

GCSE

Physical Education

Summer 2010

Mark Scheme

Issued: October 2010

**NORTHERN IRELAND GENERAL CERTIFICATE OF SECONDARY EDUCATION (GCSE)
AND NORTHERN IRELAND GENERAL CERTIFICATE OF EDUCATION (GCE)**

MARK SCHEMES (2010)

Foreword

Introduction

Mark Schemes are published to assist teachers and students in their preparation for examinations. Through the mark schemes teachers and students will be able to see what examiners are looking for in response to questions and exactly where the marks have been awarded. The publishing of the mark schemes may help to show that examiners are not concerned about finding out what a student does not know but rather with rewarding students for what they do know.

The Purpose of Mark Schemes

Examination papers are set and revised by teams of examiners and revisers appointed by the Council. The teams of examiners and revisers include experienced teachers who are familiar with the level and standards expected of 16- and 18-year-old students in schools and colleges. The job of the examiners is to set the questions and the mark schemes; and the job of the revisers is to review the questions and mark schemes commenting on a large range of issues about which they must be satisfied before the question papers and mark schemes are finalised.

The questions and the mark schemes are developed in association with each other so that the issues of differentiation and positive achievement can be addressed right from the start. Mark schemes therefore are regarded as a part of an integral process which begins with the setting of questions and ends with the marking of the examination.

The main purpose of the mark scheme is to provide a uniform basis for the marking process so that all the markers are following exactly the same instructions and making the same judgements in so far as this is possible. Before marking begins a standardising meeting is held where all the markers are briefed using the mark scheme and samples of the students' work in the form of scripts. Consideration is also given at this stage to any comments on the operational papers received from teachers and their organisations. During this meeting, and up to and including the end of the marking, there is provision for amendments to be made to the mark scheme. What is published represents this final form of the mark scheme.

It is important to recognise that in some cases there may well be other correct responses which are equally acceptable to those published: the mark scheme can only cover those responses which emerged in the examination. There may also be instances where certain judgements may have to be left to the experience of the examiner, for example, where there is no absolute correct response – all teachers will be familiar with making such judgements.

The Council hopes that the mark schemes will be viewed and used in a constructive way as a further support to the teaching and learning processes.

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Rewarding Learning

**General Certificate of Secondary Education
2010**

Physical Education

Paper 1

[G7401]

FRIDAY 21 MAY, AFTERNOON

**MARK
SCHEME**

Section A

AVAILABLE
MARKS

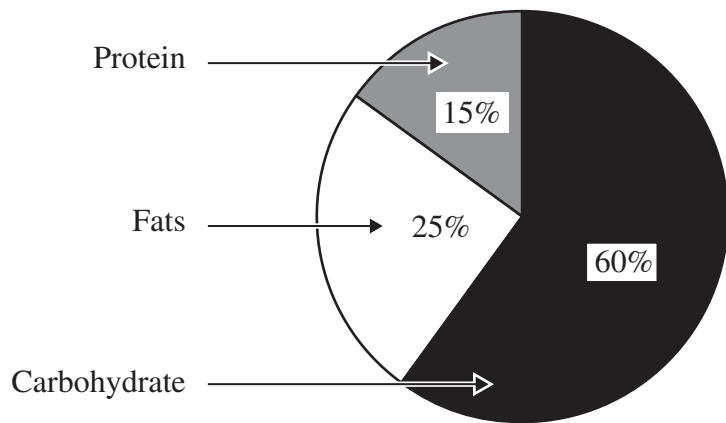
1 2 × [1]

Margaret could:

- e.g. exercise on a regular basis
 - eat a balanced, healthy diet
 - get sufficient sleep
 - abstain from smoking
 - abstain from alcohol
 - abstain from taking illegal drugs
 - or any other acceptable answers.
- Award [0] for an answer not worthy of credit.

