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**THINKING SKILLS**

**9694/22**

Paper 2 Critical Thinking

**May/June 2017**

MARK SCHEME

Maximum Mark: 45

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**Published**

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This document consists of **8** printed pages.

Question	Answer	Marks
1(a)	<p>It is reliable as it is a case of ‘reverse vested interest’ [1]. We would not expect Mr Jones to criticise his own work, but he does [1]. However, it is not significant as this criticism refers to cosmetic appearance rather than the quality of construction [1].</p> <p>However, rushing to finish the job may have meant Jones ‘cut corners’ on the actual construction [1]; although he denies this, he has a vested interest to do so [1].</p>	<b>3</b>
1(b)	<p>As an inexperienced driver, she may have hit the garage wall when trying to get into the garage [1]. The building inspector says that buildings already damaged were likely to be affected by the earth tremor [1]. The wall being knocked by a car may have been sufficient damage for the wall to fall down as a result of the earth tremor [1]. Therefore it is possible that it is highly relevant in identifying an important contributory factor to the wall falling down [1].</p>	<b>3</b>
1(c)	<p>Not significant [1]. It merely means he is typical of most builders [1]. The Grade C mortar is guaranteed for 10 years so would not fail after a short time [1]. Therefore the use of this grade of building materials does not explain why the wall fell down [1].</p>	<b>3</b>

