

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

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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]