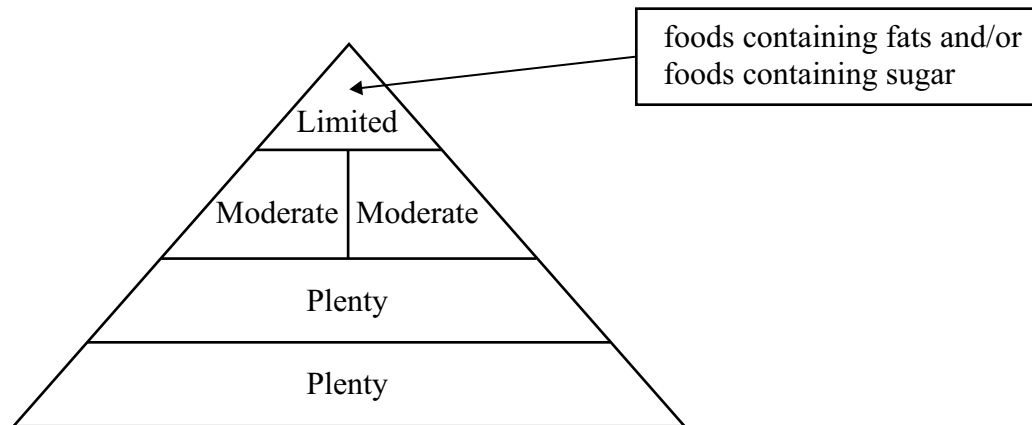
[2]

2 3 × [1]



[3]

3



[1]

4 4 × [1]

Information	Stimulants	Narcotic analgesics	Anabolic agents	Diuretics	Peptide hormones and analogues	Beta-blockers	Blood doping
Used to reduce hand tremor						✓	
Used to help build muscle size			✓		✓		
Used to reduce the feelings of pain		✓					
Used to get the same effect as adrenalin	✓						

[4]

5 e.g. Lung cancer;
mouth, nose or throat cancer;
chronic bronchitis;
emphysema.
or any other acceptable answer.
Award [0] for an answer not worthy of credit.

[1]

6 3 × [1]

Over time, lack of sleep deprivation can lead to poor performances of skills because of:

e.g. decreased attentiveness and concentration
decreased short-term memory
poor coordination
delayed reaction times
poor decision-making
moodiness, irritability and anxiety
or any other acceptable answer.
Award [0] for an answer not worthy of credit.

[3]

7 (a) Swimming performed between 55–90% of MHR

[1]

(b) Swimming performed between 85–100% of MHR

[1]

8 James' flexibility is determined by the ability of his muscles and ligaments surrounding joints [1] to stretch to allow the full range of movement at the joints. [1]

Award [0] for an answer not worthy of credit.

[2]

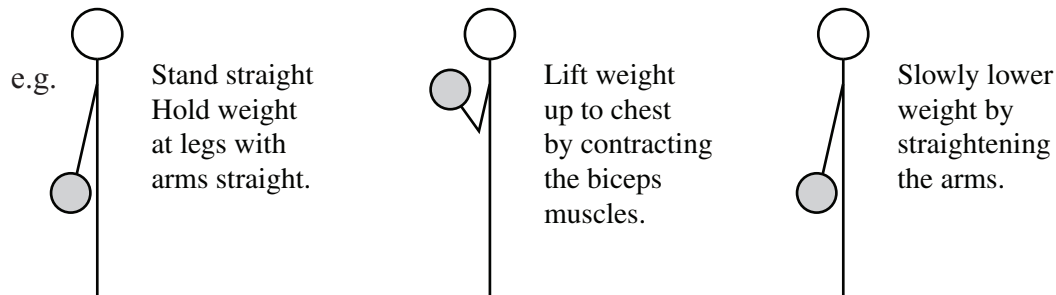
- 9 2 × [1]
 e.g. Continuous steady pace
 Fartlek
 Interval
 Circuit
 Award [0] for an answer not worthy of credit. [2]

- 10 2 × [2]
 [1] mark for stick diagrams that basically show how a weight training exercise for the biceps should be performed.
 [2] marks for stick diagrams that clearly illustrate how a weight training exercise for the biceps should be performed.

[1] mark for instructions that describe how a weight training exercise for the biceps should be performed.

