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**PHYSICAL EDUCATION**

**9396/11**

Paper 1

**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)	4 marks for any 4 of: 1 flexion; 2 extension; 3 abduction; 4 adduction; 5 rotation; 6 circumduction; 7 elevation; 8 depression; 9 horizontal flexion / lateral flexion / horizontal adduction / lateral adduction; 10 horizontal extension / lateral extension / horizontal abduction / lateral abduction;	<b>4</b>
1(b)	2 marks for any 2 of: 1 synovial / freely movable; 2 pivot joint; 3 cartilaginous / semi-movable / slightly movable joint; 4 gliding joint; 5 fibrous / fixed / immovable;	<b>2</b>
1(c)(i)	5 marks for: 1 concentric; 2 flexion; 3 rectus abdominis / external obliques / iliopsoas / rectus femoris; 4 eccentric; 5 extension;	<b>5</b>
1(c)(ii)	4 marks for any 4 of: 1 high speed of contraction; 2 large motor neurone size; 3 large muscle fibre diameter; 4 low resistance to fatigue; 5 high force production; 6 low numbers of mitochondria; 7 low capillary density; 8 low oxidative capacity / low aerobic capacity / high anaerobic capacity; 9 low myoglobin content; 10 high glycolytic content; 11 high myosin ATPase levels; 12 high glycogen stores; 13 high PC stores; 14 low triglyceride stores; 15 narrow Z-line thickness; 16 large number of fibres per motor neurone;	<b>4</b>

Question	Answer	Marks
1(d)	5 marks for any 5 of: 1 lungs – gaseous exchange / carbon dioxide removed / oxygen taken in; 2 to pulmonary vein – transports oxygenated blood; 3 to left atrium – fills with blood / diastole / relaxed; 4 atrial systole / contraction – forces blood into ventricle; 5 through atrioventricular / bicuspid / mitral valves – forced open due to pressure / prevent backflow; 6 to left ventricle – fills with blood / diastole; 7 ventricular systole / contraction pumps blood into aorta; 8 through semilunar / aortic valves – forced open due to pressure / prevent backflow;	<b>5</b>
1(e)	4 marks for any 4 of: 1 controlled by / regulated by the vasomotor control centre / medulla; 2 via sympathetic nerve impulses / stimulation; 3 action of pre-capillary sphincters / smooth muscle; 4 vasodilation – widening of arterioles / blood vessels; 5 vasoconstriction – narrowing of arterioles / blood vessels; 6 decreasing amount / volume / proportion of blood going to non-essential organs / e.g. gut / kidneys / inactive muscles;	<b>4</b>
1(f)	3 marks for any 3 of: 1 increased cardiac output / heart rate / stroke volume; 2 stronger / more forceful contractions / increased ejection fraction; 3 increased venous return; 4 greater (diastolic) filling / preload; 5 increased peripheral resistance / increased friction / increased blood viscosity;	<b>3</b>
1(g)	3 marks for any 3 of: 1 low $pO_2$ / less oxygen; 2 reduced diffusion gradient (between alveoli / lungs and air or between alveoli and blood); 3 not as much oxygen diffuses into blood / reduced $pO_2$ in blood; 4 haemoglobin not as saturated; 5 less oxygen delivered to muscles; 6 need to increase rate / depth of breathing; 7 reduced aerobic performance / quicker onset of anaerobic respiration;	<b>3</b>

Question	Answer	Marks
2(a)	<p>4 marks for:</p> <p>for example,</p> <ol style="list-style-type: none"> <li>1 (closed) – environment is stable / predictable / no interference from other performers / use pre-set routine / minimal adjustments need to be made / decisions are pre-planned / few decisions;</li> <li>2 (discrete) – clear beginning and end / completed in a short space of time / skill must start again to be repeated;</li> <li>3 (internally paced) – performer controls the speed of movement / performer decides when to start the movement;</li> <li>4 (high organisation) – difficult to break down into parts / sub-routines difficult to separate from whole movement / practised as part of whole movement;</li> </ol> <p><i>Accept alternative classifications if justified appropriately, e.g. externally paced by time limit to throw.</i></p>	<b>4</b>
2(b)	<p>5 marks for 5 of:</p> <p>(sub-max. 3 marks)</p> <ol style="list-style-type: none"> <li>1 Gestaltist approach / cognitive theory / discovery learning;</li> <li>2 skill is treated holistically / wholeness;</li> <li>3 learner develops an understanding / requirements of skill / eureka moment;</li> <li>4 learner draws together many variables / sub-routines;</li> <li>5 takes into consideration aspects of the environment / display / perception before deciding appropriate response;</li> </ol> <p>(sub-max. 3 marks for benefits)</p> <ol style="list-style-type: none"> <li>6 adaptable / able to be modified;</li> <li>7 encourages problem solving / encourages discovery / encourages finding out / encourages independent learners / encourages perception;</li> <li>8 increases motivation;</li> <li>9 may speed up learning;</li> <li>10 helps develop schema;</li> </ol>	<b>5</b>
2(c)	<p>4 marks for:</p> <ol style="list-style-type: none"> <li>1 (attention) performer cues into or selectively attends to or focuses or concentrates on aspects of display / demonstration;</li> <li>2 (retention) performer needs to remember the demonstration / movements / behaviours watched / create mental image / store in long-term memory;</li> <li>3 (motor reproduction) performer must be capable of performing the skill / information must be at a level relevant to performer / performer must be able to match the demonstration;</li> <li>4 (motivation) performer must have drive or want to learn to copy model;</li> </ol>	<b>4</b>

