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**PHYSICAL EDUCATION**

**9396/33**

Paper 3

**October/November 2019**

MARK SCHEME

Maximum Mark: 90

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**Published**

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 International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the October/November 2019 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

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This document consists of **10** printed pages.

**Generic Marking Principles**

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

**GENERIC MARKING PRINCIPLE 1:**

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

**GENERIC MARKING PRINCIPLE 2:**

Marks awarded are always **whole marks** (not half marks, or other fractions).

**GENERIC MARKING PRINCIPLE 3:**

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

**GENERIC MARKING PRINCIPLE 4:**

Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

**GENERIC MARKING PRINCIPLE 5:**

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

**GENERIC MARKING PRINCIPLE 6:**

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

Question	Answer	Marks
1(a)(i)	5 marks for any 5 of: 1 anaerobic / absence of oxygen; 2 (breakdown of) carbohydrate / glycogen / glucose / glycolysis; 3 ... to pyruvic acid / pyruvate; 4 ... to lactic acid / lactate; 5 occurs in sarcoplasm; 6 2 ATP (net) produced (per molecule of glucose); 7 (enzymes) GP / GPP / glycogen phosphorylase / PFK / phosphofructokinase / LDH / lactate dehydrogenase;	<b>5</b>
1(a)(ii)	4 marks for any 4 of: 1 alactacid / alactic debt / fast component of EPOC; 2 replenishment of ATP stores / PC stores / muscle phosphagen stores; 3 uses the aerobic system; 4 circulatory / respiratory rates remain elevated; 5 (replenishment of PC stores / alactacid debt) takes 2–3 minutes for full recovery / 30 seconds for 50% recovery / uses up to 4 litres of oxygen; 6 replenishment of myoglobin with oxygen / restoration of oxy-myoglobin link; 7 (replenishment of myoglobin with oxygen) takes 1–2 minutes / uses 0.5 litres of oxygen / happens first or very quickly; 8 lactacid debt / slow component of EPOC (starts but takes up to an hour to complete); 9 removal of lactic acid;	<b>4</b>
1(b)	3 marks for: <i>Must use a sporting example for each term.</i> 1 (macrocycle) for example, the training period between now and the Olympic Games / World Championships; 2 (mesocycle) for example, an 8-week training programme to improve speed; 3 (microcycle) for example, a weekly plan that involves strength work, flexibility exercises and running technique sessions;	<b>3</b>
1(c)(i)	3 marks for: 1 (definition) the ability to maintain equilibrium / centre of mass over base of support; 2 static <b>AND</b> an example, e.g. headstand; 3 dynamic <b>AND</b> an example, e.g. rugby player evading a tackle;	<b>3</b>