[2] marks for instructions that clearly describe how a weight training exercise for the biceps should be performed.

A weight training exercise for the biceps



or any other acceptable answer.

Award [0] for an answer not worthy of credit. [4]

- 11 Isometric training [1]

12 3 × [2]

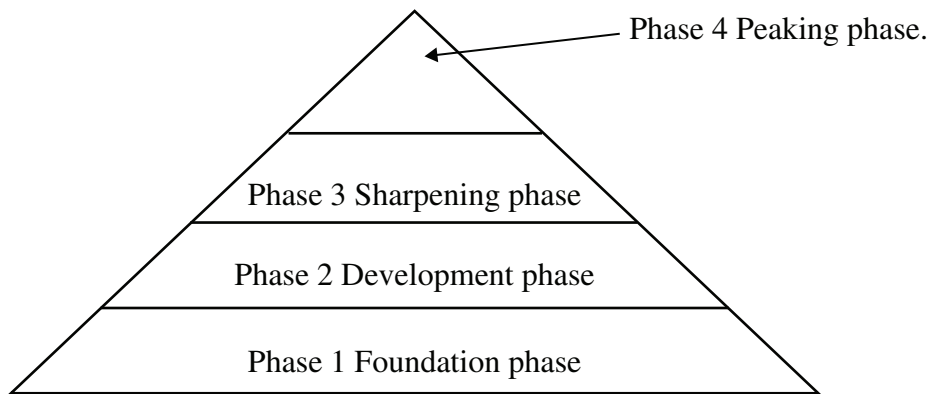
	Weeks	Sun	Mon	Tue	Wed	Thur	Fri	Sat
e.g.	Weeks 1–3	Run 70%MHR 30 min.				Run 70%MHR 20 min.		
	Weeks 4–6	Run 70%MHR 40 min.		Run 70%MHR 20 min.		Run 70%MHR 30 min.		
	Weeks 7–9	Run 70%MHR 50 min.		Run 70%MHR 30 min.		Run 70%MHR 30 min.		Run 70%MHR 30 min.
	Weeks 10–12	Run 70%MHR 60 min.		Run 70%MHR 30 min.	Run 70%MHR 40 min.	Run 70%MHR 30 min.		Run 70%MHR 30 min.

or any other acceptable answer.
Award [0] for an answer not worthy of credit.

[6]

AVAILABLE MARKS

13



[1]

14 (a) Student A.

[1]

(b) 3 × [1]

The training went well in Phase 1 and good progress was made. The test score increased from 20–35. [1]

The training did not go so well or he/she stopped training in Phase 2 as the test score fell from 35 at the end of Phase 1 down to 27 at the end of Phase 2. [1]

After Phase 2 however, he/she got back into training and by the end of the training programme his/her score had gone up to 43. [1]

Award [0] for an answer not worthy of credit.

[3]

15 Oxygen and nutrients

Must have both correct to get [1].

[1]

- 16 (a)** $3 \times [1]$
As a result of regular aerobic exercise, the intercostal muscles and the **diaphragm** [1] become stronger. The person's vital capacity and **ventilation** [1] improve so they can get more **oxygen** [1] into the lungs with each breath and over a period of time. [3]
- (b)** Up to [2]
Alveoli in the lungs [1] which had a poor blood supply get an increased capillary network [1]. This accounts for an increased diffusion capacity. Award [0] for an answer not worthy of credit. [2]
- 17 (a)** A person's sporting potential is his/her upper limit or the best that he/she could possibly be. [1]
- (b)** Up to [2]
Childhood is unlikely to be the time of a person's absolute potential for success in sports because the body systems are still developing [1] and therefore your potential to perform well in physical tasks will be lower than during the time of maturity. [1]
Award [0] for an answer not worthy of credit. [2]
- 18** $3 \times [1]$ mark for each acceptable situation that would make the environment of a school gym hazardous to use.
Award [0] for answers not worthy of credit. [3]

19 $3 \times [1]$

Stages of learning	Phrase 1	Phrase 2
Cognitive stage	Working out what to do	Movements are not efficient
Associative stage	Coordination improving	Refining technique
Autonomous stage	Advanced stage	Movements Well established

[3]

20 (a) $2 \times [1]$

For example, **two** of the following:

Intrinsic (internal) feedback provides information on the 'feel' of performing the sequence of movements.