Question	Answer	Marks								
1(d)	<table border="1" data-bbox="304 282 1331 808"> <tr> <td data-bbox="304 282 475 445"><b>Level 3</b> 5–6 marks</td> <td data-bbox="475 282 1331 445">A strong answer, which provides a reasoned argument including thorough evaluation of all or most of the evidence to support an acceptable conclusion in terms of probability and evaluates the plausibility of at least one alternative conclusion.</td> </tr> <tr> <td data-bbox="304 445 475 577"><b>Level 2</b> 3–4 marks</td> <td data-bbox="475 445 1331 577">An answer which evaluates some of the evidence, draws an acceptable conclusion in terms of probability and may mention the plausibility of at least one alternative conclusion.</td> </tr> <tr> <td data-bbox="304 577 475 710"><b>Level 1</b> 1–2 marks</td> <td data-bbox="475 577 1331 710">A weak answer, which refers to some of the evidence, possibly including a simple evaluative comment. The conclusion may be unstated or over-stated.</td> </tr> <tr> <td data-bbox="304 710 475 808"><b>Level 0</b> 0 marks</td> <td data-bbox="475 710 1331 808">No credit-worthy material.</td> </tr> </table> <p data-bbox="304 846 560 875"><b>Indicative content</b></p> <p data-bbox="304 913 695 943">The possible conclusions are:</p> <ul style="list-style-type: none"> <li data-bbox="416 965 1254 994">Jones' 'cut corners' because he was rushing to complete the job</li> <li data-bbox="416 1001 986 1030">The earthquake caused the wall to collapse</li> <li data-bbox="416 1037 1217 1099">The earthquake and previous damage to the wall caused it to collapse.</li> </ul> <p data-bbox="304 1137 1331 1402">Jones admits being pressured to finish the job and the work not being as good as he would have hoped. However, he is clearly an experienced builder and has done many jobs for Smith before. It seems unlikely that he mixed the mortar too thinly (Source E) and laid the bricks too quickly but it is possible. The earthquake was unusual but sound buildings seem not to have been damaged. This suggests the wall collapsed because it had been damaged and the inexperienced driving of the daughter would offer an explanation of how the damage occurred.</p> <p data-bbox="304 1440 783 1469"><b>Notes for the guidance of markers</b></p> <p data-bbox="304 1507 1129 1536">Simple supported conclusion 1 (if no conclusion cap at Level 2)</p> <ul style="list-style-type: none"> <li data-bbox="304 1574 815 1603">+ simple consideration of alternative +1</li> <li data-bbox="304 1610 834 1639">AND reasoned rejection of alternative +1</li> <li data-bbox="304 1677 1058 1706">+ explicit use of some (3 or fewer) sources of evidence +1</li> <li data-bbox="304 1713 1147 1742">OR explicit use of all or most (4 or more) sources of evidence +2</li> <li data-bbox="304 1780 1121 1809">+ critical evaluation of evidence +1 or (more than one case) +2</li> <li data-bbox="304 1816 1077 1845">+ good inferential reasoning +1 or (more than one case) +2</li> </ul> <p data-bbox="304 1879 387 1908"><b>Max 6</b></p>	<b>Level 3</b> 5–6 marks	A strong answer, which provides a reasoned argument including thorough evaluation of all or most of the evidence to support an acceptable conclusion in terms of probability and evaluates the plausibility of at least one alternative conclusion.	<b>Level 2</b> 3–4 marks	An answer which evaluates some of the evidence, draws an acceptable conclusion in terms of probability and may mention the plausibility of at least one alternative conclusion.	<b>Level 1</b> 1–2 marks	A weak answer, which refers to some of the evidence, possibly including a simple evaluative comment. The conclusion may be unstated or over-stated.	<b>Level 0</b> 0 marks	No credit-worthy material.	<b>6</b>
<b>Level 3</b> 5–6 marks	A strong answer, which provides a reasoned argument including thorough evaluation of all or most of the evidence to support an acceptable conclusion in terms of probability and evaluates the plausibility of at least one alternative conclusion.									
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Question	Answer	Marks
2(a)(i)	If the music does not contain such notes this shortcoming will not be relevant [1].	1
2(a)(ii)	<p>Not at all. This is a point about the care needed to <i>maintain</i> the sound quality [1], not about the <i>capacity</i> to produce a purer sound quality [1].</p> <p><i>Alternatively</i> Significantly. In practice, most records will not enjoy this degree of care [1] and so the sound quality they produce is likely to be poorer [1].</p>	2
2(b)	Effective [1]. It does suggest that people still want to view films on a big screen [1]. This undermines the inference that people are not concerned with quality of film reproduction [1]. People are now more selective about watching films at the cinema; some prefer to go only to see those which make the most of the big-screen experience [1]. On the other hand, this increase in numbers going to the cinema may be for other reasons, e.g. meeting friends rather than the quality of the viewing experience [1].	3
2(c)	<p><i>1 mark for each plausible factor, for example:</i></p> <ul style="list-style-type: none"> <li>The listener's hearing may be impaired in some way</li> <li>The acoustics of the room they were listening in</li> <li>The quality of the equipment used to play the music</li> <li>The quality of the equipment used to record the music</li> <li>Whether there are other things distracting the listener's concentration on the music</li> <li>The quality of the performance recorded</li> </ul>	3

