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**THINKING SKILLS**

**9694/22**

Paper 2 Critical Thinking

**May/June 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.

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**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)	Not very useful [1]. It gives Kitty a motive for setting fire to the store as revenge for his dismissal [1]. However, he is only one of several employees who have been dismissed [1]. It does not offer any evidence that connects him directly with the fire [1]. The letter was given to Benji the day after the petrol was purchased, so this could not have been why he purchased it [1]. Useful because it indicates his clumsiness therefore unlikely to have successfully carried out arson [1].	3								
1(b)	Little significance [1]. Whilst he is expressing approval of the fire which is consistent with his guilt [1], it cannot be inferred from this that he actually is responsible for the fire [1]. It is far more likely to be gloating at the misfortune of his ex-employer [1].	3								
1(c)	As his grandmother, she is likely to be biased towards Benji [1] and may have provided him with an alibi/an alternative reason for buying the petrol [1]. However, this idea is somewhat implausible as she would not have wanted to be implicated in such a serious crime [1]. Even if the lawn had clearly been mowed, it would be difficult to verify that it had been mowed by Benji, or when [1]. The fact that she unnecessarily derides Benji's clumsiness increases her credibility [1]. Also she knows Benji well [1] and her comments about Benji's clumsiness are confirmed by Source A [1]. <i>No mark for judgment.</i>	3								
1(d)	<table border="1" data-bbox="316 1016 1316 1518"> <tbody> <tr> <td data-bbox="316 1016 483 1200"><b>Level 3</b> 5–6 marks</td> <td data-bbox="483 1016 1316 1200">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="316 1200 483 1319"><b>Level 2</b> 3–4 marks</td> <td data-bbox="483 1200 1316 1319">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="316 1319 483 1438"><b>Level 1</b> 1–2 marks</td> <td data-bbox="483 1319 1316 1438">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="316 1438 483 1518"><b>Level 0</b> 0 marks</td> <td data-bbox="483 1438 1316 1518">No credit-worthy material.</td> </tr> </tbody> </table> <p data-bbox="316 1559 571 1585"><b>Indicative content</b></p> <p data-bbox="316 1626 703 1653">The possible conclusions are:</p> <ul data-bbox="371 1675 970 1809" style="list-style-type: none"> <li>• Benji is a serial arsonist.</li> <li>• Benji is responsible only for the Acme fire.</li> <li>• Benji is not responsible for the Acme fire.</li> <li>• The fire is not arson.</li> </ul>	<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.	6
<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
1(d)	<p>The first conclusion seems unlikely. We have no evidence linking Benji to a series of fires and his clumsiness might mean he is unlikely to be capable of ‘sophisticated methods of arson’. The second conclusion has some evidence to support it as regards motive and means but not convincing enough – there is no evidence that the fire was caused by petrol. The third conclusion is persuasive – his pleasure in the fire is no more than ‘schadenfreude’ and it seems likely that the petrol was for the lawnmower. The fourth conclusion is also somewhat persuasive as arson is only suspected as an initial judgement.</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> <p><b>Evidence</b></p> <p><b>Source A</b> Gives Benji a motive but he is not the only person to be sacked. He was sacked the day after purchasing the petrol so this could not have been the reason he purchased it.</p> <p><b>Source B</b> Expert confirmation of suspicions of arson though linked to a serial arsonist rather than a single revenge attack and does not mention petrol.</p> <p><b>Source C</b> Difficult to sustain a link between such expression of pleasure in the fire and Benji actually being responsible. Not sustainable as a principle i.e. approval of something is a likely indicator that we were responsible for it.</p> <p><b>Source D</b> Gives Benji a possible means of starting the fire and, perhaps, if he often gets petrol, a link to the series of fires. However, using petrol is not, arguably, a ‘sophisticated’ method of arson.</p> <p><b>Source E</b> Gives a convincing explanation of why Benji has petrol, albeit from a biased source. Confirms his clumsiness which possibly raises doubts about his ability to successfully carry out an arson attack (without setting himself on fire). However, it is possible he had enough petrol left over to start the fire even if he mowed the lawn.</p>	

