UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIO

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2011 quest

for the guidance of teachers

0413 PHYSICAL EDUCATION

0413/12 Paper 1, maximum raw mark 80

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

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Section A

1
- tennis serve
- high jump
- triple jump

Any skill that is more than just a basic skill of running, jumping, et

2
- copes less well with the stresses/pressures of the game
- when situations go against them they do not become emotion
- if you are unhappy you will not give your best
- physical illness if related to mental well-being/poor sleep patterns
- a lack of confidence will reduce a performer's willingness to take risks
- low self esteem will result in a lack of confidence
- lack of motivation/not committed/poor focus/loss of concentration/low awareness/under arousal/ likely to make mistakes [1]

3 Reject money related answers
- the amount of time left after work
- the type of work – maybe very physical which will affect energy left to play sport/high stress jobs so people undertake very physical activities
- physical work may prepare players for their sport
- the location of a person's work as it may not be close to facilities
- shift work may not give the performer the right amount of time to play
- weekend work may reduce opportunities [1]

4
- allows you to go through the event in your mind/knowing what to expect
- allows you to rehearse elements of the expected performance
- allows a performer to stay calm/reduce anxiety/better focus
- raises confidence
- provides intrinsic motivation [1]

5
- restrict flexibility of the joint/increase pressure on joint
- decrease the speed of movement
- performer will tire quickly/reduce cardio vascular
- more prone to stress related injuries [1]

6
- shared facilities – dual use/equipment
- schools can promote the club with its students/poster in school
- schools can run holiday clubs in conjunction with a club
- provide a base for community sports development officers
- in the case of minority sports, introduce the activity into the curriculum

Reject sponsoring/money related [2]

7 **Cardiac Output**
- the volume of blood pumped from the heart in one minute

Stroke Volume
- the volume of blood pumped from the left ventricle of the heart each beat. [2]

8
- anaemia – tiredness, unable to complete endurance events
- haemophilia – inability to clot blood so contact sports should
- excessive blood clotting – reduction in the flow of blood whic reaching muscles
- thalassemia – reduces the ability to produce haemoglobin, t muscles
- leukaemia – white blood cells are damaged – tiredness, infec
- AIDS/HIV – immune system affected – tiredness, muscle wea

9
- links with schools
- advertise in local press, radio, etc
- reduce costs/free transport/free trials
- offer holiday activities
- identify specific classes/increase sports activities
- hold special events/competition
- provides special facilities – crèche
- coaches [2]

10
- ectomorph
- slight build
- long limbs
- tall
- well developed muscularly [2]

11
- skill is needed to lift the weights/has knowledge
- beginners should not use free weights until these skills have been developed/age restriction for weight
- when free weights are used a spotter is needed in case control is lost/supervision
- injury can occur if technique is poor
- performers should not lift the maximum possible weight/identify a safe level
- safety equipment, gloves, belts should be used/in good condition/safety flooring/bolts secure [2]

Reject warm up/cool down

12
- informing – the media tells the public what is happening in the world of sport – tells the public about fixtures, results – specialist publications
- educating – creating greater understanding of sports through analysis, replays, past players providing an insight into the game, specialist programmes, documentaries
- entertaining – the presentation of sports needs to be entertaining so that it engages people even if they are not directly involved e.g. watching other countries play in the world cup
- advertising – most of the revenue for top sports comes through advertising; the commercial interests of sports are often dependent on the media. Large sports companies use sports events and stars to promote their products. [3]

[Total: 20]

Section B

Factors affecting Performance

B1 (a)
- running
- jumping
- skipping

(b)
- makes the heart beat faster
- increases the amount of oxygen and glucose in the muscles
- increases the performer's readiness to perform/improved reaction/burst of energy
- increases awareness/arousal/more alert/sharpens our senses/more confident [2]

(c) Examples of a joint – joint between the plates in the cranium
Facial bones
Pelvic girdle
- prevents movement
- acts as a shock absorber
- protects vital organs [2]

(d)

type of drug	type of activity that would use this substance	effect	dangers
steroid	strength/power related activity such as weight lifting, sprinting	**rapid increase in strength, able to train for longer**	**heart disease, high blood pressure, infertility/aggressive/ kidney, liver disease**
diuretic	**sports that have weight categories**	increase the amount of water excreted. Flushes other drugs out of the system	muscle weakness, dehydration, loss of sodium and potassium salts.

[4]

(e) (i)
- movement around an axis/circular movement [1]

(ii) Mark will be given for naming a joint and situation and not the activity:
- shoulder joint
  activities include: the serving action in tennis, bowling action in cricket
- hip joint
  hurdling in athletics, breaststroke leg action
- neck/pivot joint
  heading ball in football
- elbow/hinge
  chest pass in basketball, breaststroke in swimming
- ankle/hinge
  kicking the ball
- wrist
  golfer will break the wrist during the back swing [3]

(f) (i)
- fast twitch fibres
- slow twitch fibres

(ii) Fast twitch fibres
- allow powerful contractions/explosive strength
- allow fast contractions
- provide intense contractions over a short period of ti
- provide energy during anaerobic exercise
- needed for short bursts of power/speed such as spri

Slow twitch fibres
- contract more slowly but with less power
- do not tire quickly
- suit long distance/endurance events
- allow aerobic exercise
- higher levels of slow twitch fibres in the muscle does not allow a performer to sprint easier
- slower production of lactic acid [6]

