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**THINKING SKILLS**

**9694/22**

Paper 2 Critical Thinking

**October/November 2018**

MARK SCHEME

Maximum Mark: 45

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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 **9** 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)	It is a plausible account of what happened from both an expert [1] and an eye-witness [1]. However, he has a vested interest in giving an explanation that exonerates him from a charge of risky flying [1]. His statement lacks corroboration [1]. His explanation is weakened by the impression of recklessness revealed in Source D [1]. We do not know if the claim of loss of power can be verified [1]. If it can be, reliability is increased as he would not make this claim if he thought it could be easily falsified [1].	<b>3</b>
1(b)	<p><i>1 mark for each reason.</i></p> <ul style="list-style-type: none"> <li>• It is from an expert source.</li> <li>• It is from a neutral source.</li> <li>• It offers a possible explanation for the incident – the aircraft is old.</li> <li>• It offers a possible explanation for the incident – the aircraft is being pushed to its limit.</li> <li>• It reveals the amount of discretion given to organisers and pilots, giving them opportunities to take risks.</li> </ul>	<b>3</b>
1(c)	<p>The relevance cannot be determined/of little relevance [1]. Whilst some retired pilots participate in air shows we cannot infer from this that they are the only people who do so [1]. The pilot of the plane may be a younger pilot [1] meaning the statement would have no relevance [1]. The statement in Source D suggests he is not a retired pilot – if he was he would not be tempted by a bribe [1]. Even if he is an ex-commercial pilot this experience might be irrelevant to handling a fighter/military aircraft [1].</p> <p>If the pilot is of the type described in Source E, then that source is relevant because it offers an explanation for why he might be culpable [1] due to a reckless attitude.</p>	<b>3</b>

Question	Answer		Marks
1(d)	<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>6</b>
	<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.	
	<p><b>Indicative content</b></p> <p>The possible conclusions are:</p> <ul style="list-style-type: none"> <li>• Loss of power/engine failure caused the incident</li> <li>• Pilot error caused the incident</li> <li>• Failure to follow the regulations caused the incident.</li> <li>• The pilot deliberately performed a dangerous manoeuvre.</li> </ul> <p>Sources B and C give grounds for believing engine failure was the cause of the incident. We have no clear evidence that the pilot did contravene regulations and respond to pressure from the organisers to ‘bend the rules’. However, Source C suggests engine failure was a predictable risk in an old air craft doing stressful manoeuvres, so both the pilot and the organisers are culpable but this does not mean they failed to follow regulations. Given the ability of the pilot to rescue the situation it seems unlikely that inexperienced or poor flying in itself caused the incident.</p> <p><b>Notes for the guidance of markers</b></p> <p>Simple supported conclusion 1 (if no conclusion cap at Level 2)</p> <p>+ simple consideration of alternative +1 AND reasoned rejection of alternative +1</p> <p>+ explicit use of some (3 or fewer) sources of evidence +1 OR explicit use of all or most (4 or more) sources of evidence +2</p> <p>+ critical evaluation of evidence +1 or (more than one case) +2 + good inferential reasoning +1 or (more than one case) +2</p>		

Question	Answer	Marks
2(a)	<p>No [1]. We would need to know the per capita GDP before we could conclude this [1]. If the population of Tuvalu is very low then the per capita GDP could be high [1].</p> <p>However, even per capita GDP is not a reliable indicator of individual income [1]. Rich businesses could generate a high per capita GDP but this might only benefit a small elite minority [1].</p>	<b>2</b>
2(b)	<p><i>2 marks for each developed answer / 1 for an undeveloped answer, for example:</i></p> <ul style="list-style-type: none"> <li>• In the area of low population density, the shops etc. are likely to be too far away to walk so cars are more necessary / high density, nearby, less necessary.</li> <li>• Alternative forms of transport are less available in the area of low population density.</li> <li>• In the high density area traffic congestion means cars are not very useful, whereas public transport is faster and more efficient.</li> <li>• Cars are cheaper to buy/run in the first area, so car ownership is higher because...<i>(explanation needed for 2 marks)</i></li> <li>• Those on higher incomes may prefer private hire of transport to ownership.</li> <li>• The general cost of living could be lower in the first area and higher in the second. This could mean disposable income is actually higher in the first area.</li> </ul>	<b>4</b>
2(c)	<p>Yes [1]. The definition for malnutrition in Source C entails a person not getting enough of the vitamins, minerals and other nutrients that the body needs [1]. It may be possible to eat a diet that makes you fat but fails to provide these [1]. In this case one could be obese but still malnourished [1].</p>	<b>3</b>