Question	Answer	Marks
2(a)	<ul style="list-style-type: none"> <li>• How many pigments are used in a painting. If only a few, the process might not be that expensive</li> <li>• How many pigments need to be tested in order to detect a forgery. If only one or two, the process will not be that expensive.</li> <li>• How valuable the painting is – the cost of testing, even if high, might be relatively insignificant compared to the potential sale value.</li> </ul> <p><i>2 marks for each developed answer. 1 mark if undeveloped</i></p>	<b>4</b>
2(b)	<p>The methods mentioned rely on showing that the work was painted using materials unavailable to the artist at the time <b>[1]</b>. The artworks mentioned in Source E would have used materials of the time <b>[1]</b>. The scientific methods in Source A would therefore be unable to discern any forgery <b>[1]</b>.</p>	<b>3</b>
2(c)	<p><i>2 marks for a correct answer with accurate explanation. 1 mark for a correct answer with vague, incomplete or generic explanation. 0 marks for correct answer without explanation. 0 marks for incorrect answer with or without explanation.</i></p> <p><i>2-mark answers</i></p> <ul style="list-style-type: none"> <li>• Source D is not an argument. It is a series of statements containing explanations for why forgeries are not a problem in galleries.</li> <li>• Source D is not an argument. It is a series of statements about forgeries not being a problem in galleries from which no conclusion is drawn.</li> </ul> <p><i>1-mark answers</i></p> <ul style="list-style-type: none"> <li>• Source D is not an argument, because it does not include a persuasive conclusion.</li> <li>• Source D is not an argument. It is an explanation.</li> <li>• Allow: No. It contains an argument (in the third sentence), but is not an argument overall.</li> </ul>	<b>2</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 suggests that, in principle, scientific methods may be able to detect forgeries.</li> <li>• However, in practice, expense and vested interests may inhibit the use of science.</li> <li>• Source B suggests art has become an investment which could degrade the aesthetic aspect of art.</li> <li>• Source C suggests the problem of forgery might not be just confined to the ‘higher end’ art market.</li> <li>• Source D suggests forgery is only a problem for people who buy and sell paintings. It does not affect the enjoyment and appreciation of the famous paintings in galleries.</li> <li>• However, Source E suggests there may be a problem with the authenticity of some art in galleries.</li> </ul> <p>There is considerable scope for personal thinking here, especially whether the actual visual impact of a painting is affected by the question of who painted it. Certainly if people <i>think</i> the art work is genuine that might be all that matters as regards their enjoyment and appreciation.</p> <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 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>+ 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>2 marks: (However, a number of factors suggest that) we should not idealise sport.</p> <p>1 mark: Part of the above / paraphrase of the above / including previous sentence.</p>	2
3(b)	<p>1 mark for each of the following, to a maximum of 3 marks:</p> <ul style="list-style-type: none"> <li>• Sport is not something we should be holding up as a model to imitate in life.</li> <li>• The health-giving benefits of sport are illusory.</li> <li>• Compulsory sport in schools has a damaging effect on children.</li> <li>• Idealising sport is little different from idealising war.</li> </ul> <p>Allow <u>one</u> significant omission or addition in each case.</p>	3
3(c)	<p>Marks for each evaluative point as follows, up to a maximum of 5 marks:</p> <p>2 marks: Valid evaluative point, clearly expressed. 1 mark: Weak attempt at a valid evaluative point.</p> <p><i>Paragraph 2</i></p> <ul style="list-style-type: none"> <li>• Assumption – professional sport cannot be freed of corruption and unfair practices.</li> <li>• Flaw – generalises from professional sport to all sport/lacks relevance to amateur sport.</li> <li>• Flaw – some sport having negative features not sufficient grounds for rejecting it</li> </ul> <p><i>Paragraph 3</i></p> <ul style="list-style-type: none"> <li>• Flaw: generalises from contact sports to all sports</li> <li>• Flaw: <i>post hoc</i> – we cannot assume that the previous involvement in professional American Football caused the dementia</li> </ul> <p>OR</p> <p>Assumption: 30% is significantly higher than the proportion of the population that gets dementia.</p> <ul style="list-style-type: none"> <li>• Flaw – having some negative effects not sufficient grounds for total rejection of health benefits of sport.</li> </ul> <p><i>Paragraph 4</i></p> <ul style="list-style-type: none"> <li>• Assumption – being miserable at school has a damaging effect</li> <li>• Assumption – school has to be fun</li> <li>• Assumption – that it is sport in general rather than the particular sport they had to play which was making them miserable</li> <li>• Assumption – enthusiastic participation means one idealises sport</li> <li>• Flaw – generalises from creative artists to population as a whole/does not support IC which applies to all children</li> </ul> <p><i>Paragraph 5</i></p> <ul style="list-style-type: none"> <li>• Assumption – war should not be idealised.</li> <li>• Assumption – approving of traits that are relevant to an activity mean one approves of the activity itself.</li> </ul>	5

Question	Answer		Marks
3(d)	<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>5</b>
	<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.	
	<p><i>Maximum 3 marks for wrong conclusion or if conclusion is implied but not stated.</i></p> <p><i>No credit for material merely reproduced from the passage.</i></p> <p><b>Specimen level 3 answers</b></p> <p><i>Support (109 words)</i></p> <p>Children should be encouraged to ‘follow their dream’. Not trying to make it professionally will always leave them wondering whether they could have been a successful professional sportsperson. Any other career they pursue will seem like ‘second best’ and they will be haunted by the feeling they could have been rich and famous. If they do not succeed they can always take up a more conventional career, but at least in that event they will know that they did try to make it in the field of their chosen sport as a professional. So children with an exceptional talent for sport should be encouraged to take it up professionally.</p> <p><i>Challenge (110 words)</i></p> <p>Encouraging talented children to take up sport professionally, even if that talent is exceptional, will almost certainly lead to disappointment. Many professional sportsmen and women struggle in the lower reaches of their chosen sport and find neither fame nor fortune. Their career, even if successful, is short and many find it difficult to adapt to a more normal way of life when they retire. Many sports are physically damaging and this often creates health problems in later life. There are plenty of opportunities to play sport to a good standard at an amateur level. So children with exceptional talent for sport should not be encouraged to take it up professionally.</p>		