(g) One mark for name and one mark for application to the named sport. If answer does not relate to the sport only give one mark.
- specific – needs to identify a specific skill in the identified sport e.g. basketball – able to perform a jump shot
- measurable – be able to measure the amount of progress – basketball – able to score 3/10 in training
- accepted – the targets are agreed with the coach and player – does not have to be applied
- realistic – is the target possible to achieve – the performer can set shoot with a high degree of accuracy
- time related – set a realistic amount of time. Depending on the amount of time available to train
- exciting – yes, training should be challenging – does not have to be applied
- recorded – easy to record the number of jump shots scored at each training session to monitor progress [6]

[Total: 25]

Health, Safety and Training

B2 (a)
- can become distracted from the task/able to focus
- can become over-aggressive/cautioned/sent off/out of co
- fail to achieve the standard of performance that they nor
- opposition players may use this fact to their advantage

(b) No mark for naming an activity that could include: sailing, wat

Safety arrangements must relate to the activity. Could include: checking equipment; wearing safety equipment; supervision levels; qualifications of instructors; standard of performers in relation to the activity, referee (water polo) [2]

(c) 1 mark for the explanation of how they occur and 1 mark for one description of a component on RICE
No mark for simply stating RICE
- the ligament at the joint gets torn
- sudden twisting movement
- change of direction

- rest – sit down and do not attempt to play on
- cool the joint by placing ice on the swelling
- compression – use a crepe bandage to stop swelling
- elevate joint to reduce swelling [2]

(d) One mark for situation/example and two marks for the reasons
- most of the time team players use aerobic respiration
- players could not maintain long periods of anaerobic activities
- most player movement around the pitch/court is relatively slow – single paced – positioning themselves, adjusting their position when the ball is some distance from them. This happens throughout the game.
- during most team games there is a need to sprint/accelerate to chase a player/ball. If a player takes a shot in football, it is likely to be a maximal contraction which requires the anaerobic system

[3]

(e) (i) Isometric training
- holding a weight in a position, pushing against a requiring strength when the body is stationary.

Isotonic training
- press ups, pull ups, lifting weights etc – elements of

(ii) Advantages of Isotonic Training
- strengthens the muscles throughout the range of mo
- exercises can match a sport
- some exercises need little equipment

. Advantages of Isometric training
- develops static strength
- they are quick to do
- no expensive equipment is needed
- exercises can be done anywhere/less likely to get injured [2]

(iii) Jumping to rebound a ball in basketball, hitting a ball in tennis, – any example when there is body movement in the action. [2]

(f) (i)
- specificity – ensure the training is endurance based, use of activities such as Fartlek Training, Continuous Training
- overload – find ways of working harder – increase the frequency of training, increase training runs each week, increase the intensity, run further in the same amount of time, increase the distance run.
- progression – establish a programme that gradually increases the distance run until the performer is running near to race distance.
- reversibility – to avoid reversibility training needs to be varied so the performer does not get bored.

FITT principles receive only 1 mark as a method of applying overload.
No mark for just naming the principles.
Mark awarded for naming/describing and applying to distance running (exception to the use of reversibility) [3]

(ii)
- little progress will be made which could be the result of a loss of interest – credit given if not given in **(i)**

Overtraining will cause
- illness – frequent colds
- tiredness
- loss of appetite
- stress related injury
- injuries that result from poor technique
- poor performance/inconsistent performance/fitness levels may be below the required level
- depression/lack of motivation
- poor quality training results in lack of preparation [3]

[Total: 20]

Reasons and opportunities for participation in physical activity.

B3 (a)
- specialist holidays – golf, sailing/sport facilities at hotel
- sports breaks to major events/trips to stadium/deals to hi
- ex sports stars leading holiday activities
- children's sports activity holidays/clubs

(b)
- able to support a member of the family
- opportunity to support an event/team that the sponsor ha
- only requires limited funds to gain some publicity
- the event might be in the area that the sponsor works giving localised publicity/greater recognition/improving image locally [2]

(c)
- legislation makes sure that access has to be available/increase in facilities
- greater awareness of disability and sports coverage in the media/sponsorship
- equipment and activities have been adapted/technology has resulted in an improvement in equipment
- more outdoor activities have been adapted
- more sports clubs available for people with disabilities
- greater expectations of disabled athletes to perform
- increase in the role of governing bodies [3]

(d)
- cost of providing facilities – stadia
- financial instability in the country/lack of initial funding
- lack of experience in hosting major events/poor usage if fails
- costs of providing enough good quality hotels
- poor road network
- tele-communications systems are not up to standard
- political instability
- security record of the country poor
- climate at the time of the tournaments creating difficulty – hurricane season – likely to cause disruption
- political conflict with other countries
- lack of basic resources to support tourists/space
- host nation unable to compete well in sport so less inclined/unable to use facilities afterwards [4]

(e)
- gender – less opportunities for women, women often cultural limitations on female participants
- race/religion – some ethnic groups have negative attitude
- the government – politics affects the level of fun facilities/coaches etc/influences the type of sport
- stereotyping – people's attitudes towards certain groups
- ability/disability – attitudes towards people with disabiliti self esteem of many people with disabilities reduces their
- socio-economic status – income will influence the type o take part in, unemployment will reduce opportunity/time a
- school – the range of sports provided by school, attitude towards sport in school/family and peer support
- where you live – geographical location will determine the range of facilities available, climatic conditions
- lack of information/understanding/publicity/support from the media [5]

[Total: 15]