

## UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

### MARK SCHEME for the June 2004 question papers

#### 0413/01 PHYSICAL EDUCATION

0413/01

Paper 1, maximum raw mark 80

These mark schemes are published as an aid to teachers and students, to indicate the requirements of the examination. They show the basis on which Examiners were initially instructed to award marks. They do not indicate the details of the discussions that took place at an Examiners' meeting before marking began. Any substantial changes to the mark scheme that arose from these discussions will be recorded in the published *Report on the Examination*.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the *Report on the Examination*.

- CIE will not enter into discussion or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the June 2004 question papers for most IGCSE and GCE Advanced Level syllabuses.



**Grade thresholds** taken for Syllabus 0413 (Physical Education) in the June 2004 examination.

	maximum mark available	minimum mark required for grade:			
		A	C	E	F
Component 1	80	57	40	21	14

The threshold (minimum mark) for B is set halfway between those for Grades A and C.  
The threshold (minimum mark) for D is set halfway between those for Grades C and E.  
The threshold (minimum mark) for G is set as many marks below the F threshold as the E threshold is above it.

Grade A\* does not exist at the level of an individual component.

**June 2004**

INTERNATIONAL GCSE

MARKING SCHEME

MAXIMUM MARK: 80

SYLLABUS/COMPONENT: 0413/01

PHYSICAL EDUCATION  
Paper 1

Page 1	Mark Scheme	Syllabus	Paper
	PHYSICAL EDUCATION – JUNE 2003	0413	1

Question	Section A Answers	Part Mark
1	<p>A skill is defined as something that :</p> <ul style="list-style-type: none"> <li>• You learn</li> <li>• You do predictably and consistently</li> <li>• You perform efficiently</li> </ul> <p>If all or part of the following is given award the mark  “The learned ability to bring about predetermined results with maximum certainty, often with the minimum of outlay of time or energy or both.”</p>	1
2	<p>Person should :</p> <ul style="list-style-type: none"> <li>• Be seated</li> <li>• Leans forward / inclined</li> <li>• Massage the abdominal area</li> <li>• Breathe steadily</li> <li>• Remain seated until fully recovered</li> </ul> <p>A mark will not be awarded for just resting</p>	1
3	<p>A person who is extrinsically motivated may :</p> <ul style="list-style-type: none"> <li>• Lose interest if things go badly</li> <li>• Only seek to perform when rewards are high</li> <li>• Become more interested in his own performance which will not help in team games</li> <li>• Resort to cheating and possible use of drugs</li> </ul> <p>Also</p> <ul style="list-style-type: none"> <li>• If rewards are too easily gained they lose their value</li> <li>• Performances may suffer if the result is seen as more important</li> <li>• Performers put themselves under pressure</li> </ul>	1
4	<p>Effects are:</p> <ul style="list-style-type: none"> <li>• Addiction</li> <li>• Increased heart problems</li> <li>• Circulatory problems</li> <li>• Respiratory difficulties</li> <li>• Reduction coordination</li> <li>• Liver damage</li> <li>• Cancer</li> <li>• Increased possibility of injury due to masking pain</li> </ul>	1

Page 2	Mark Scheme	Syllabus	Paper
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5	<p>Mental well-being</p> <ul style="list-style-type: none"> <li>• Free from stress / coping with mental challenge</li> <li>• In control of your emotions</li> <li>• Happy and being able to reflect on situation</li> <li>• Pleased with yourself / having positive thoughts</li> <li>• Feeling safe and secure</li> </ul>	1
6	<p>The answer must be about increase The performer will:</p> <ul style="list-style-type: none"> <li>• Produce adrenalin</li> <li>• Increase heart rate</li> <li>• Increase rate of respiration</li> <li>• Breathe more shallowly</li> <li>• Increase muscle tension in readiness for action</li> <li>• Starts to sweat</li> <li>• Feel butterflies in the stomach.</li> <li>• Have a dry mouth</li> <li>• Feel shaky</li> </ul>	2
7	<p>Obesity creates problems for a performer because of the</p> <ul style="list-style-type: none"> <li>• Lack of ability to sustain activity</li> <li>• Pressure on joints</li> <li>• Lack of flexibility</li> <li>• Pressure on ligaments / muscles / bones</li> <li>• Occurrence of back problems</li> <li>• Risk of a heart attack</li> <li>• Increase in the possibility of a stroke</li> </ul>	2
8	<p>Leisure – a period of free time that is left over after work and everything else we have to do is finished.</p> <p>Recreation- is what you choose to do within the time you have for leisure and should not include activities for payment</p> <p>Physical recreation – activities of a physical nature that take place in leisure time</p>	2
9	<p>Frequency, intensity, time, type – no marks awarded for FITT</p>	2

