



Cambridge International AS & A Level

PHYSICAL EDUCATION

9396/32

Paper 3

May/June 2020

MARK SCHEME

Maximum Mark: 90

Published

Students did not sit exam papers in the June 2020 series due to the Covid-19 global pandemic.

This mark scheme is published to support teachers and students and should be read together with the question paper. It shows the requirements of the exam. The answer column of the mark scheme shows the proposed basis on which Examiners would award marks for this exam. Where appropriate, this column also provides the most likely acceptable alternative responses expected from students. Examiners usually review the mark scheme after they have seen student responses and update the mark scheme if appropriate. In the June series, Examiners were unable to consider the acceptability of alternative responses, as there were no student responses to consider.

Mark schemes should usually be read together with the Principal Examiner Report for Teachers. However, because students did not sit exam papers, there is no Principal Examiner Report for Teachers for the June 2020 series.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the June 2020 series for most Cambridge IGCSE™ and Cambridge International A & AS Level components, and some Cambridge O Level components.

This document consists of **12** 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.

Science-Specific Marking Principles

- 1 Examiners should consider the context and scientific use of any keywords when awarding marks. Although keywords may be present, marks should not be awarded if the keywords are used incorrectly.
- 2 The examiner should not choose between contradictory statements given in the same question part, and credit should not be awarded for any correct statement that is contradicted within the same question part. Wrong science that is irrelevant to the question should be ignored.
- 3 Although spellings do not have to be correct, spellings of syllabus terms must allow for clear and unambiguous separation from other syllabus terms with which they may be confused (e.g. ethane / ethene, glucagon / glycogen, refraction / reflection).
- 4 The error carried forward (ecf) principle should be applied, where appropriate. If an incorrect answer is subsequently used in a scientifically correct way, the candidate should be awarded these subsequent marking points. Further guidance will be included in the mark scheme where necessary and any exceptions to this general principle will be noted.

5 'List rule' guidance

For questions that require *n* responses (e.g. State **two** reasons ...):

- The response should be read as continuous prose, even when numbered answer spaces are provided
- Any response marked *ignore* in the mark scheme should not count towards *n*
- Incorrect responses should not be awarded credit but will still count towards *n*
- Read the entire response to check for any responses that contradict those that would otherwise be credited. Credit should **not** be awarded for any responses that are contradicted within the rest of the response. Where two responses contradict one another, this should be treated as a single incorrect response
- Non-contradictory responses after the first *n* responses may be ignored even if they include incorrect science.

6 Calculation specific guidance

Correct answers to calculations should be given full credit even if there is no working or incorrect working, **unless** the question states 'show your working'.

For questions in which the number of significant figures required is not stated, credit should be awarded for correct answers when rounded by the examiner to the number of significant figures given in the mark scheme. This may not apply to measured values.

For answers given in standard form, (e.g. $a \times 10^n$) in which the convention of restricting the value of the coefficient (*a*) to a value between 1 and 10 is not followed, credit may still be awarded if the answer can be converted to the answer given in the mark scheme.

Unless a separate mark is given for a unit, a missing or incorrect unit will normally mean that the final calculation mark is not awarded. Exceptions to this general principle will be noted in the mark scheme.

7 Guidance for chemical equations

Multiples / fractions of coefficients used in chemical equations are acceptable unless stated otherwise in the mark scheme.

State symbols given in an equation should be ignored unless asked for in the question or stated otherwise in the mark scheme.

Question	Answer	Marks
1(a)(i)	1 mark for 1 of: 1 force \times distance moved; 2 a measure of energy transfer when an object is moved over a distance by a force;	1
1(a)(ii)	1 mark for: 1 (kilo)joules / (kilo)calories / newton metres / ergs / foot-pounds / etc.;	1
1(b)	5 marks for any 5 of: 1 glycogen is converted / broken down to glucose; 2 glucose is broken down into pyruvic acid / pyruvate; 3 in the sarcoplasm; 4 (yield) (net) 2 ATP (per molecule of glucose); 5 (enzyme) glycogen phosphorylase / GP / GPP; 6 (enzyme) phosphofructokinase / PFK; 7 (as oxygen is sufficient) no lactic acid is formed; 8 (pyruvate) goes through link reaction OR catalysed by coenzyme A; 9 (pyruvate) becomes acetyl coenzyme A / acetyl CoA;	5
1(c)	3 marks for any 3 of: (accept opposites for less fit athlete, e.g. less fit athletes will be more reliant on anaerobic systems) 1 fitter athlete will use aerobic system more / earlier OR less time using anaerobic systems; 2 fitter athlete can transport / use greater volumes of oxygen; 3 fitter athlete can work aerobically at higher intensity OR OBLA reached later; 4 because better at buffering / breaking down / removing lactic acid; 5 fitter athlete can use ATP / PC system for longer; 6 due to greater stores of PC; 7 fitter athlete can do more reps of high intensity / anaerobic work; 8 because they recover quicker / replenish stores of PC quicker;	3