Question	Answer				Marks																
1(c)(ii)	3 marks for any 3 of: <table border="1" data-bbox="308 315 1321 1182"> <tr> <td data-bbox="308 315 550 416">1 (name)</td> <td data-bbox="550 315 793 416">Stork test;</td> <td data-bbox="793 315 1059 416">Flamingo test / Beam balance;</td> <td data-bbox="1059 315 1321 416">Balance board;</td> </tr> <tr> <td data-bbox="308 416 550 748">2 (description – protocol)</td> <td data-bbox="550 416 793 748">subject stands on one leg with other foot resting on inside of knee and raises up on to tiptoes (hands on hips) (eyes open or closed);</td> <td data-bbox="793 416 1059 748">subject stands on beam on one leg with free leg flexed, close to buttock and held with one hand;</td> <td data-bbox="1059 416 1321 748">subject attempts to stand on the balance board without letting its edge touch the floor;</td> </tr> <tr> <td data-bbox="308 748 550 1115">3 (description – measure)</td> <td data-bbox="550 748 793 1115">length of time that subject can hold position without heel touching floor or foot moving away from knee is recorded;</td> <td data-bbox="793 748 1059 1115">number of attempts needed to complete 60 seconds is recorded (each time foot is released or balance is lost the watch is stopped);</td> <td data-bbox="1059 748 1321 1115">length of time on board until an edge touches floor <b>OR</b> number of attempts needed to complete 60 seconds on board is recorded;</td> </tr> <tr> <td data-bbox="308 1115 550 1182">4 (evaluation)</td> <td colspan="3" data-bbox="550 1115 1321 1182">compare score to standardised table for a rating;</td> </tr> </table> <p data-bbox="308 1211 847 1249"><i>Accept other recognised tests of balance.</i></p>				1 (name)	Stork test;	Flamingo test / Beam balance;	Balance board;	2 (description – protocol)	subject stands on one leg with other foot resting on inside of knee and raises up on to tiptoes (hands on hips) (eyes open or closed);	subject stands on beam on one leg with free leg flexed, close to buttock and held with one hand;	subject attempts to stand on the balance board without letting its edge touch the floor;	3 (description – measure)	length of time that subject can hold position without heel touching floor or foot moving away from knee is recorded;	number of attempts needed to complete 60 seconds is recorded (each time foot is released or balance is lost the watch is stopped);	length of time on board until an edge touches floor <b>OR</b> number of attempts needed to complete 60 seconds on board is recorded;	4 (evaluation)	compare score to standardised table for a rating;			<b>3</b>
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1(c)(iii)	6 marks for any 6 of: <ol style="list-style-type: none"> <li data-bbox="308 1346 1299 1413">1 warm up / pulse raiser / increase temperature of muscles / stretch as part of cool down;</li> <li data-bbox="308 1413 1219 1447">2 named / described stretching exercise, e.g. lunges / open the gate;</li> <li data-bbox="308 1447 1007 1480">3 stretches must be done at least 3 times per week;</li> <li data-bbox="308 1480 1171 1514">4 stretches should be repeated (at least two times per exercise);</li> <li data-bbox="308 1514 983 1547">5 take the joint to / just beyond point of resistance;</li> <li data-bbox="308 1581 906 1615">6 static stretching / can be active or passive;</li> <li data-bbox="308 1615 842 1648">7 hold stretch for 10 seconds or longer;</li> <li data-bbox="308 1682 612 1715">8 dynamic stretching;</li> <li data-bbox="308 1715 1321 1749">9 slow controlled movements that take joint through full range of movement;</li> <li data-bbox="308 1783 596 1816">10 ballistic stretching;</li> <li data-bbox="308 1816 951 1850">11 use of faster swinging / bouncing movements;</li> <li data-bbox="308 1883 560 1917">12 PNF stretching;</li> <li data-bbox="308 1917 1262 1984">13 static stretch, isometric contraction (for 6 seconds), then static stretch again;</li> </ol>				<b>6</b>																

Question	Answer	Marks
1(c)(iv)	3 marks for any 3 of: 1 reduced risk of muscle / connective tissue injury; 2 increased (resting) length of muscle / connective tissue; 3 increased elasticity of muscle / connective tissue; 4 reduced stimulus to / inhibition of stretch reflex; 5 delays activation of muscle spindles; 6 enhanced response of golgi tendon organs / autogenic inhibition;	<b>3</b>
1(d)	3 marks for any 3 of: <i>Max. 2 marks if no sporting example.</i> 1 (caffeine) is a stimulant / has a stimulating effect on the CNS / more alert improves reaction time; 2 reduces the sensation of fatigue / perception of work effort / pain; 3 improves concentration / focus during strenuous activity; 4 helps to preserve glycogen stores; 5 enhances fat utilisation in the body / increases levels of free fatty acids; 6 delays exhaustion; 7 enhances strength of contraction / by increasing calcium content;	<b>3</b>