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2(d)	<table border="1" data-bbox="304 282 1331 745"> <tr> <td data-bbox="304 282 475 378"><b>Level 3</b> 5–6 marks</td> <td data-bbox="475 282 1331 378">A reasoned argument, which uses and evaluates all or most of the evidence provided.</td> </tr> <tr> <td data-bbox="304 378 475 474"><b>Level 2</b> 3–4 marks</td> <td data-bbox="475 378 1331 474">A simple argument, which uses and/or evaluates evidence.</td> </tr> <tr> <td data-bbox="304 474 475 645"><b>Level 1</b> 1–2 marks</td> <td data-bbox="475 474 1331 645">A weak answer, which makes some correct reference to evidence but consists of opinion and/or assertion rather than argument <b>or</b> a weak argument which makes no reference to evidence.</td> </tr> <tr> <td data-bbox="304 645 475 745"><b>Level 0</b> 0 marks</td> <td data-bbox="475 645 1331 745">No credit-worthy material.</td> </tr> </table> <p data-bbox="304 779 560 808"><b>Indicative content</b></p> <p data-bbox="416 846 1281 947">Source A offers an explanation of why analogue sound is superior It also suggests digital recording has been adopted because of computers However it also suggests the care needed to maintain analogue sound quality is difficult for people to sustain.</p> <p data-bbox="416 954 1321 1086">Source B strongly supports the claim suggesting these critics may be influenced by outdated evidence. However, the title of publication suggests it may be biased/have a vested interest towards digital recordings.</p> <p data-bbox="416 1093 1318 1328">Source C suggests these critics are over-bothered about sound quality anyway but does not necessarily deny that analogue recordings are superior. Source D offers survey evidence that suggests people cannot tell the difference. This would support the claim.</p> <p data-bbox="416 1335 1276 1400">Source D suggests that digital/analogue is not the most important determinant of sound quality. This would also support the claim.</p> <p data-bbox="304 1435 786 1464"><b>Notes for the guidance of markers</b></p> <p data-bbox="304 1503 707 1565">Simple supported conclusion 1 OR nuanced conclusion 2</p> <p data-bbox="304 1603 1050 1704">+ <u>use</u> of 1 or 2 sources +1 OR <u>use</u> of all or most (3 or more) sources of evidence +2 <i>not just mentioning or summarising or comprehension</i></p> <p data-bbox="304 1738 1123 1767">+ critical evaluation of evidence +1 or (more than one case) +2</p> <p data-bbox="304 1805 1078 1868">+ good inferential reasoning +1 or (more than one case) +2 <i>not speculation</i></p> <p data-bbox="304 1906 595 1935">+ personal thinking +1</p> <p data-bbox="304 1973 387 2002"><b>Max 6</b></p>	<b>Level 3</b> 5–6 marks	A reasoned argument, which uses and evaluates all or most of the evidence provided.	<b>Level 2</b> 3–4 marks	A simple argument, which uses and/or evaluates evidence.	<b>Level 1</b> 1–2 marks	A weak answer, which makes some correct reference to evidence but consists of opinion and/or assertion rather than argument <b>or</b> a weak argument which makes no reference to evidence.	<b>Level 0</b> 0 marks	No credit-worthy material.	<b>6</b>
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Question	Answer	Marks
3(a)	<p><i>2 marks:</i> We should not try to combat the effects of global warming.  <i>1 mark:</i> However, this is an unworkable strategy and we should not try to combat the effects of global warming.</p>	<b>2</b>
3(b)	<p><i>1 mark for each of the following, to a maximum of 3 marks:</i></p> <p>(However,) this is an unworkable strategy  Global warming is a well-established trend that cannot be reversed.  The negative effects of global warming have been exaggerated.  Supporting the efforts to tackle global warming simply encourages this sort of scam.  The way forward for humanity is to colonise other planets.</p> <p><i>Allow one additional element or one significant omission in each case.  If more than three answers are offered, mark the first four only.</i></p>	<b>3</b>

Question	Answer	Marks
3(c)	<p><i>Marks for each evaluative point as follows, up to a maximum of 5 marks:</i></p> <p><i>2 marks: Valid evaluative point, clearly expressed.</i></p> <p><i>1 mark: Weak attempt at a valid evaluative point.</i></p> <p><i>Paragraph 2</i></p> <p>Assumption (between IC of para 2 and MC) that nothing can be done to slow down or mitigate an irreversible trend.</p> <p>Flaw: straw man. People who think humans can tackle global warming are not committed to the idea that science can create a paradise on earth.</p> <p><i>Paragraph 3</i></p> <p>Assumption: the new areas for agriculture will be at least the same size/productivity as those they are replacing.</p> <p>Assumption: effects of global warming are consistent throughout world. Some areas may get colder.</p> <p>Flaw: selective use of evidence. Air-conditioning homes in areas that have become hot may well outweigh reduced heating bills in presently cold areas that have become warmer.</p> <p>Flaw: inconsistency between the reasoning in this paragraph and the idea in Paragraph 5 that the planet is not worth saving.</p> <p><i>Paragraph 4</i></p> <p>Irrelevance: exploitation of renewable energy schemes is not relevant to an assessment of the need to tackle global warming.</p> <p>One can deal with negative side-effects, without rejecting the thing that produces them/negative side effects not a sufficient condition for rejecting something.</p> <p><i>Paragraph 5</i></p> <p>Assumption: support for something means it is worthwhile/feasible.</p> <p>Assumption: 2024 is sufficiently early for this to be a viable strategy to respond to global warming.</p> <p>Inconsistency: between sceptical view of science/ability of humans to solve problems in Para 2 with over-optimistic view here.</p> <p>Inconsistency: if humans have made a mess of life on Earth, it seems unlikely that colonising other planets is the way forward without a change in human nature.</p>	<b>5</b>