Intrinsic (internal) feedback includes information on balance and on the tension in the muscles.

Intrinsic (internal) feedback allows you to make fine adjustments to your movements.

Intrinsic (internal) feedback includes the information gathered from the interoceptors in the internal organs of the body, for example the heart, lungs, stomach and intestines.

Intrinsic (internal) feedback allows the body systems to respond to the physical demands of the movements involved in the performances.

and any other acceptable answers. Award [0] for an answer not worthy of credit.

(b) $2 \times [1]$

For example, **two** of the following:

Extrinsic (external) feedback provides information on the performance from external sources.

Extrinsic (external) feedback is gathered through exteroceptors, which are your eyes and ears.

Extrinsic (external) feedback is usually presented to you visually or verbally.

Extrinsic (external) feedback can be provided by for example, a teacher, a coach, a video clip or from a movement analysis programme.

and any other acceptable answers. Award [0] for an answer not worthy of credit.

21 (a) Up to [2]

If your job or profession is well paid, then it allows opportunities to take part in activities that may be expensive, for example, sailing, golf or horse riding. [1]

If you are unemployed or on low pay you will be limited to what you can do because of financial restraints, for example, walking, running or swimming. [1]

and any other acceptable answers. Award [0] for an answer not worthy of credit.

(b) [1] for explaining how some people have to work long hours, e.g. some doctors, business men and women and how some people are required to work particular hours, for example shift workers and people who have to work weekends.

Up to [2] for explaining how this can affect participation in competitive team sports.

E.g.

Competitive team sports require all team members to be committed to the team and to attend all training sessions and for them to be available for all matches. [1]

People who work long hours are often not available to train for competitive team sports or if they are available they are tired. They can find it difficult to make a commitment to competitive team sports. [1]

Shift workers and people who have to work weekends will often be unavailable for training and matches and therefore find it difficult to make a commitment to competitive team sports. [1]

And any other alternative answers.
Award [0] for an answer unworthy of credit.

Section B

AVAILABLE
MARKS

22 (a) Up to [5]

Pulse-raising activity

Choosing safe and appropriate pulse-raising activity.

The pulse-raising activity should match the type of exercise that you are going to use in the workout. [1]

E.g. if you are going to do a 10 km run, then the pulse-raising activity should be jogging. [1] or any other acceptable answers.

Deciding on the intensity.

You should start with low-intensity work [1] and gradually raise the intensity towards the level to be used in the workout. [1]

E.g. Start with jog (55% of MHR), gradually build to slow running (65–70% MHR) [1] or any other acceptable answers.

Deciding on the time.

Generally, when your body starts to sweat, it means that you have warmed up. [1]

The time will depend on the individual and the outside temperature. [1]

E.g. This could take 7 minutes in a warm environment and up to 15 minutes in a cooler environment. [1] or any other acceptable answers.

Award [0] for an answer not worthy of credit.

[5]

(b) Up to [5]

Mobility exercises

Choosing safe and appropriate mobility exercises.

The mobility exercises should cover the major joints (neck, shoulders, arms, spine, hips, knees and ankles), or as a minimum the joints used in the workout. [1]

E.g. A mobility exercise for the knees could be to kick your heels up to your bottom as you run. [1] or any other acceptable answers.

Deciding on the intensity.

The bones at the joints should be moved gently and rhythmically [1] within their normal range of movement. [1]

E.g. Jog or run gently, kicking your heels up to your bottom. [1] or any other acceptable answer.

Deciding on the time.

Do the mobility exercises until the joints are moving freely, for example 30 seconds for each exercise. [1]

The time will depend on the individual and the outside temperature. [1] or any other acceptable answer.

Award [0] for an answer not worthy of credit.

[5]

(c) Up to [6]

Flexibility exercises

Choosing safe and appropriate flexibility exercises.