Question	Answer	Marks
2(a)	<p>3 marks for:</p> <p><i>Each component must be described, for example:</i></p> <ol style="list-style-type: none"> <li>1 (cognitive component) knowledge / belief that fitness training will improve fitness / health / sporting ability / e.g. know that going to the gym is good for you;</li> <li>2 (affective component) emotional aspect / positive feelings / enjoyment / e.g. likes training;</li> <li>3 (behavioural component) how the performer acts / e.g. commitment / persistence / effort / high attendance at training;</li> </ol>	<b>3</b>
2(b)(i)	<p>3 marks for any 3 of:</p> <ol style="list-style-type: none"> <li>1 highly motivated / enthusiastic / goal focused;</li> <li>2 good motivator / persuasive;</li> <li>3 good communicator / organiser;</li> <li>4 experienced / knowledgeable / high level of skill;</li> <li>5 charisma;</li> <li>6 empathy / understands the needs of others;</li> <li>7 respected / has a good relationship with the team;</li> <li>8 flexible / adaptable / uses different leadership styles depending on situation;</li> <li>9 confident;</li> </ol>	<b>3</b>
2(b)(ii)	<p>5 marks for any 5 of:</p> <p><i>Max. 3 marks if no example used. Max. 4 marks if only 1 example used.</i></p> <ol style="list-style-type: none"> <li>1 select 'team' players / players who do not / have not shown evidence of social loafing;</li> <li>2 punish players who are not cohesive;</li> <li>3 reward / praise good teamwork / cohesive behaviour;</li> <li>4 set (team) goals;</li> <li>5 give individual responsibilities / roles;</li> <li>6 highlight individual performances / credit personal success / reward 'assists';</li> <li>7 encourage friendships / team building / bonding exercises;</li> <li>8 work on set plays / team tactics in practice;</li> <li>9 encourage group identity / team kit;</li> <li>10 appoint a strong leader (who is respected by the team);</li> </ol>	<b>5</b>
2(c)	<p>3 marks for:</p> <p><i>Max. 1 mark if no sporting example used.</i></p> <ol style="list-style-type: none"> <li>1 (product goals) focus on the outcome / result / beating an opponent, e.g. win a 100 m race;</li> <li>2 (performance goals) focus on one's performance compared to previous attempt, e.g. achieve a PB of 10.2 seconds in 100 m race;</li> <li>3 (process goals) focus on technique / tactics, e.g. sprint start in 100 m race;</li> </ol>	<b>3</b>

Question	Answer	Marks
2(d)	<p>4 marks for 4 of:</p> <p><i>Max. 2 marks if no examples used. Max. 3 marks if only 1 example used.</i></p> <ol style="list-style-type: none"> <li>1 broad – lots of cues, e.g. footballer has many passing options;</li> <li>2 narrow – few cues, e.g. basketball player taking a free-throw shot;</li> <li>3 internal – cues from within performer, e.g. gymnast mentally rehearsing a floor routine;</li> <li>4 external – cues from environment, e.g. fielder focusing on the ball as it comes towards him;</li> </ol> <p><b>OR</b></p> <ol style="list-style-type: none"> <li>5 broad external – footballer scanning field to assess passing options;</li> <li>6 broad internal – rugby player thinking about all the set plays he is involved in before a game;</li> <li>7 narrow external – golfer hitting a drive off the tee;</li> <li>8 narrow internal – netball player thinking about her shooting technique;</li> </ol> <p><i>Each of the attentional styles (broad, narrow, external, internal) must be explained for a mark.</i></p>	<b>4</b>
2(e)(i)	<p>4 marks for any 4 of:</p> <ol style="list-style-type: none"> <li>1 nature of game / contact sport / aggressive cues present;</li> <li>2 poor performance / losing / frustration;</li> <li>3 poor refereeing decisions / fouls by opponent not penalised;</li> <li>4 previous experience / scores to settle from past encounter;</li> <li>5 verbal / physical abuse from opponent / retaliation / gamesmanship from opposition;</li> <li>6 hostile crowd / proximity of crowd;</li> <li>7 very high arousal levels / importance of event / pressure from significant others, e.g. coach;</li> <li>8 emotional / off-the-pitch issues / personality trait;</li> </ol>	<b>4</b>
2(e)(ii)	<p>5 marks for any 5 of:</p> <ol style="list-style-type: none"> <li>1 punish aggressive play;</li> <li>2 withdraw / remove performer from situation <b>OR</b> teach performer to walk away;</li> <li>3 positively reinforce / reward non-aggressive play;</li> <li>4 promote non-aggressive role models;</li> <li>5 educate performers about the consequences of aggressive play <b>OR</b> use rational thinking;</li> <li>6 reduce the importance of the event / outcome;</li> <li>7 emphasise performance rather than product goals;</li> <li>8 lower arousal levels;</li> <li>9 use cognitive strategies / stress management techniques / count to 10 / deep breathing / imagery;</li> <li>10 encourage channelled aggression / assertion;</li> </ol>	<b>5</b>

<b>Question</b>	<b>Answer</b>	<b>Marks</b>
2(f)	3 marks for any 3 of:  1 attribute failure to internal factors (that are controllable) / lack of effort; 2 attribute failure to unstable factors / luck / task difficulty; 3 attribute failure to controllable factors / poor coaching / tactics; 4 attribute success to internal / stable factors / ability;	<b>3</b>