Page 3	Mark Scheme	Syllabus	Paper
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10	<ul style="list-style-type: none"> <li>• Amateurs are unpaid</li> <li>• Professionals can obtain payment from a variety of sources including sponsorship</li> <li>• Amateurs often have to work to support themselves</li> <li>• Restrictions on the type of competitions that amateurs can enter</li> <li>• Compete for intrinsic reasons</li> </ul>	2
11	<p>The performer may:</p> <ul style="list-style-type: none"> <li>• Become prone to minor illnesses</li> <li>• Suffer from poor sleeping patterns</li> <li>• Become bored with participating / training</li> <li>• Suffer from minor / stress related injuries</li> <li>• Suffer from aches and muscular pain</li> <li>• Suffer from a loss of appetite</li> <li>• Suffer from soreness and joint pains</li> </ul>	2
12	<ul style="list-style-type: none"> <li>• Based in the local community so it is easy to get to</li> <li>• Wide range of facilities available</li> <li>• Community used to accessing facilities – schools</li> <li>• Improved facilities for schools</li> <li>• Development of local / community based clubs at the facility</li> <li>• Ensures maximum use of facilities</li> <li>• Due to the relative small cost most communities could access facilities</li> <li>• Activities can reflect the interests and needs of the community</li> <li>• Relatively low cost</li> <li>• Space saved by not needing additional facilities</li> </ul>	3
		Total 20 marks



Page 5	Mark Scheme	Syllabus	Paper
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f	<p>ii) Passive stretching involves the use of external forces to move the limb to the extent of the stretch Active stretching involves movement beyond its normal range of movement and repeated rhythmically</p>	1
	<p>iii) Sit and Reach Test - The legs must be fully extended with the soles against a bench – reach forward and make a mark – measure the distance between the first mark and the mark made when extending as far forward as possible</p> <p>If other recognized tests are used credit will be given, no marks will be awarded for measuring flexibility</p>	2
	<p>i) Both tests will measure cardio vascular fitness / aerobic fitness</p>	1
	<p>ii) Multi Stage Fitness Test Run up and down a 20m course Run to coincide with a bleep The test has 21 levels Each level lasts 1 min The number of shuttles increase at each level so the speed increases Performer continues until he cannot beat the bleep Results recorded and compared against a table</p> <p><b>Or</b> The Cooper 12 minute Run Ideally it should be performed on a 400 m track Any surface could be used but must be marked out Markers set out at 100m around the course The performer runs for 12 mins – can walk / run The distance is calculated Performance compared to charts</p> <p>To gain four marks the candidates must describe methods of recording.</p>	
	<p>iii)</p> <ul style="list-style-type: none"> <li>• Enables training to be monitored</li> <li>• Helps in preparation for events</li> <li>• Enables the performer to monitor the effectiveness of training schedules</li> <li>• Results can be monitored and compared to results in previous years to compare level of fitness.</li> <li>• Gives an accurate measurement of fitness</li> </ul>	4
		2
		Total 20 marks