Question	Answer	Marks
1(d)	4 marks for any 4 of: 1 oxidised / (converted) into CO ₂ and H ₂ O; 2 (converted back) into pyruvic acid; 3 (converted) into glycogen; 4 (converted) into glucose; 5 (converted) into protein; 6 (converted) into sweat / urine;	4
1(e)(i)	3 marks for any 3 of: 1 increase the intensity, e.g. add an extra weight OR run faster; 2 increase the duration of work, e.g. run for a longer distance; 3 increase the number of sets, e.g. do 5 sets instead of 4; 4 increase frequency of training, e.g. increase from 3 to 4 workouts per week; 5 reduce recovery time between sets / work to relief ratio, e.g. 30 seconds rest instead of 40 seconds rest; <i>A practical example must be given to support each point.</i>	3
1(e)(ii)	3 marks for any 3 of: 1 prevent / reduce boredom / staleness; 2 maintain motivation / enjoyment; 3 prevent stress / overuse injuries; 4 change muscle / movement patterns OR develop schema;	3
1(f)	3 marks for: 1 (reps) 12–20 OR until exhaustion; 2 (sets) 3–8; 3 (resistance) 40–75% of 1RM;	3

Question	Answer	Marks
1(g)	<p>3 marks for any 3 of:</p> <ol style="list-style-type: none"> 1 glycogen / carbohydrate rich meal to replenish glycogen stores; 2 protein to aid muscle growth / repair; 3 fluid intake to rehydrate or replace electrolytes; 4 fats to slow digestion / prevent insulin surge / replace fat stores (amount of fats must be quantified as low or eq.); 5 vitamins / minerals and specific benefit; <p><i>The constituent must be named and the benefit explained for a mark.</i></p>	3
1(h)	<p>3 marks for any 3 of:</p> <ol style="list-style-type: none"> 1 increase in red blood cell count / haemocrit; 2 increase in haemoglobin; 3 increased oxygen uptake / transport; 4 increased aerobic capacity / VO₂ max / stamina / cardiovascular fitness; <p>1 mark for:</p> <ol style="list-style-type: none"> 5 any predominantly aerobic activity, e.g. Tour de France cyclist or marathon runner or any relevant games activity; 	4

Question	Answer	Marks
2(a)	4 marks for any 4 of: 1 personality / behaviour is dependent on the environment / environmental influences; 2 (proposed by) Bandura; 3 (personality is developed through) observing AND copying / mimicking; 4 socialisation / role models / significant others / more likely to be copied; 5 reinforcement makes learning more likely; 6 more likely to occur if model is similar to learner;	4
2(b)(i)	2 marks for any 2 of: 1 associating certain (behaviour) characteristics to an individual / group / gender / race; 2 affects how the person thinks / acts towards the individual / group; 3 often a negative aspect of an attitude OR resistant to change OR preconceived idea / unfounded expectation;	2
2(b)(ii)	4 marks for any 4 of: 1 (coach) may favour certain individuals, e.g. give roles of responsibility; 2 (coach) may deny opportunities to others, e.g. does not support a girls team; 3 (coach) may put certain players in certain positions, e.g. white player as quarterback; 4 (coach) may have unrealistic expectations of individuals, e.g. assume black player is fastest runner; 5 (coach) may spend more time coaching some individuals ...; 6 ... which may lead to self-fulfilling prophecy; 7 (coach) may not credit good performance;	4
2(c)(i)	3 marks for any 3 of: 1 mutual awareness / identity OR perception of group's existence; 2 interaction OR each player influences / is influenced by each other OR working together; 3 common goal / norms / values; 4 communication; 5 group with complementary skills;	3

Question	Answer	Marks
2(c)(ii)	<p>4 marks for any 4 of: (sub-max. 2 if no practical example is used, sub-max. 3 if only 1 practical example is used)</p> <ol style="list-style-type: none"> 1 social loafing / lack of effort / motivation, e.g. footballer does not try to track back after losing ball; 2 Ringelmann effect / lack of coordination / communication / size of group, e.g. rugby move from scrum breaks down as a player runs wrong line; 3 lack of identifiable roles / goals / accountability, e.g. basketball player is not clear what his role is in defence; 4 lack of cohesion / belief that others are not trying, e.g. netballer thinks team mate is not trying so stops trying too; 5 poor leadership / tactics / strategies, e.g. volleyball team keep setting to a weak spiker; 6 injury / illness, e.g. playmaker in hockey is injured; 7 level of competition too high or low / unachievable goals, e.g. opposition in rugby are just too good; 8 environmental factors / weather / crowd, e.g. hostile crowd at football match; 	4
2(d)	<p>4 marks for:</p> <ol style="list-style-type: none"> 1 (performance accomplishments) experiencing / allowing success OR reminding of previous success; 2 e.g. scoring a lay-up in basketball (against a good team); 3 (vicarious experiences) watching / observation / demonstration of others being successful; 4 e.g. seeing a somersault performed safely / successfully on trampoline; 	4
2(e)	<p>5 marks for any 5 of:</p> <ol style="list-style-type: none"> 1 more home supporters than away supporters; 2 encouragement / reinforcement / expectation of success (from home support); 3 increased arousal / motivation / self-efficacy OR lower anxiety level OR higher anxiety of opposition; 4 familiarity with surroundings OR opposition unfamiliar OR long journey for away team; 5 proximity effect / closeness of crowd / noise / distraction / hostility negatively affects away team; 6 home teams tend to play more attacking style OR away team tends to play more defensively; 7 officials tend to give more decisions to home team OR away team tend to commit more fouls; 8 but, high expectations may cause home players to choke / perform badly; 9 if home team are playing badly, then pressure from crowd can increase anxiety / stress; 10 the more important the game, the greater the negative effects; 	5