Question	Answer		Marks
2(d)	<b>Level 3</b> 5–6 marks	A reasoned argument, which uses and evaluates all or most of the evidence provided.	<b>6</b>
	<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.	
	<p><b>Indicative content</b></p> <ul style="list-style-type: none"> <li>• Source A shows a wide variation in GDP</li> <li>• which means the conclusion is overdrawn. Some countries do have more <i>potential</i> than others to generate a good standard of living for all.</li> <li>• However, a small country could have a low GDP but a high level of per capita GDP</li> <li>• which means we cannot simply assume countries get poorer the more we go down the GDP table.</li> <li>• Source A shows that neither gross nor per capita GDP are an indicator of wealth distribution,</li> <li>• which is the most relevant factor as regards how poverty is experienced by the individual.</li> <li>• Source C shows that the nature of poverty as experienced by the individual does change in rich countries as defined by their GDP and starvation is not a factor though malnutrition may still be.</li> <li>• Source D suggests poverty is relative to the mean standard of living in a society.</li> <li>• This will be related to the level of GDP.</li> <li>• However Source D also suggests social policy as to how wealth is distributed and what assistance those in poverty receive is a crucial factor.</li> <li>• So a high GDP country may have policies that do not re-distribute wealth or assist the poor.</li> </ul>		

Question	Answer	Marks
2(d)	<p><b>Notes for the guidance of markers</b></p> <p>Simple supported conclusion 1 or nuanced conclusion 2</p> <p>+ <u>use</u> of 1 source +1 or <u>use</u> of all or most (2 or more) sources of evidence +2 <i>not just mentioning or summarizing or comprehension</i></p> <p>+ critical evaluation of evidence +1 or (more than one case) +2</p> <p>+ good inferential reasoning +1 or (more than one case) +2 <i>not speculation</i></p> <p>+ personal thinking +1</p>	

Question	Answer	Marks
3(a)	<p><b>2 marks:</b> the alarm is an unnecessary evil. <b>1 mark:</b> There are many necessary evils in the modern world, but the alarm is an unnecessary evil.</p>	<b>2</b>
3(b)	<p><b>1 mark for each of the following, to a maximum of 3 marks:</b></p> <ul style="list-style-type: none"> <li>• The only effect of these devices is to create a loud and annoying noise.</li> <li>• Alarms are ineffective.</li> <li>• they are useless.</li> <li>• This shows that alarms are unnecessary.</li> <li>• Productivity is significantly affected</li> </ul> <p><i>Allow <u>one</u> significant omission or addition in each case.</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>  <i>1 mark: Weak attempt at a valid evaluative point.</i></p> <p><i>Paragraph 1</i></p> <ul style="list-style-type: none"> <li>• Flaw – generalisation from alarms designed to prevent theft to all alarms e.g. smoke alarms.</li> </ul> <p><i>Paragraph 2</i></p> <ul style="list-style-type: none"> <li>• Flaw – this conflates people in general ignoring an alarm with a failure of law enforcement agencies who have a duty to respond to an alarm.</li> <li>• Flaw – generalisation from one example.</li> </ul> <p><i>Paragraph 3</i></p> <ul style="list-style-type: none"> <li>• Flaw – circular argument: alarms are not useful, so they are useless.</li> <li>• Flaw – restricting the options to useless and essential.</li> <li>• Flaw – conflation of useful with essential.</li> </ul> <p><i>Paragraph 4</i></p> <ul style="list-style-type: none"> <li>• Assumption – theft of the car is the only relevant crime; alarms still a way to prevent theft of things from the car.</li> <li>• Assumption – there was no other reason why car theft declined (also expressible as a <i>post hoc</i> flaw).</li> <li>• Assumption – all cars have immobiliser technology; older cars will not</li> <li>• Flaw – generalisation from car alarms to all alarms.</li> <li>• Flaw – confuses notion of immobilisers being better with alarms being unnecessary. Whilst not as good as immobilisers, alarms may have had some use.</li> </ul> <p><i>Paragraph 5</i></p> <ul style="list-style-type: none"> <li>• Assumption – enough work must be office-based to affect productivity.</li> <li>• Assumption – exposure to cold and wet causes flu and colds.</li> <li>• Assumption – a significant proportion of these cases of cold and flu require professional medical care.</li> <li>• Flaw – inconsistency with Para 1 point that most people ignore alarms</li> <li>• Slippery slope – response to fire alarms leads to deaths in emergency units.</li> </ul>	<b>5</b>



