

CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International Advanced Subsidiary Level

MARK SCHEME for the October/November 2015 series

9396 PHYSICAL EDUCATION

9396/13

Paper 1, maximum raw mark 90

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1 (a) 6 marks for (first answer only):

Shoulder

1. (Horizontal) flexion / adduction;
2. (Anterior) deltoid / pectoralis major (NB NOT posterior deltoid);

Elbow

3. Flexion OR pronation;
4. Biceps brachii OR pronator teres;

Wrist

5. Flexion;
6. Wrist flexors;

[6]

(b) 6 marks for 6 of:

1. Rapid / speedy / fast / short time contraction;
2. High force production;
3. Low lactate / fatigue tolerance;
4. Larger / faster motor neurone;
5. High sarcoplasmic reticulum development;
6. More / thicker myosin;
7. High PC stores;
8. High glycogen stores (NOT glucose);
9. Low triglyceride stores;
10. Few mitochondria;
11. Low levels myoglobin;
12. High glycolytic / anaerobic / ATPase enzyme / capacity;
13. White / pink;

[6]

(c) 6 marks for 6 of:

Prior to exercise (max 1 mark)

1. Adrenaline released to increase HR;

During exercise (max 4 marks)

2. More CO₂ / drop in pH / increased acidity;
3. Detection by chemoreceptors;
4. Movement;
5. Detection by mechanoreceptors / proprioceptors;
6. Impulses to medulla / cardiac (control) centre (NOT CCC / brain);
7. Sympathetic / accelerator nerve impulses to SAN to increase HR;
8. (Nor) adrenaline;

After exercise (max 3 marks)

9. Blood pressure increases;
10. Detection by baroreceptors;
11. Stimulation of parasympathetic / vagus system;
12. Reduced sympathetic impulses;
13. Release of acetylcholine;

[6]

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(d) 4 marks for 4 of:

1. Increased cardiac output/heart rate/stroke volume (NOT abbreviations);
2. Stronger/more forceful contractions/increased ejection fraction;
3. Increased venous return;
4. Greater (diastolic) filling/preload;
5. Increased peripheral resistance; [4]

(e) (i) 1 mark for (first 3 answers only):

1. Tidal volume AND expiratory reserve volume AND inspiratory reserve volume; [1]

(ii) 3 marks for 3 of (mark effect if name is not quite correct):

1. Tidal volume increases;
2. Expiratory reserve volume decreases;
3. Inspiratory reserve volume decreases; [3]

(f) 4 marks for 4 of:

1. Low pO_2 /less oxygen at altitude/eq;
2. Reduced diffusion gradient between alveoli/lungs and air;
3. Need to increase rate/depth of breathing/tidal volume to compensate;
4. Reduced diffusion gradient between alveoli and blood;
5. Not as much oxygen diffuses into blood;
6. Haemoglobin not as fully saturated/reduced partial pressure of oxygen in blood/slower dissociation;
7. Less oxygen delivered to muscles;
8. Reduced aerobic performance/ VO_2 max/quicker onset of anaerobic respiration; [4]

2 (a) 4 marks for 4 of (max 3 if no example):

1. Named motor ability/e.g. strength/speed/innate;
2. Needed as basis for skill/building block/e.g. need strength to learn handstand;
3. Becomes adapted/developed/e.g. kicking becomes passing in football;
4. Named fundamental motor skill/e.g. running/jumping/learned;
5. Needs practice/refinement;
6. Reinforcement/trial and error helps development;
7. Requires coaching/instruction/guidance/demonstrations; [4]

(b) 6 marks for 6 of:

1. (Attention) – demonstration can be seen (NOT pay attention);
2. (Attention) – how attractive/successful/powerful demonstration/role model/demonstrator/behaviour is/functional;
3. (Retention) – can the observer remember the skill in memory/involves cognitive skills/mental image (NOT retain);
4. (Retention) – demonstration is meaningful/relevant/realistic/succinct/accurate;
5. (Motor production) – performer has abilities/skills to complete the task;
6. (Motor production) – performer has opportunity to practice/complex skills show progression;
7. (Motivation) – model needs to be successful/status of model;
8. (Motivation) – reinforcement/praise/feedback/sense of pride/sense of satisfaction; [6]

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(c) (i) 4 marks for 4 of:

1. (Knowledge of) initial conditions;
2. (Knowledge of) response specifications;
3. Sensory consequences;
4. Movement outcomes; [4]

(ii) 4 marks for 4 of:

1. Varied practice conditions /equiv;
2. Plenty of information;
3. Practice relevant to game /conditioned games;
4. (Frequent) feedback (continuous and terminal);
5. Tasks should be challenging;
6. Include transferable information from other sports /ensure players are aware of transfer possibilities;
7. Slow motion practice /video analysis /visual aids /guidance; [4]

(d) (i) 3 marks for:

1. Movement time – the time taken from the initiation /completion of the movement from start to finish to perform the response;
2. Response time – the total time to complete a response to a given stimulus / reaction time + movement time;
3. Reaction time – the time taken to recognise and begin to react to the stimulus /time taken between the first presentation of the stimulus to the start of the movement /time taken to decide the shot; [3]