Question	Answer	Marks
2(f)	4 marks for: 1 (aggression) intent to harm outside the rules ; 2 e.g. deliberate elbow to face in netball; 3 (assertion) forceful behaviour within the rules ; 4 e.g. a powerful, but legal rugby tackle;	4

Question	Answer	Marks
3(a)	3 marks for any 3 of: 1 promote understanding / education about different countries; 2 experience a range of sports from around world / different cultures; 3 celebrate the culture of host nation or cultural aspects of host in opening / closing ceremony; 4 promote tolerance / respect for others; 5 promote inclusion / sport for all; 6 punish examples of intolerance / discrimination;	3
3(b)	4 marks for any 4 of: 1 held every 4 years; 2 at Olympia; 3 5-day period; 4 (free-born) Greek citizens only / no slaves or non-Greeks; 5 (compulsory) training period prior to Games; 6 women banned; 7 religious ceremony / festival of Zeus / sacrifices to Zeus; 8 prize-giving ceremony / banquet / feast; 9 severe punishments / flogging / banishment for rule-breaking;	4

Question	Answer	Marks
3(c)	3 marks for any 3 of: 1 consists of (about 100) members / delegates; 2 (members) are elected / invited (by IOC) 3 executive board / president as head; 4 organises meetings / sessions; 5 commissions e.g. athletes' commission / women in sport commission; 6 link between outside agencies, e.g. sports federations, NOCs and OCOGs; 7 not all countries represented;	3
3(d)	4 marks for any 4 of: 1 tradition / history / example of a country using OG to promote political ideology, e.g. Berlin 1936; 2 social values are basis of Olympism / main aim / mission of IOC; 3 ideals of peace / harmony / cooperation should be paramount; 4 athletes from around world must be allowed to compete irrespective of political belief; 5 OG are broadcast worldwide / have global audience; 6 OG may be used to promote rivalry between nations / ideologies; 7 countries may use athletes as pawns / athletes put at risk / targets for terrorists; 8 countries may determine who can / cannot compete; 9 politics may impact on local population in host country, e.g. movement of people OR reduced spending on other areas of economy;	4
3(e)	4 marks for any 4 of: 1 health benefits / increased participation in sport; 2 top-quality facilities available for continued use; 3 improved infrastructure OR regeneration of city OR use of Olympic village for housing; 4 national pride / feel-good factor / brings country together; 5 increased tourism; 6 increased employment; 7 human skills / networks / innovation acquired (in hosting OG) used for further development OR reputation as good hosts for future sports events; 8 sustainability / environmental issues addressed;	4

Question	Answer	Marks
3(f)	4 marks for any 4 of: 1 encourage competitiveness at all levels / from an early age; 2 elitist approach; 3 funding only / mostly for high-level sport; 4 promote winners / winners as role models; 5 undermine participation ethic / 'nice guys finish last'; 6 encourage gamesmanship / state-sponsored drug abuse;	4
3(g)	3 marks for any 3 of: 1 few (less than 10) positive drug tests; 2 promotion of recent development of WADA (by IOC); 3 use of new Olympic Oath to include promise not to dope; 4 no security / terrorist threats; 5 few / no boycotts; 6 limited / no evidence of bribery / corruption in bidding process; 7 positive environmental programme / positive legacy a focus for first time;	3
3(h)	5 marks for any 5 of: 1 remove national uniforms; 2 remove flags / national anthems OR use Olympic flag / anthem; 3 remove medal count / table; 4 opening / closing ceremonies to reflect achievement of athletes; 5 focus on athletes' experiences rather than outcomes; 6 revise Olympic motto to emphasise participation; 7 use of multiple sites rather than one host nation; 8 athletes compete as individuals, not as part of national team; 9 removal of team sports; 10 education to promote social values / ideals of Olympism; <i>Accept other appropriate suggestions to reform the Olympic Games.</i>	5