Question	Answer		Marks								
3(d)	<table border="1" data-bbox="320 248 1310 745"> <tr> <td data-bbox="320 248 512 450"><b>Level 3</b> 4–5 marks</td> <td data-bbox="512 248 1310 450">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="320 450 512 551"><b>Level 2</b> 2–3 marks</td> <td data-bbox="512 450 1310 551">A simple argument. One reason + conclusion – 2 marks. Two or more separate reasons + conclusion – 3 marks.</td> </tr> <tr> <td data-bbox="320 551 512 647"><b>Level 1</b> 1 mark</td> <td data-bbox="512 551 1310 647">Some relevant comment.</td> </tr> <tr> <td data-bbox="320 647 512 745"><b>Level 0</b> 0 marks</td> <td data-bbox="512 647 1310 745">No relevant comment.</td> </tr> </table> <p data-bbox="316 779 1278 846"><i>Maximum 3 marks for wrong conclusion or if conclusion is implied but not stated.</i></p> <p data-bbox="316 846 1090 880"><i>No credit for material merely reproduced from the passage.</i></p> <p data-bbox="316 913 683 947"><b>Specimen level 3 answers</b></p> <p data-bbox="316 981 587 1014"><i>Support (114 words)</i></p> <p data-bbox="316 1032 1305 1193">Noise is an unavoidable feature of living in the modern world. Many aspects of modern technology create noise. This is especially true of transport such as planes and cars. It is neither desirable nor possible to try to return to a pre-modern state of existence so we need to come to terms with modern noise levels.</p> <p data-bbox="316 1234 1297 1368">Many young people have adapted to the noise of modern living by listening to music through headphones. The older generation may mutter as they always have done about the state of the modern world whilst enjoying the advantages it brings but they need to come to terms with it.</p> <p data-bbox="316 1402 890 1435">We should therefore learn to live with noise.</p> <p data-bbox="316 1469 619 1503"><i>Challenge (131 words)</i></p> <p data-bbox="316 1520 1302 1655">Noise pollution is being increasingly recognised as one of the most damaging types of pollution in the modern world. Much of the noise created by machinery could be modified if companies spent sufficient money on noise suppression measures.</p> <p data-bbox="316 1688 1313 1890">As with most types of pollution, the greed of global capitalism is the main driver. Much sleep loss and stress is caused by mechanical noise. However, it is not only psychological illness that results from noise pollution. In their attempt to create their own private world, many young people constantly listen to music through headphones at levels that will damage their hearing in the long term.</p> <p data-bbox="316 1924 1313 1991">So we should challenge the notion that a high noise level is the price we pay for modern living. We should not learn to live with noise.</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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