Question	Answer	Marks
2(d)	4 marks for any 4 of: 1 relevant / specific practice / overlearning; 2 practice with distractions; 3 focus on / highlight specific cues / emphasise value of selective attention; 4 increase intensity of the stimulus; 5 mental rehearsal / visualisation / imagery; 6 encourage anticipation; 7 optimum arousal levels; 8 transfer of learning / link to past experience; 9 make practice meaningful / enjoyable / fun / interesting / memorable / use of rewards / motivate performer;	<b>4</b>
2(e)	3 marks for: 1 (movement time) time taken from the initiation / start of movement to completion / end of movement / time from end of reaction / decision to end of movement / eq.; 2 (response time) time taken from initiation / start of signal / stimulus to end of movement; 3 (reaction time) time taken from presentation of the stimulus to the start of the movement / time taken to decide the shot / eq.;	<b>3</b>
2(f)(i)	1 mark for: 1 the influence of the learning / performance of one skill on the learning / performance of another skill;	<b>1</b>
2(f)(ii)	4 marks for: 1 positive – one skill can help the performance of another skill; 2 suitable practical example, e.g. an overarm throw can help with the action of the tennis serve; 3 negative – one skill can hinder the performance of another skill; 4 suitable practical example, e.g. after playing squash you overhit the ball in a table tennis game / badminton wrist action transferred to tennis;	<b>4</b>
2(g)	5 marks for any 5 of: 1 at low levels of arousal performance is low; 2 at high levels of arousal performance is low; 3 as arousal increases so does performance up to an optimum level; 4 moderate arousal leads to best performance; 5 optimum levels can change depending on the ability / skill level of the performer; 6 highly skilled perform better under high arousal / novices / beginners perform better under low arousal; 7 optimum levels can change depending on the nature of the task; 8 high arousal often required for any gross / dynamic / simple tasks / low arousal often required for any fine / perceptual / complex tasks; 9 different personalities may need different levels of arousal;	<b>5</b>

Question	Answer	Marks																				
3(a)(i)	2 marks for any 2 of: 1 time free from obligations / work / family; 2 freely chosen activity; 3 activity done for self-realisation / personal development / self-expression / relaxation / to relieve stress / escape / recreation / pleasure / eq.;	<b>2</b>																				
3(a)(ii)	3 marks for any 3 of: 1 provides a range of activities for any children to try / initial interest / find one to enjoy; 2 gives foundations in / learn skills / techniques / rules / fair play / safety; 3 gives confidence to have a go / join in activity; 4 provides links with clubs / other agencies; 5 understand / teach benefits of active lifestyle / exercise–health link;	<b>3</b>																				
3(b)	5 marks for any 5 of: <table border="1"> <thead> <tr> <th>recreation</th> <th>sport</th> </tr> </thead> <tbody> <tr> <td>1 for anybody</td> <td>elite / select / few performers;</td> </tr> <tr> <td>2 little organisation / little structure</td> <td>highly organised / structured;</td> </tr> <tr> <td>3 no officials / rules</td> <td>officials / rules;</td> </tr> <tr> <td>4 can be done at any time</td> <td>done at specific times;</td> </tr> <tr> <td>5 non-competitive</td> <td>highly competitive;</td> </tr> <tr> <td>6 intrinsic rewards / no financial gain</td> <td>extrinsic reward / financial gain;</td> </tr> <tr> <td>7 limited training</td> <td>commitment to training;</td> </tr> <tr> <td>8 skill level not important</td> <td>high skill level required;</td> </tr> <tr> <td>9 undertaken anywhere</td> <td>undertaken at specialist route;</td> </tr> </tbody> </table> <p><i>Allow descriptions of other correct differences.</i></p>	recreation	sport	1 for anybody	elite / select / few performers;	2 little organisation / little structure	highly organised / structured;	3 no officials / rules	officials / rules;	4 can be done at any time	done at specific times;	5 non-competitive	highly competitive;	6 intrinsic rewards / no financial gain	extrinsic reward / financial gain;	7 limited training	commitment to training;	8 skill level not important	high skill level required;	9 undertaken anywhere	undertaken at specialist route;	<b>5</b>
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3(c)	5 marks for any 5 of: <ol style="list-style-type: none"> <li>1 description of government policies / initiatives / schemes;</li> <li>2 description of talent ID and talent development;</li> <li>3 description of pathways in place to achieve excellence / organisation of sport;</li> <li>4 description of provision for any funding / grants / sponsorship / scholarships;</li> <li>5 description of provision of facilities / local / regional / national / equipment / technology;</li> <li>6 description of provision / education of coaches;</li> <li>7 description of provision of centres of excellence / schools / universities / academies;</li> <li>8 description of provision of medical / sport science support;</li> <li>9 description of policies showing attitudes towards excellence;</li> <li>10 description of widening of base of the participation pyramid / school programmes / to allow more performers to reach the top of pyramid;</li> </ol>	<b>5</b>
3(d)(i)	5 marks for any 5 of: <ol style="list-style-type: none"> <li>1 physical health / fitness;</li> <li>2 become skilful / knowledgeable / strive to achieve high standards;</li> <li>3 enjoyment / fun / intrinsic / satisfaction / develop mental health / self-esteem;</li> <li>4 personal challenge of competition;</li> <li>5 social health / be part of a team / life skills, e.g. leadership;</li> <li>6 possibility of earning a living;</li> <li>7 fame / praise / medals / status;</li> <li>8 keep out of trouble / hobby;</li> <li>9 socialisation – learning cultural values, e.g. values / ethics;</li> </ol>	<b>5</b>