The selected exercises should cover the major muscles of the body (neck, shoulders, arms, chest, trunk, hips and legs), or as a minimum the muscles that will be used in the workout. [1] Static or dynamic flexibility exercises should be used. [1] or any other acceptable answers.

E.g. Doing an exercise like the sit and reach test to stretch the hamstrings. [1]

Deciding on the intensity.

The muscle should be slowly stretched to its limit, [1] then stretched a little further until mild tension is felt. [1]

E.g. Hold your calf muscles and pull your body down towards your knees until mild tension is felt. [1] or any other acceptable answers.

Deciding on the time.

The muscle should be held in the stretched position under mild tension for between 5 and 15 seconds in a warm-up. [1] and any other acceptable answers.

Award [0] for an answer not worthy of credit.

[6]

AVAILABLE
MARKS

23 (a) $4 \times [2]$

The following example shows every variable being changed at the same time as the weeks progress. This is an extreme example of applying progressive overload. It is possible, but not necessarily desirable.

Sample exercise from the circuit	Press-ups			
	Work-time	Recovery time between exercises	Number of circuits to be done	Recovery time between circuits
Week 1–2	15 seconds	30 seconds	2	5 minutes
Weeks 3–4	20 seconds	20 seconds	3	4 minutes
Weeks 5–6	30 seconds	10 seconds	4	3 minutes
Weeks 7–8	40 seconds	5 seconds	5	2 minutes

[2]

[3]

[3]

or any other acceptable answers.

Award [0] for an answer not worthy of credit.

[8]

(b) $4 \times [2]$

Work-time

The person's body will adapt to the 15 seconds work-time, in other words, the muscles will become more efficient or fitter. [1] To become fitter again you overload further – instead of working for 15 seconds the person works for 20 seconds. When the body adapts to this, the work-time can be increased to 30 seconds and muscular fitness will be increased further. [1]

or any other acceptable answers.

Award [0] for an answer not worthy of credit.

Recovery time between exercises

The less recovery time a person has between the exercises, the harder the workload will be. So for the principle of progressive overload to be applied using this variable you reduce the recovery time allowed as the training programme progresses. [1] Thus over the eight weeks the recovery time is reduced from 30 seconds down to 5 seconds. The body adapts to this and becomes able to recover quicker. [1]

or any other acceptable answers.

Award [0] for an answer not worthy of credit.

Number of circuits to be done

The greater the number of circuits to be completed then the harder the workout. So for the principle of progressive overload to be applied using this variable, the number of circuits is increased from 2 to 5 over the training programme. [1] The body adapts to this increasing overload and becomes able to cope. [1]

or any other acceptable answers.

Award [0] for an answer not worthy of credit.

Recovery time between circuits

The less recovery time a person has between the circuits, the harder the workload will be. So for the principle of progressive overload to be applied using this variable you reduce the recovery time allowed between circuits as the training programme progresses. [1] Thus over the eight weeks the recovery time is reduced from 5 minutes down to 2 minutes. The body adapts to this and becomes able to recover quicker. [1]
or any other acceptable answers.

Award [0] for an answer not worthy of credit. [8]

24 (a) $2 \times [2]$

1. If you have a clear understanding of the “full marks” model, then you know and understand the sequence of movements the learner needs to master. [1]

If you can communicate the “full marks” model, then the learners have the best chance of performing the skill efficiently, effectively and with accuracy. [1]

2. If you have a clear understanding of the “full marks” model, then you can compare any performance of the skill against it and judge how well the skill has been performed. [1]

From your observations, you will be able to identify areas of weakness in the performance of the skill. [1]

or any other acceptable answers.

Award [0] for an answer not worthy of credit. [4]

(b) [1] if the sequence of movements provides a limited mental image of the “full marks” model of the skill.

[2] if the sequence of movements provides a basic mental image of the “full marks” model of the skill.

[3] if the sequence of movements provides a competent mental image of the “full marks” model of the skill.

[4] if the sequence of movements provides a clear and comprehensive mental image of the “full marks” model of the skill.

Award [0] for an answer not worthy of credit. [4]