Page 6	Mark Scheme	Syllabus	Paper
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Question	Answers B2 Health safety and Training	Part mark
a	<ul style="list-style-type: none"> <li>• A drug is a chemical substance</li> <li>• When introduced into the body it can alter the biochemical systems of the body.</li> </ul>	1
b	<ul style="list-style-type: none"> <li>• Bruising</li> <li>• Muscle strains, torn muscle, pulled muscles, sprain</li> <li>• Blisters, abrasions, grass burns</li> <li>• Tennis elbow</li> <li>• Tendon/ ligament injury</li> </ul>	2
c	<ul style="list-style-type: none"> <li>• Males need more than females</li> <li>• Active people need more than non active</li> <li>• Children need more than older people</li> <li>• Type of lifestyle</li> <li>• Body composition</li> </ul>	2
d	<p>Answers must relate to the activity named – no mark for naming the activity but the activity must be a contact activity.</p> <ul style="list-style-type: none"> <li>• Safety equipment must be worn – shin pads etc</li> <li>• Correct footwear</li> <li>• Regulations regarding size, age, weight to ensure there is not a mismatch between performers</li> <li>• Mixed groups are not allowed beyond certain ages (12 in soccer)</li> <li>• Players may not be allowed to continue if injured – blood bin in rugby</li> <li>• Not allowed to wear jewelry / keep finger nails short</li> </ul>	3
e	<p>i) Continuous training, Fartlek training, Interval training</p> <p>ii) Continuous training –</p> <ul style="list-style-type: none"> <li>• training takes place at a steady pace</li> <li>• it can involve a wide variety of sports</li> <li>• it allows variety in training</li> <li>• the intensity can meet an individual's needs</li> <li>• improves all round fitness</li> <li>• no need for any specialist equipment</li> </ul>	1

Page 7	Mark Scheme	Syllabus	Paper
	PHYSICAL EDUCATION – JUNE 2003	0413	1

f	<p>Fartlek training –</p> <ul style="list-style-type: none"> <li>• mixes steady pace with flat out activity</li> <li>• which improves the anaerobic/ aerobic system</li> <li>• can be applied to a wide variety of activities</li> <li>• improves the body’s ability to respond to sudden bursts of activity</li> <li>• variety can maintain interest</li> </ul> <p>Interval training –</p> <ul style="list-style-type: none"> <li>• more specific to the activity</li> <li>• easier to monitor progress</li> <li>• better for activities that cover a precise distance</li> <li>• can be used over shorter periods to help the body’s ability to deal with lactic acid</li> </ul> <p>iii) Progression would be brought about by increasing: time, distance, number of repetitions, difficulty of terrain, period of rest</p> <p>Answers must relate to the chosen type of training to gain mark</p> <p>i) Aerobic exercise is sustained over a long period of time, uses oxygen in its entirety, more likely to be an endurance activity; exercise will be at a lower power.</p> <p>ii)</p> <ul style="list-style-type: none"> <li>• Oxygen comes into the blood stream via the lungs</li> <li>• The blood delivers the oxygen to the cell</li> <li>• Oxygen combines with glucose</li> <li>• This produces energy</li> <li>• Carbon dioxide and water are produced as waste products</li> </ul> <p>iii)</p> <ul style="list-style-type: none"> <li>• When the demands made on muscles are greater than the body’s ability to supply it this becomes anaerobic activity</li> <li>• Muscles will use glycogen to work when oxygen is not available</li> <li>• Muscles can only work for a short period of time</li> <li>• Lactic acid will build up in the muscles</li> <li>• Muscles become tired and painful</li> <li>• Muscles can have a burning sensation</li> <li>• Lactic acid can cause the muscles to stop</li> <li>• Oxygen debt will occur to help remove lactic acid from the muscle</li> </ul>	<p>3</p> <p>1</p> <p>1</p> <p>2</p> <p>3</p>
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<b>Page 8</b>	<b>Mark Scheme</b>	<b>Syllabus</b>	<b>Paper</b>
	<b>PHYSICAL EDUCATION – JUNE 2003</b>	<b>0413</b>	<b>1</b>

	iv) <ul style="list-style-type: none"> <li>• The body's ability to tolerate lactic acid</li> <li>• Increase the amount of training, this will increase the amount of oxygen that can get to the muscles</li> <li>• The exercise when training should increase in intensity or duration</li> <li>• Improve the cardiac output through training</li> </ul>	1  Total 20 marks
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Page 9	Mark Scheme	Syllabus	Paper
	PHYSICAL EDUCATION – JUNE 2003	0413	1