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3(d)	<table border="1" data-bbox="304 282 1331 775"> <tr> <td data-bbox="304 282 475 483"><b>Level 3</b> 4–5 marks</td> <td data-bbox="475 282 1331 483">Developed, coherent argument. Reasons strongly support conclusion. Development may include intermediate conclusion or apt examples. Simply structured argument – 4 marks. Effective use of IC etc. – 5 marks.</td> </tr> <tr> <td data-bbox="304 483 475 580"><b>Level 2</b> 2–3 marks</td> <td data-bbox="475 483 1331 580">A simple argument. One reason + conclusion – 2 marks. Two or more separate reasons + conclusion – 3 marks.</td> </tr> <tr> <td data-bbox="304 580 475 676"><b>Level 1</b> 1 mark</td> <td data-bbox="475 580 1331 676">Some relevant comment.</td> </tr> <tr> <td data-bbox="304 676 475 775"><b>Level 0</b> 0 marks</td> <td data-bbox="475 676 1331 775">No relevant comment.</td> </tr> </table> <p data-bbox="304 813 1262 875"><i>Maximum 3 marks for wrong conclusion or if conclusion is implied but not stated.</i></p> <p data-bbox="304 880 1075 913"><i>No credit for material merely reproduced from the passage.</i></p> <p data-bbox="304 947 671 981"><b>Specimen level 3 answers</b></p> <p data-bbox="304 1014 572 1048"><i>Support (141 words)</i></p> <p data-bbox="304 1064 1331 1464">Whilst nations pretend to be acting for the good of all at international conferences, such as those aiming to tackle climate change, in reality they are all looking to protect their own interests. Large industrial producers such as the United States are not likely to reduce their carbon emissions to the extent that they reduce their economic output or harm their economy. Newer industrial countries such as India, which are often the main contributors to global carbon emissions, resent being told to adopt costly ‘green’ technologies by older industrial nations. It is the legacy of 150–200 years of pollution by such nations that the newer industrial nations regard as at the root of the problem. So there are irreconcilable differences between the world’s nations on tackling climate change. Therefore it is not possible to achieve global agreements to tackle climate change.</p> <p data-bbox="304 1500 603 1534"><i>Challenge (132 words)</i></p> <p data-bbox="304 1550 1331 1883">Whilst it is difficult to get nations to agree on a common policy, the problem of global warming is an obvious threat to all. Global action on environmental issues has been achieved in the past. For example, the world-wide ban on the use of CFCs has reversed the threat to the ozone layer that they once posed. The effects of global warming are already obvious with low lying areas already threatened by rising sea levels. Some of the most famous cities, such as New York, are threatened in this way. This means that nations will no longer be able to ignore global warming and its effects. Equally, it will be obvious to them that only joint action will counteract these effects. Therefore it is possible to achieve global agreements on climate change.</p>	<b>Level 3</b> 4–5 marks	Developed, coherent argument. Reasons strongly support conclusion. Development may include intermediate conclusion or apt examples. Simply structured argument – 4 marks. Effective use of IC etc. – 5 marks.	<b>Level 2</b> 2–3 marks	A simple argument. One reason + conclusion – 2 marks. Two or more separate reasons + conclusion – 3 marks.	<b>Level 1</b> 1 mark	Some relevant comment.	<b>Level 0</b> 0 marks	No relevant comment.	5
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