



## Cambridge International AS & A Level

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THINKING SKILLS

9694/23

Paper 2 Critical Thinking

October/November 2021

MARK SCHEME

Maximum Mark: 50

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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.

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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.

**ANNOTATIONS**

	In Qs 1, 3 and 4 use to indicate where marks have been awarded.
	Use to indicate an answer or element that is wrong.
	Not good enough. Use wherever such a judgement has been made.
	Benefit of doubt.
	In Q5 use to indicate creditworthy other argument element. In Q3 use to indicate 'significant additional element'.
	In Qs 2 and 5 use to indicate 'conclusion'.
	In Qs 2 and 5 and in short questions where indicated, use to indicate that marks have been capped because an essential element of the answer is absent.
	In Q2 use to indicate creditworthy evaluation of a source.
	In Q5 use to indicate creditworthy intermediate conclusion.
	In Q2 use to indicate creditworthy personal thinking. In Q3 use to indicate paraphrase.
	In Q2 use to indicate creditworthy inferential reasoning. In Q5 use to indicate creditworthy reason used to support a conclusion.
	In Q2 use to indicate creditworthy use of a source. In Q5 use to indicate distinct strand of reasoning.
	In appropriate cases, use to indicate significant omission. In Q3 use to indicate 'significant omission'.
	Use in answers when no other annotations have been used. Use on blank pages.
<b>Highlight</b>	Use to draw attention to part of an answer.

There must be at least one annotation on each page of the answer booklet.

Question	Answer	Marks
1(a)	Poorly (neither well nor not at all) [1]. The evidence does show that on the basis of observation the bees change their behaviour [1], which sends a warning to other bees, but it is not established that they intend the dance as a warning [1], and even if they do it is not established that it is as a result of a risk/benefit analysis [1]. The concept of risk/benefit analysis seems too sophisticated to be plausible for an insect with a tiny brain [1].	4
1(b)	The researchers have expertise / good ability to see [1]. The first cohort of bees succeeded in learning to perform the task / there was a marked difference in success between the results of the untrained bees which observed and the untrained bees which did not observe [1]. The experiment focused specifically on learning ability [1] and there is no plausible alternative explanation for the results [1]. It is not clear whether learning is a component of intelligence (it is not mentioned in either Source D or Source E) [1], but it is plausible that it is [1]. The evidence concerning one type of bee is insufficient to draw a conclusion about bees in general [1].	4
1(c)	<p><i>2 marks for a correct answer with accurate explanation (3 ticks)</i>  <i>1 mark for a correct answer with vague, incomplete or generic explanation (2 ticks)</i>  <i>0 marks for correct answer without explanation (1 tick)</i>  <i>0 marks for incorrect answer with or without explanation (0 ticks)</i></p> <p><i>2-mark answer (3 ticks)</i>  Source C is an argument ✓. The first sentence is the conclusion ✓, which is supported by all the remainder of the source (consisting of reasons and evidence) ✓.</p> <p><i>1-mark answers (2 ticks)</i>  Source C is an argument ✓, because it includes a persuasive conclusion supported by reasons ✓.  Source C is an argument ✓. The first sentence is the conclusion ✓.</p> <p><i>0-mark answer (1 tick)</i>  Source C is an argument ✓, because it records reliable research.</p>	2
1(d)	The author and publishers have a vested interest not to lose credibility by publishing incorrect information [1], but they also have a vested interest to make the information accessible and attractive [1], which may have caused them to misrepresent (e.g. over-simplify or sensationalise) it [1]. As this magazine is aimed at the general reader, the author does not necessarily have much expertise [1].	2
1(e)	The definition given in Source E insists on self-awareness [1], but the definition given in Source D includes entities which are not conscious of why they behave as they do / which act by instinct [1]. OR The definition given in Source E focuses on mental processes [1], whereas the approach in Source D is more operational/behaviourist [1].	2