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3(d)(ii)	<p>6 marks for any 6 of:</p> <table border="1"> <thead> <tr> <th>factor</th> <th>explanation, for example:</th> </tr> </thead> <tbody> <tr> <td>1 (socioeconomic status)</td> <td>involvement limited by amount of disposable income / whether in employment;</td> </tr> <tr> <td>2 (family / peers / friends)</td> <td>influences can be positive or negative / level of support;</td> </tr> <tr> <td>3 (age)</td> <td>suitable provision for any over 60's / young people / may be tendency for change of activity as people age;</td> </tr> <tr> <td>4 (gender)</td> <td>men may be more likely to participate than women / stereotyping of women / some sports more male / female appropriate;</td> </tr> <tr> <td>5 (ability)</td> <td>involvement limited by fitness / talent ID / pathways in place;</td> </tr> <tr> <td>6 (disability)</td> <td>limited / less access / may have low self-esteem / need adapted sports;</td> </tr> <tr> <td>7 (race / culture)</td> <td>some ethnic groups still discriminate / stereotyping, e.g. black athletes may be sprinters;</td> </tr> <tr> <td>8 (religion)</td> <td>religion may inhibit, e.g. dress code / parental aspirations;</td> </tr> <tr> <td>9 (government status / attitude)</td> <td>policies / political influences in country may affect involvement;</td> </tr> <tr> <td>10 (previous experience)</td> <td>enjoyed or disliked Physical Education / previous success / self-esteem / self-confidence;</td> </tr> <tr> <td>11 (geography)</td> <td>where you live may limit opportunity / facilities;</td> </tr> <tr> <td>12 (role models)</td> <td>involvement increased by presence / influence;</td> </tr> <tr> <td>13 (media)</td> <td>amount of exposure to different sports / how media treats sports people may influence involvement;</td> </tr> <tr> <td>14 (employment)</td> <td>because sport can provide employment;</td> </tr> <tr> <td>15 (availability of time)</td> <td>some sports require lots of time / you need time to be able to participate;</td> </tr> </tbody> </table> <p><i>Accept other relevant explanations.</i></p>	factor	explanation, for example:	1 (socioeconomic status)	involvement limited by amount of disposable income / whether in employment;	2 (family / peers / friends)	influences can be positive or negative / level of support;	3 (age)	suitable provision for any over 60's / young people / may be tendency for change of activity as people age;	4 (gender)	men may be more likely to participate than women / stereotyping of women / some sports more male / female appropriate;	5 (ability)	involvement limited by fitness / talent ID / pathways in place;	6 (disability)	limited / less access / may have low self-esteem / need adapted sports;	7 (race / culture)	some ethnic groups still discriminate / stereotyping, e.g. black athletes may be sprinters;	8 (religion)	religion may inhibit, e.g. dress code / parental aspirations;	9 (government status / attitude)	policies / political influences in country may affect involvement;	10 (previous experience)	enjoyed or disliked Physical Education / previous success / self-esteem / self-confidence;	11 (geography)	where you live may limit opportunity / facilities;	12 (role models)	involvement increased by presence / influence;	13 (media)	amount of exposure to different sports / how media treats sports people may influence involvement;	14 (employment)	because sport can provide employment;	15 (availability of time)	some sports require lots of time / you need time to be able to participate;	<b>6</b>
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3(e)	4 marks for any 4 of:  1 penalties within the event – bookings / free kicks / sin bin or eq.; 2 penalties after the event – bans / fines / loss of medals / citing officers / 'name and shame' / eq.; 3 fair-play awards / place in major event based on disciplinary record; 4 clubs / teams fined / points deducted; 5 matches played behind closed doors / spectators banned from watching; 6 fair-play charters / code of conduct / education / campaigns; 7 drug testing / biological passport; 8 positive role models;	<b>4</b>