anaerobic threshold and why is knowledge of this threshold useful when designing exercise programmes? [4]**

- Anaerobic threshold is the point at which more energy is produced anaerobically than aerobic (around 65-80% of max HR depending on fitness)
- Working close to it can improve aerobic endurance
- Exercising below threshold helps retain glycogen stores during competition or training
- Exercising below threshold helps retain CP stores during competition or training
- Exercising below the threshold reduces build up of lactic acid
- Anaerobic threshold allows the setting of targets/monitors progress
- Give a specific target to work to.

1 mark for explanation of aerobic threshold  
3 x 1 marks + 1 amp/example of training

**(b) Using specific examples explain how your sporting performance has been monitored in your chosen activity. [6]**

The full 6 marks can be gained from using only 1 method of monitoring performance e.g. see fitness testing below.

- **Fitness testing**

All marks can be obtained from this area if the candidate covers the following:

- Identifies relevant tests applicable to their sport (clearly name tests)  
Max 1 mark
- Explains the testing procedures and how they have ensured reliability and validity (Max 4 marks if examples are used)
- Retesting of components after a period of time (Max 1 mark)
- Compares results with previous scores, others in group etc (max 2 marks)

Marks can also be obtained by using examples of a number of monitoring systems.

Other monitoring methods include:

- Self assessment
- Coach feedback
- Diaries/journals/logs
- Match analysis/stats
- Psychological questionnaires/interview/observation
- **Self-assessment**
  - Clearly identifies various physical/technical/tactical/psychological factors associated with their sport (max 4 marks but brief examples can be used. In order to achieve the full 4 marks examples must be provided from each of the 4 areas)
  - Brief explanation of how the discrepancy scores work
  - Carry out further self assessment
- **Coach feedback**
  - 1 mark for brief outline of feedback provided by coach
  - 2/3 marks if the candidate provides specific information on how coach has helped develop performance e.g. Tactical strategies
- **Notational/Video analysis**
  - 1 mark for brief outline of information provided by analysis
  - 2/3 marks if the candidate provides specific information from analysis on performance e.g. passing statistics.



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|-----------|--|
| 1-2 marks | Brief explanation of a method(s) of monitoring sporting performance with limited use of examples.        |
| 3-4 marks | More detailed explanation of methods of monitoring sporting performance with examples to support answer. |
| 5-6 marks | Detailed explanation of methods of monitoring sporting performance with clear examples related to sport. |

(If examples are not used then max of 2 marks).

**Q.5 'Nutrition and exercise are the main factors in reducing the threat of obesity and other associated diseases'. Discuss.**

**Exercise – a**

- Exercise can help burn off many of the calories that have been consumed in a meal.
- Exercise can increase the ratio of High Density Lipoproteins to that of Low Density Lipoproteins
- Reducing cholesterol
- This can help achieve a negative energy balance if an individual is attempting to lose weight
- Maintaining the elasticity of arteries and arterioles therefore reducing the risk of hypertension
- Raise the basal metabolic rate
- Increasing the efficiency of the respiratory system
- Counteracts the deterioration of bones and joints
- Other adaptations of heart, lungs, muscles etc

**Balanced Diet**

- Controlling calorie intake
- Energy balance, constituents, linked to vitamins/minerals health etc
- Understanding the importance of reducing fats and the problems associated with a high fat diet
- Problems with saturated fats and trans fats linked to cholesterol and very high in calories
- Can increase the ratio of High Density Lipoproteins to that of Low Density Lipoproteins which reduces the overall effect of cholesterol
- Reducing cholesterol

**Other areas**

The essay must predominantly focus on nutrition and exercise although if smoking, alcohol, drugs or stress (over eating/anorexia). Also facilities and local, national schemes e.g. healthy schools. Individual influences e.g. family and friends.

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|----------------|------------|---|
| <b>Level 1</b> | <b>1-4</b> | the candidate demonstrates some knowledge and understanding of the effects of diet and exercise on obesity and associated diseases. Some relevant examples are provided but are made in isolation. A few relevant points are listed and there is a possible tendency to focus heavily on one discipline or treat them in a superficial way. Ideas are expressed in a simplistic but clear manner. Errors in grammar, punctuation and spelling are noticeable and intrusive. |
|----------------|------------|---|

<b>Level 2</b>	<b>5-7</b>	the candidate demonstrates good knowledge and understanding of the effects of diet and exercise on obesity and associated diseases. They are able to use some specialist vocabulary and are able to link factors together that prevent obesity/associated diseases. E.g. Lower calorie intake through nutrition as well as increased exercise will help achieve a negative energy balance. Ideas are expressed in a clear, logical manner. Errors in grammar, punctuation and spelling occur but do not suggest weakness in these areas.
<b>Level 3</b>	<b>8-10</b>	the candidate demonstrates very good knowledge and critical understanding of the link between diet/exercise and nutrition. They explain in detail; using specialist terms and examples of how both diet and exercise enhance health, reduce the impact of obesity and other associated diseases. Complex ideas are expressed with clarity. There are few, if any errors in SPG.



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