Question	Answer		Marks
2	<b>Conclusion</b>	1 mark for an explicit supported conclusion <i>Cap at 7 if conclusion is absent or implicit</i>	8
	<b>Use of sources</b>	2 marks for use of 3 or 4 sources 1 mark for use of 1 or 2 sources	
	<b>Evaluation of sources</b>	1 mark for each valid evaluation of the credibility or quality of reasoning in sources <i>Maximum 3 marks</i>	
	<b>Inferential reasoning from sources</b>	1 mark each <i>Maximum 3 marks</i> <i>Source must be mentioned for this to be credited</i>	
	<b>Personal thinking</b>	1 mark each <i>Maximum 2 marks</i>	
	<p><b>Annotate answers as follows:</b></p> <p><b>CON</b> To indicate 'conclusion'.</p> <p><b>S</b> To indicate creditworthy use of source.</p> <p><b>EVAL</b> To indicate creditworthy evaluation of source.</p> <p><b>R</b> To indicate creditworthy inferential reasoning.</p> <p><b>P</b> To indicate creditworthy personal thinking.</p> <p><b>C</b> To indicate that mark has been capped.</p>		

Question	Answer	Marks
2	<p><b><i>Indicative content</i></b></p> <ul style="list-style-type: none"> <li>• As a popular science publication, Source A has moderate credibility.</li> <li>• It describes the behaviour of bees which acts as a signal to other bees;</li> <li>• by some definitions, this behaviour would count as intelligent,</li> <li>• but there is no proof that bees intend the behaviour as communication,</li> <li>• which would be required by other definitions.</li> <li>• Source B has strong credibility, based on reputation, expertise and ability to see,</li> <li>• and the research described shows that bees are capable of learning,</li> <li>• which is an element of intelligence.</li> <li>• Source C also has strong credibility based on reputation, expertise and ability to see.</li> <li>• It shows that bees can learn to recognise zero as a number,</li> <li>• which is a sophisticated concept and thereby strong evidence of intelligence.</li> <li>• However, other explanations for the results are possible, eg that the bees learned to select whichever image appeared less 'dark'.</li> <li>• Source D argues in favour of a very broad definition of intelligence,</li> <li>• but the reasoning by analogy with patients living with Alzheimer's Disease is not very strong.</li> <li>• The credibility of the source is no more than moderate and the approach is inconsistent with that in Source E.</li> <li>• Source E takes a much more rigorous approach to intelligence,</li> <li>• which would exclude the claim in Source A, at least.</li> </ul>	

Question	Answer	Marks
<p><b>In Q3, annotate as follows:</b></p> <p><b>AE</b> Significant additional element</p> <p><b>A</b> Significant omission</p> <p><b>P</b> Paraphrase</p> <p><i>In Q3(a), (c) and (d), if two answers are given, one of which is correct, award 1 mark.</i></p> <p><i>In all parts of Q3, apply guidance relating to additional material <b>only</b> if it constitutes an additional part of an answer or an alternative answer.</i></p>		
3(a)	<p><i>2 marks for an exact answer</i> <i>1 mark for a paraphrase, or for <b>one</b> additional element or omission</i></p> <p>All young people should be able to go to university.</p>	<b>2</b>
3(b)	<p><i>For up to 3 of the following:</i> <i>2 marks for an exact answer</i> <i>1 mark for a paraphrase, or for <b>one</b> additional element or omission</i></p> <ul style="list-style-type: none"> <li>• it (the right to education) applies to 18-year-olds just as much as it does to children aged 5 or 11.</li> <li>• (to be consistent) they [countries] should recognize that selection at the age of 18 is equally unacceptable [as selection at the age of 11].</li> <li>• Those who through no fault of their own are academically less talented should be given the support they need to help them to succeed at university.</li> <li>• (So) depriving some people of a university education imposes a severe financial penalty on them.</li> <li>• it is unfair to deprive some of them [young people] of the chance to do so [benefit from these opportunities / the opportunities to grow up and to discover or create their adult identity].</li> </ul> <p><i>If more than three answers are given, mark only the first four.</i></p>	<b>6</b>
3(c)	<p>Evidence <b>[1]</b> supporting the claim that “people who go to university gain increased employability and higher lifetime earnings” <b>[1]</b>.</p> <p><i>Accept for 1 mark</i> An example of the higher earnings of people who go to university.</p>	<b>2</b>
3(d)	<p><i>2 marks for an exact version of the following</i> <i>1 mark for an incomplete or vague version of the following</i></p> <ul style="list-style-type: none"> <li>• The factors which make it unfair to discriminate between children at the age of 11 are equally relevant at the age of 18.</li> </ul>	<b>2</b>

