

CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2014 series

0413 PHYSICAL EDUCATION

0413/13

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 should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2014 series for most Cambridge IGCSE[®], Cambridge International A and AS Level components and some Cambridge O Level components.

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Section A

- 1 • to protect players from injury in the event of collision with the post; [1]
- 2 • more people can listen to a radio than television /a radio can be used when television signals cannot be received;
 • promotes the sport;
 • more people can hear about the sport played / provide scores / information / advertise matches or events;
 • creates sports stars which can have a positive effect on youngsters / encourage participation can attract sponsorship, improving facilities; [1]
- 3 • a ligament is the fibrous tissue that connects bones to other bones;
 • some ligaments limit the mobility of articulations, or prevent certain movements to avoid injury; [1]
- 4 • in order to complete a race in the fastest time;
 • to beat an opponent to the ball, for example in football;
 • to move into position in order to return a shot, for example in tennis; [1]
- 5 • arrange meetings / keeps records of information and statements made at meetings [1]
- 6 **cause:**
 • hard impact to the skin/muscle resulting in rupture/bursting of blood vessels;
 • impact with opponent/equipment;
- treatment:**
 • rest / stop taking part in activity;
 • apply ice / cold compress to bruised area to reduce swelling and increase recovery speed;
 • if appropriate, elevate injured part; [2]
- 7 • enables a performer to reach further (goal keeper / wicket keeper stretching to catch / enables a sprinter to extend his stride / high jumper able to arch back to get over the bar / gymnast able to do the splits etc.); 2 different examples accepted
 • reduces risk of joint injuries; [2]
- 8 • some sports have a higher social status attached than others (polo associated with the “upper class”) and difficult for others to become involved;
 • cost of some activities may be beyond the means of unemployed or people on a low wage;
 • “Caste” systems may prevent interaction between social groups;
 • commitments to family or dependents may affect ability to participate;
 • family support / family commitments;
 • where you live / access to facilities;
 • time available / work commitments;
 • peer support / pressure;
 • educational background; [2]

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- 9**
- different activities have different energy requirements
 - certain sports have specific demands i.e. gymnasts and jockeys must remain light weight
 - certain sports have weight categories
 - 2 marks can be awarded for specific examples i.e. weight lifters need a high protein diet / distance runner needs diet high in carbohydrate / games player needs a mix of protein and carbohydrate to ensure stamina for the endurance of the game
- [2]**
- 10**
- mobilisation exercise to take joints through their range of movement;
 - stretching exercises specific to the activity;
 - short anaerobic activities / activity to increase heart rate;
 - activity to raise body temperature ;
 - skills practice;
- [2]**
- 11**
- knowing result of performance would lead to future considerations;
 - a coach/video could specifically highlight areas in need of correction;
 - comparison of performance with “perfect model” would help understanding of requirements;
 - knowing result of performance will determine adjustment to future actions;
- [2]**
- 12**
- addictive;
 - reduces ability to concentrate / poor decision making;
 - reduces co-ordination / speed of reactions / balance;
 - blurred vision;
 - increased risk of liver damage (cirrhosis);
 - increases body weight;
- [3]**

[Total: 20]

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Section B

(a) description:

- rotation of the ankle, shoulder or wrist joint;
- circumduction of any of the joints identified above;

example:

- arm/shoulder movement in bowling – cricket;
- wrist movement in a bowling action – rounders;

[2]

(b) description:

- have set patterns;
- environment does not change;
- equipment used remains consistent;
- set moves/shapes/routines;

example:

- forward role;
- golf swing;
- somersault on trampoline;

[2]

(c) factors:

- age / experience;
- anxiety;
- arousal;
- level of fitness;
- body type;
- conditions;
- facilities;
- environment;
- teaching / coaching / practice;

[2]

- (d)**
- artificially raise heart rate;
 - artificially stimulate the nervous system;
 - raises confidence of performer;
 - increases hostility;
 - raises blood pressure;
 - irregular heartbeats / heart attacks / heart problems;
 - body can overheat as pain and fatigue signals are suppressed / create further injuries;
 - mental depression;
 - addiction;
 - tiredness after the effects of stimulant wears off

[3]

- (e) (i)**
- mesomorph;

[1]

- (ii)**
- very muscular / large head / broad shoulders / strong forearms and thighs / narrow hips;

[1]

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- (iii) • muscular build gives an advantage in any activity where strength is important, for example sprinting, tennis, weightlifting;
- mesomorphs have broad shoulders which make it easier for them to support weight using their upper bodies, this can be an advantage in activities like weightlifting and gymnastics;

- (f) • heart becomes bigger and stronger;
- heart contracts more strongly and pumps more blood with each beat;
- stroke volume increases, the larger the stroke volume the less often your heart has to beat to pump the same amount of blood around your body;
- resting heart rate decreases;
- cardiac output increases;
- return to resting heart rate quicker
- increase in the number of red blood cells produced;
- physical activity also keeps your blood vessels healthy, veins and arteries get bigger and become more flexible;
- blood pressure falls;
- blood vessels also become stronger so they are less likely to burst under pressure;
- prevention of the onset of coronary and arterial disease;
- increased vascularisation; [6]