Questions	Answers B3 Reasons and Opportunities for Participation in Physical Activity	Part Mark
a	<ul style="list-style-type: none"> <li>• Increased amount of labour saving devices in the home</li> <li>• Better medical services available - healthier</li> <li>• Better working arrangements – flexi time</li> <li>• More people able to work at home - access to home computers</li> <li>• Longer retirement periods</li> <li>• Finish school earlier in the day</li> <li>• More unemployment</li> </ul>	1
b	<ul style="list-style-type: none"> <li>• Women presenters of sports programmes</li> <li>• Women analysers on sports programmes</li> <li>• More women sports journalists</li> <li>• Articles about women’s sports</li> <li>• Advertising of women’s sports</li> <li>• Creation of role models</li> </ul>	2
c	<ul style="list-style-type: none"> <li>• Population –Needs to be built where enough people can use it</li> <li>• The natural environment - maximize natural features (lakes etc)</li> <li>• Cost – land in some areas is more expensive than others so it may be sited in areas where there is cheaper land available</li> <li>• Access – good road, public transport, parking</li> <li>• Planning permission, - there may be objections to plans, areas of natural beauty, conservation areas</li> <li>• Location should reflect local / user needs</li> </ul>	2
d	<p>i)</p> <ul style="list-style-type: none"> <li>• The way in which the event/ sport is presented</li> <li>• Possible bias towards an activity</li> <li>• Interviews with high profile players</li> <li>• Fly on the wall documentaries</li> <li>• No longer just a live event</li> <li>• Increased accessibility</li> <li>• Minority sports become better known</li> </ul> <p>ii)</p> <ul style="list-style-type: none"> <li>• Use of different types of match analysis</li> </ul>	1

Page 10	Mark Scheme	Syllabus	Paper
	PHYSICAL EDUCATION – JUNE 2003	0413	1

e	<ul style="list-style-type: none"> <li>• Use of statistics</li> <li>• Video replays</li> <li>• Use of technology – third umpire in cricket</li> <li>• Use of expert opinions during televised coverage</li> <li>• Use of technology / video to explain rules and techniques</li> <li>• Use of additional cameras i.e under water cameras in swimming allow people to see techniques used that would not be easily visible from the surface</li> </ul> <p>Advantages</p> <ul style="list-style-type: none"> <li>• able to concentrate on improving standards of performance and train full time</li> <li>• no distractions, able to travel to where important competitions are held</li> <li>• access to full time coach</li> <li>• easier to access sponsorship</li> <li>• earning potential considerable in certain sport – golf, tennis</li> </ul> <p>Disadvantages</p> <ul style="list-style-type: none"> <li>• reliant totally on success in sport</li> <li>• in the initial stages financially difficult</li> <li>• not easy in the early stages to have a full time coach and training facilities available</li> <li>• access to competitions may not be easy in the early stages and may result in needing to travel widely (example - challenger events in tennis)</li> <li>• professional sports are often high profile and if successful the loss of privacy due to media intrusion</li> <li>• added pressure to attract sponsorship, the use of drugs to gain success becomes an attraction</li> </ul>	2
f	<ul style="list-style-type: none"> <li>• Loss of interest due to over exposure to the sport</li> <li>• long term injury due to over-use as a junior</li> <li>• Interests develop outside sport</li> <li>• Increased demands on time from education or starting a job</li> <li>• Peer group pressure to be involved in other activities</li> <li>• Demotivated due to lack of early success in senior sport</li> <li>• The activity becomes less fashionable and interest is focused elsewhere</li> </ul>	4 / 1 1 / 4

<b>Page 11</b>	<b>Mark Scheme</b>	<b>Syllabus</b>	<b>Paper</b>
	<b>PHYSICAL EDUCATION – JUNE 2003</b>	<b>0413</b>	<b>1</b>

	<ul style="list-style-type: none"> <li>• Difficulties due to transport, accessing facilities, cost of participation</li> <li>• Support from family may not be as easily accessed</li> <li>• The need for more advanced coaching not easily available</li> <li>• The reason for success at a junior level may have been due to physical power rather than high levels of skill and this is not as effective at senior level</li> <li>• Physically not developed (growth beyond puberty), unable to cope with the physical demands of senior sports</li> <li>• Skills become more complex and not able to maintain progress</li> <li>• Their sport may not be as popular as they become older i.e rounders is played widely in schools but there are few opportunities for adults</li> </ul>	<p>7</p> <p>Total 20 marks</p>
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