Question	Answer	Marks
4(a)	<p>The claim that education is a universal human right is based on an appeal to authority [1]. This is a valid appeal, because the United Nations has a very high reputation [1] and the Universal Declaration of Human Rights has been accepted by almost all countries [1].</p> <p><i>Accept</i> This is an appeal to justice [1] This is a valid appeal, because it is based on a human right [1].</p>	2
4(b)	<p>In the reference to education as a universal human right, the word ‘universal’ means that it applies to everyone, but the author then applies it as if it meant at every stage of life [1]. This flaw weakens this part of the argument fatally [1].</p> <p><i>Accept for 1 mark:</i> In the reference to education as a universal human right, the word ‘education’ is used as if it meant the same at university as it does in school, whereas they are radically different.</p>	2
4(c)	<p>The analogy (between academic potential and height) is a valid analogy [1] because both qualities are innate and unearned and therefore neither should be rewarded [1].</p> <p><i>OR</i></p> <p>The analogy (between academic potential and height) is weakened [1], if academic potential or tallness is not entirely innate but is wholly or partly due to environmental factors / because developing academic potential is far more advantageous to society than developing the potential of tallness [1].</p> <p><i>Award judgement mark only if supported.</i></p>	2
4(d)	<p>The link between a university education and increased employability and higher lifetime earnings is a causal (<i>post hoc</i>) fallacy [1]. This flaw seriously weakens the reasoning, because it is plausible that access to university education and higher earnings are both due at least partially to superior abilities [1].</p>	2

Question	Answer		Marks
5	<b>Reasons</b>	2 marks for three or more reasons supporting conclusions 1 mark for one or two reasons supporting conclusions	8
	<b>Inferential reasoning</b>	1 mark for each use of an intermediate conclusion or chain of intermediate conclusions <i>Maximum 3 marks</i>	
	<b>Argument elements</b>	1 mark for each use of other argument elements that strengthens the reasoning: counter with response, example, evidence, analogy, hypothetical reasoning <i>Credit each type only once per strand of reasoning</i> <i>Maximum 3 marks</i>	
	<b>Structure</b>	1 mark for two or more distinct strands of reasoning	
<p><i>Each component of a candidate response may score only once. Where there is more than one possibility, use the classification which leads to the higher total mark.</i></p> <p><i>Maximum 6 marks for no conclusion or wrong conclusion, or a conclusion that does not follow from the reasoning, or if both sides are argued without a resolution.</i></p> <p><i>0 marks for answer unrelated to the claim given.</i> <i>No credit for material merely reproduced from the passage.</i></p> <p><b>Annotate answers as follows:</b></p> <p><b>CON</b> To indicate main conclusion.</p> <p><b>R</b> To indicate creditworthy reason used to support a conclusion.</p> <p><b>I</b> To indicate creditworthy intermediate conclusion.</p> <p><b>AE</b> To indicate creditworthy other argument element.</p> <p><b>S</b> To indicate distinct strand of reasoning.</p> <p><b>C</b> To indicate that mark has been capped.</p> <p><b>X</b> To indicate material that is judged not to have a structural function in the argument.</p> <p>Use <b>highlighter</b> to indicate material which is not relevant to the stated claim.</p>			

Question	Answer	Marks
5	<p><b>Example 8-mark answers</b></p> <p><i>Support (134 words)</i></p> <p>Because money can be exchanged for the good things which people want out of life, it motivates them to do things they might otherwise not do, such as developing their talents, enduring hardships and working diligently. However, most parents want to share these good things with their children. So in order to constitute continuing motivation, money must be capable of benefiting one's nearest and dearest.</p> <p>Wanting to give advantages to one's children is one of the most powerful motives known to humankind. If it were not possible to share wealth with one's children, money would become much less desirable than it is at present. So the transfer of money down the generations is a vital element in a capitalist economy.</p> <p>Therefore people who are rich should be able to buy advantages for their children.</p> <p><i>Challenge (139 words)</i></p> <p>Previous generations believed people's prospects in life were determined irreversibly before they were born. However, beliefs about the equality of persons have rightly caused this misperception to be rejected. It is therefore no longer acceptable for some people to be born with the privileges of wealth, while others are denied them.</p> <p>If some people can buy better education or better health care, then others are deprived of their right to equality of opportunity. This would be as unfair as expecting them to compete in the race of life with one arm tied behind their back. Governments should both improve the quality of education and health care available to all and also prevent some people from enjoying better opportunities just because their father was wealthy.</p> <p>Therefore people who are rich should not be able to buy advantages for their children.</p>	