- (g) • production of adrenalin;
- increases alertness, speed of reaction;
- increase in heart rate;
- provides working muscles with more oxygenated blood / energy;
- increased respiration;
- increases the amount of O₂ inhaled and CO₂ exhaled;
- muscle tension;
- preparation for action; [6]

[Total: 25]

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Section B2

- (a)
- dislocation;
 - where the bone is pulled from its normal position;
 - it could also be the cause of a sprain (over stretched or torn ligament) or torn cartilage;
 - sprain / torn ligaments;
 - a **sprain** is an **injury** in a joint, caused by the ligament being stretched beyond its own capacity;
 - break;
 - fracture or break of a bone; [2]
- (b)
- friends – taking part in physical activity can introduce you to new people and make friends with people of different ages and backgrounds;
 - socialising – relaxing, interacting with current friends;
 - co-operation and teamwork – by taking part in physical activities like netball you learn to cooperate and work with other people / improved communication skills; [2]
- (c)
- provide a source of energy to the body;
 - provide insulation / keeps the body warm;
 - buoyancy;
 - protect organs;
 - some vitamins may only be absorbed using fats;
 - effects of too little / too much fat in the diet i.e. obesity / heart disease / high cholesterol / malnutrition [3]
- (d)
- progression – steadily increase the amount of training done but only when the body has adapted to the previous training to avoid injury;
 - overload – make the body work harder than it normally would. This is the only way to make the body fitter. You can increase frequency/intensity/duration;
 - reversibility – any fitness improvement or body adaptation caused by training will gradually be reversed and lost when you stop training. It takes longer to gain than lose fitness; [3]
- (e)
- participants should know and follow the rules of the game they are playing;
 - wear appropriate clothing;
 - wear safety equipment i.e. shin pads
 - play against players of a similar skill level / age group / weight category;
 - no jewellery;
 - warm up
 - ensure the environment is safe / weather is appropriate for the activity
 - use correct equipment / check equipment;
 - know the skills needed in the activity / have practiced the skills [4]

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- (f) (i) • it can be performed in all weathers (indoors);
• it is an efficient/fast way to develop strength;
• it can be adapted to most sports;
• it can be performed on multi-gym machines therefore assistance is not required; [2]
- (ii) • improves muscle strength in sprinting;
• improves muscle endurance in long distance running / muscle able to work for longer;
• improves muscle tone and posture;
• increases muscle size;
• increases bone density;
• increases metabolic rate;
• decreases percentage body fat; [4]

[Total: 20]

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Section B3

- (a) • parent and toddler / mums and tots – crèche facility available to look after young children while parents can take part in an activity;
- clubs – will have a regular booking for training and use facilities for competitive games against other clubs and teams;
 - disabled – legislation and improved access means leisure centres are now more accessible.
 - Disabled toilets, lifts, adapted equipment and a growing number of qualified coaches to assist;
 - senior citizens – leisure centres can provide non-vigorous activities, meeting places to socialise;
 - schools / Colleges – often use facilities during term time to enhance the curriculum or play sports unavailable in school;
 - unemployed – reduced rates and schemes to encourage participation at off-peak times, usually through the day;
- [2]**
- (b) • company/product receives advertising;
- sports stars may become linked to a particular product;
 - successful teams wear shirts with company's name for all to see;
 - advertising hoardings at televised events gain "cheap" advertising;
 - competitions may be named after sponsor, e.g. Barclays Premiership;
 - increased public awareness;
- [4]**
- (c) • geographical – certain parts of the world lend themselves to certain activities such as skiing in mountainous areas, sailing in coastal areas, distance running from high altitudes;
- climatic – snow and ice naturally lend themselves to winter type activities, skiing, skating, bobsleigh, etc.;
 - financial – poorer countries do not have the financial resources to provide facilities for training to match those of wealthier countries;
 - traditional – some sports are traditionally carried out in certain countries and the skill base is much larger than others, for example baseball in USA/Cuba, sumo wrestling in Japan;
- [4]**
- (d) • influence the time and date of an event;
- demand personal interviews / presence at key moments / invasion of privacy / spread rumours ;
 - demand which sponsorship logos are given exposure;
 - demand rule changes;
 - push minority sports into decline / less female sports shown ;
 - create boredom due to over-exposure / poor presentation / reduce interest in participation;
 - sensationalise bad aspects, players / spectators;
 - pressure to do well;
 - win at all costs attitude;
 - intensify loyalty of opposing supporters;
 - sponsors will tend not to invest in sports which get little coverage;
 - sports come to rely on funding from media coverage
- [5]**

[Total: 15]