



GCE MARKING SCHEME

PHYSICAL EDUCATION AS/Advanced

JANUARY 2014

INTRODUCTION

The marking schemes which follow were those used by WJEC for the JANUARY 2014 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.

GCE PHYSICAL EDUCATION - PE2

Mark Scheme - January 2014

Q.1 (a) What is democratic leadership? Describe the potential benefits of a coach adopting such a style. [3]

- Democratic leadership - when the group is fully involved in the decision-making/processes/direction/game plan, etc. of the team.
- Positive contribution of group leads to increased motivation.
- Chance of more/different ideas to work with.
- Increased responsibility within group due to involvement of ideas.
- Helps cultivate decision-makers within the group.
- Helps develop inter-personal relationships within the group.

1 mark - Democratic leadership
2x1 marks

Q.1 (b) (i) What are the potential problems associated with using tangible rewards as a way of motivating a sportsperson? [3]

- Too many rewards may lead to loss of intrinsic motivation
- Become dependent on rewards e.g. Money
- Removal of tangible reward leads to de-motivation
- Too many/much rewards e.g. money/trophies begin to mean nothing, leading to loss in motivation
- Increase pressure on sportsperson for success.

3x1 marks

(ii) Apart from the use of tangible rewards, how could a coach increase levels of motivation in a team who are consistently underachieving? Provide examples to support your answer. [4]

- Make training fun/enjoyable
- Use of external rewards/prizes/equiv
- Use of role models other team's performances
- Use praise/verbal encouragement/reinforcement/positive feedback
- Emphasise personal improvement in training or during matches
- Set personal goals/challenges
- Avoid punishment
- Immediate reinforcement during matches of good play

2x2 (Must have an example otherwise no mark for Amp)

Q.2 (a) (i) Describe the body's usage of fats and carbohydrates varies as exercise intensity increases. [3]

- Fats require 15% more oxygen to be metabolised (or similar)
- Individual levels of aerobic fitness will affect and carbohydrate usage
- The body will always be using relative proportions of fats and carbohydrate
- During low intensity exercise fats are the predominant source of energy
- As exercise intensity increases then there is a increase in carbohydrate usage
- During anaerobic exercise, carbohydrate is the predominant source of energy.

4x1 marks

(b) (i) Explain the potential health benefits of a diet that includes low glycaemic carbohydrates. [3]

- Low glycaemic carbohydrates release energy at a slow rate
- Leave individual feeling fuller, less change of snacking
- Less chance of energy being stored as fat
- Does not cause and insulin spike

3x1 marks

(b) (ii) Explain the potential health problem associated with over consumption of saturated fats and high glycaemic carbohydrate [4]

- Increase calorie intake lead to obesity
- High G.I. foods can lead to a spike in insulin – diabetes
- Any glucose not burned can be stored as fat
- Saturated fats can lead to increase in LDL cholesterol
- Lead to atherosclerosis/arteriosclerosis/increased blood pressure
- Lead to heart attack/stroke

4x1 marks

Q.3 (a) (i) Using examples from your sporting activity, describe the factors that could affect your response time. [5]

- Type of stimuli – sound fastest;
- (Previous) experience/anticipation of the movement (accept reverse);
- Gender – Males have shorter/quicker response times than females;
- Age – response time decrease with age;
- Intensity of the stimulus – ball colour/speed of delivery;
- Concentration levels/distractions/selective attention/stimulus overload;
- Playing environment – surface/weather/lighting;
- Physical fitness/injury/fatigue;
- Duration of the movement /reaction time/number of choices/stimuli/Hicks law;
- Level of arousal/drugs/alcohol/state of mind/anxiety;
- Psychological refractory period/deception/faking from opposition;
- Stimulus-response compatibility;
- Length of neural pathways

In order to learn new skills, a sports person needs to remember important instructions and information about how the skill is performed.