Question	Answer	Marks
3(a)	3 marks for any 3 of: 1 abide by the rules of the competition; 2 conform over or above the strict rules / no gamesmanship; 3 good sportsmanship / respect for other performers / officials; 4 modest in victory / shake hands; 5 generous in defeat / congratulate opponent;	<b>3</b>
3(b)	4 marks for any 4 of: 1 similar sports, e.g. athletics (one sport must be identified); 2 every 4 years; 3 Olympiad; 4 Olympic oath; 5 Olympic flame; 6 international athletic festival / athletes from all over the world compete / cultural festival; 7 opening ceremony; 8 mental / physical challenge; 9 peace / harmony / cooperation between nations; 10 specialist sites used; 11 specialist training (prior to event); 12 eligibility standards must be met to qualify for Games;	<b>4</b>
3(c)	4 marks for any 4 of: 1 terrorism – Munich 1972 – killing of Israeli athletes by Palestinians; 2 protest – Mexico 1968 – Black power salute – race issues in USA; 3 propaganda – Berlin 1936 – promote Nazi supremacy; 4 nations banned – South Africa due to apartheid; 5 nations banned – Germany and Japan after Second World War; 6 nations banned – Iraq for the alleged torture of Iraqi athletes; 7 non-recognition of nations – e.g. Taiwan by China; 8 non-recognition of nations – e.g. former Soviet republics by Russia; 9 terrorism / protest – Atlanta 1996 bomb – anti-socialism / anti-abortion; 10 protest – Sydney 2000 – aboriginal race issues;  <i>Accept descriptions of other relevant examples.</i>	<b>4</b>
3(d)	5 marks for any 5 of: 1 (broken time) payment for playing; 2 (broken time) payment made to cover loss of earnings; 3 (broken time) ... and to cover costs of expenses; 4 (impact) abuse of the amateur ideal / participants should compete for no financial gain; 5 (impact) created inequality between competing teams; 6 (impact) stimulated debate about whether Olympics could remain amateur; 7 (impact) ... led to professionalism / to attract top athletes;	<b>5</b>

Question	Answer	Marks
3(e)	3 marks for any 3 of: 1 high income / sponsorship deals / endorsements; 2 public appearances; 3 media spotlight / attention / fame; 4 representing one's country; 5 competing at the highest level in their sport; 6 meeting / socialising with other elite athletes; 7 exposure to / learning about different cultures;	<b>3</b>
3(f)	4 marks for any 4 of: 1 big drug bust; 2 many of the competitors tested positive / used drugs; 3 named athletes – Johnson / Lewis / Christie / Williams / Mitchell; 4 Ben Johnson stripped of gold medal / gold medal given to Carl Lewis; 5 positive tests allegedly covered up; 6 damage to credibility of sport; 7 the fourth placed runner / Calvin Smith never tested positive;	<b>4</b>
3(g)	7 marks for 7 of (sub-max. 5 marks if only arguments on one side are given):  (pro-doping sub-max. 5 marks) 1 not all banned drugs are illegal; 2 loss of medical benefits / some legal health products have different constituents in different countries, e.g. nasal sprays and cold remedies / some banned drugs speed up healing / recovery; 3 not all banned drugs are harmful <b>OR</b> some legal aids are harmful; 4 some banned drugs are natural, e.g. testosterone; 5 other performance-enhancing aids are allowed / legal methods allow athletes to train harder; 6 infringement of liberties / invasion of privacy during testing; 7 freedom of choice / let the athlete decide; 8 greater spectacle due to enhanced performances; 9 removes the cost of testing;  (anti-doping sub-max. 5 marks) 10 drugs are harmful to health / long-term health damage; 11 drugs are addictive; 12 natural athlete v laboratory athlete / best chemistry / drugs win; 13 unfair advantage / inequality of opportunity / richer countries or athletes benefit; 14 cheating is against the spirit of the Games; 15 freedom of choice not allowed in general society, so why in sport; 16 negative effect of role models / diminishes status of sport; 17 devalues reason for training / athletic prowess questioned; 18 reduces need for tactics / strategy;  <i>Allow other suitable evaluations.</i>	<b>7</b>