(ii) 4 marks for 4 of:

1. Mental rehearsal;
2. Improve selective attention /watching the action /early cue identification;
3. (More) practice reacting to specific stimuli /grooving the response /strengthen the S–R bond;
4. Improve physical fitness;
5. Anticipation of stimulus /early identification cues /concentrate on preliminary movements before the actual movement itself;
6. Increase arousal /motivation;
7. Decrease reaction /movement time; [4]

(e) (i) 2 marks for:

1. Associative – performed consistently and effectively /same errors repeated /lots of practice to improve /equiv;
2. Autonomous – doing it without thinking /concentrate on strategic of skills /very few errors /equiv; [2]

(ii) 3 marks for 3 of:

1. (Encourage) performer to focus on kinesthesia / KP / error detection;
2. Stress management / mental practice / psychological aspects;
3. Coach may be more motivational / pep talks / verbal persuasion / encouragement;
4. Set more challenging targets / distances;
5. Frequent / specific / realistic practice;
6. Feedback is critical / technical / concurrent / negative / reinforcement;
7. Video analysis / visual guidance;
8. Improve / maintain fitness;
9. Coach to concentrate on style and form / break skill down / whole part whole; [3]

3 (a) (i) 4 marks for 4 of:

Outdoor Education

1. Outdoor and adventurous activities / outdoor pursuits in an educational setting with school / college;
2. E.g. school ski trip (education) / canoeing in school pool / school rock climbing club;

Outdoor Recreation

3. Outdoor activity in person's free time / holidays / with friends / choice;
4. E.g. mountain biking in free time / canoeing at weekend / sailing during holidays; [4]

(ii) 6 marks for 6 of:

Educational	Recreational
<ol style="list-style-type: none"> 1. Appreciation / understanding of natural environment / issues; 2. Know personal limits / appreciate risk; 3. Trust in others / communication / awareness of others / teamwork; 4. Self-reliance / decision making / leadership / problem solving; 5. Courage / bravery / overcome fear; 6. Cross curricular opportunities / field trips / geography, biology etc; 7. Acquire new (named) skill / survival / map reading / bushcraft / safety (need to qualify to credit); 	<ol style="list-style-type: none"> 8. Opportunities for 'active leisure' / free time; 9. Choice; 10. Escape from stress / relax / mental health; 11. Health & fitness – physical; 12. Intrinsic motivation / fun 13. Sense of achievement / fulfilment / confidence / self-esteem; 14. Social / friendship;

[6]

(b) (i) 4 marks for 4 of:

1. Health / fitness / physical / mental / cost to health service;
2. Improve community relationships / community pride;
3. Social control / lowering crime rates;
4. Employment possibilities;
5. Learn skills / social / practical;
6. Better / more effective citizens formed;
7. More will make elite level / talent identification / more success on world stage;
8. Economic benefits explained; [4]

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(ii) 4 marks for (from a single country):

1. Named initiative described – e.g. 'Step into Sport' (UK) aims to encourage more young people to take up non-participating role in sport;
2. Second named initiative described – e.g. 'Active communities' (New Zealand) aims at reducing barriers to participation at a local level;
3. Third named initiative described – e.g. 'Sport for Socialisation' (Zimbabwe) aims to raise funds to encourage disabled participation;
4. Fourth named initiative described – e.g. 'Young New Zealanders' is an initiative to generate additional funding to schools and clubs to encourage increased participation for under 18s;

[4]

(c) 6 marks for 6 of:

1. Importance of occasion / match / need to win / Lombardian ethic / pressure;
2. Media hype / local derby / religion / culture;
3. Incitement by crowds / opposition / retaliation / gamesmanship / bad sportsmanship;
4. Referee's decisions;
5. Over-arousal of players / drugs;
6. Frustration / losing / unable to play well;
7. Type of activity – physical contact makes violence more prevalent;
8. Use of weapons / cues – (ice) hockey sticks;
9. Dehumanisation of players – helmets;

[6]

(d) 6 marks for 6 of (accept implied positives and negatives):

General points

1. TV has made sport a major international business;
2. Sport is for worldwide consumption / global coverage;

Positives (max 3 marks)

3. More money for better players / standards;
4. More viewing spectators / increased exposure;
5. Encourages participation;
6. Less reliance of gate receipts;
7. Educated spectators / role models;
8. Change in formats / longer seasons / more competitions;
9. Improved female / disabled / minority sports;
10. Use of technology to assist decision-making;

Negatives (max 3 marks)

11. Commercial / business / sponsors interests more important than sport;
12. TV runs sport / decides who / what / when / accept examples;
13. Reduction in participation / armchair spectators;
14. Most money goes to few sports / media sports;
15. Over-reliance on TV rights / money;
16. Sports / formats changed to suit TV / loss of tradition / accept examples;
17. Players required to play longer seasons / when injured / shorter career;
18. Sensationalised negative aspects of events / media hype;

[6]