(b) (ii) Describe the strategies a coach or teacher could use to ensure that important information is stored in the sports person's long-term memory. [5]

- Rehearse and repeat the movement action that is being taught
- Reinforce key aspects of the performance e.g. grip in tennis
- Link or associate information to previous experience within the same or other sports, e.g. throwing a rounder/cricket ball and throwing a javelin
- Only include specific relevant information. This can help prevent information overload
- Make stimulus more intense and recognisable e.g. Coach highlights when an aspect of performance occurs e.g. calling now when they want a long jumper to carry out a leg shoot prior to landing.
- Group of chunk information together
- Use imagery.

5x1 or

2x2 amp if detailed explanation including example

Q.4 (a) (i) Explain how a high level of aerobic fitness could benefit an individual's sporting performances.

[4]

Aerobic adaptations

- Increased alveoli/capillarisation in lungs
- Hypertrophy of respiratory muscles
- Hypertrophy of cardiac muscle
- 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

Aerobic Benefits include improved efficiency in: -

- Increased oxygen uptake
- Transport of oxygen to cells
- Use of oxygen in cells
- Overall improved VO₂ Max
- Faster removal of lactic acid
- Faster replenishment of CP and glycogen stores

Benefits to sporting performance

- Longer to reach anaerobic threshold
- Maintain CP and glycogen stores for longer
- Work for a higher intensity for longer
- Increased stroke volume
- Increased max cardiac output
- Faster recovery time

1-2 marks

There is some understanding of the benefits of aerobic fitness. The candidate focuses predominantly on identifying the benefits of having a high level of aerobic fitness e.g. maintain a high work rate. There is some use of technical language with some candidates making the link between increased oxygen uptake/VO₂ max etc and sporting performance. Basis use of examples e.g. run for longer

3-4 marks

There is a good /good understanding of the benefits of aerobic fitness on individual sporting performances. The candidate makes the link between adaptations, improved efficiency in oxygen uptake and benefits to sporting performance e.g. cardiac hypertrophy-increased oxygen uptake-faster removal of lactic acid etc. There is good/very good use of technical language possibly language supported by clear examples

- (b) (ii) In order to maximise energy stores, describe how an individual could manipulate their diet before, during and after exercise. [6]

Before

- 6 days prior to an event intense training is carried out with a normal diet. This partially *depletes* glycogen stores
- As the days progress the exercise intensity *tapers off*
- With a total rest day prior to competition day
- For the final 3 days prior to the event carbohydrate intake is increased to 70-80% of total diet
- Pre-competition meal is high carbohydrate meal mix of medium and low glycaemic index food
- Hydration

During

- Med to high glycaemic index foods/drinks
- Maltodextrin
- Use of energy/isotonic drinks
- Aim to prevent glycogen depleting to quickly
- Hydration

After

Eat within 30 mins of stopping exercise

Hydration

Mix of high and med low GI carbs

Take on protein to aid growth and repair

Use of specific recovery/drinks/must be related to carbs/protein etc

(3x2 marks) for before, during and after exercise

Q.5

Explain how you have used fitness testing, and applied the principles of training to develop your sporting performance. [10]

Should be clear what sport/activity is being developed

Fitness Testing

- Components of fitness relevant to activity
- Correct selection of tests
- Reliability and validity
- Interpretation/comparison of a results e.g. compare to previous scores
- Re-testing

Training

- Selection of appropriate methods of training
- Overload/Progression
- F.I.T.
- Recovery times
- Avoiding tedium

Level 1

1-4

The candidate demonstrates some knowledge and understanding of the unit. 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. Information lacks detail e.g. Identifies principles of training/uses terminology but no specific information is provided e.g. % work rate. Ideas are expressed in a simplistic but clear manner. Possible error SPG.

Level 2

5-7

The candidate demonstrates some knowledge and understanding of the unit and is able to use specialist vocabulary relating to testing, training, etc in order to improve their own performances. There is greater use of Specific information e.g. % of max, specific sets reps etc. Ideas are expressed in a clear, logical manner. Few errors in SPG

Level 3

8-10

The candidates demonstrates very good knowledge and critical understanding of all disciplines. He/she explains in detail, using specialist terms with facility, how they integrated disciplines to enhance and improve their own performance, e.g has clear understanding of how testing informs the type of training and uses specific information when applying the principles of training. Complex ideas are expressed with clarity. There are few errors in SPG.



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