

## Thinking and Reasoning Skills

OCR Level 2 Award

Unit **B902**: Thinking and Reasoning Skills Case Study

## Mark Scheme for June 2013

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.

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## Annotations

Annotation	Meaning
	Indicates candidate's response has been seen
	NOT USED
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## Subject-specific Marking Instructions

## Use of the Mark Scheme

1.1 Marking must be positive. Marks must not be deducted for inaccurate or irrelevant answers. Half-marks must not be used.

- 1.2 The full range of marks should be used. Do not be afraid to award full marks or no marks. Failure to do this will seriously affect the distribution of marks.
- 1.3 Be consistent from script to script and from batch to batch.
- 1.4 It is not possible to cover every possible type of response within a levels of response mark scheme and examiners are expected to use their professional judgement at all times in ensuring that responses are placed in the correct levels and given an appropriate mark within that level.
- 1.5 If a candidate reaches a particular level s/he must be rewarded with a mark within that level. It is not necessary to work through the levels.
- 1.6 Where a band of marks is indicated for a level these marks should be used with reference to the development of the answer within that level. Decide the appropriate level first and then mark within that level.
- 1.7 The mark scheme primarily aims to reward the demonstration of the skills. **Where examples are given these are not prescriptive but intended as a guide.** If in doubt refer to your team leader.

Question		Answer	Marks	Guidance
1	(a)	Credit 1 mark for putting brackets around the first sentence: (When a spirit leaves its body it is more interested in the body it left behind than some ornament on top of a filing cabinet!)	1	No credit can be given if any of the words in the correct sentence are omitted from the brackets.
	(b)	Credit 1 mark for each correctly circled indicator word: 'therefore' and 'so' are the correct answers.	2	Accept 'should' in the last sentence for 1 mark.  If all three creditable words are circled then two marks can still be awarded. If three words are circled, one of which is incorrect, then only one mark can be awarded. If three words are circled, two of which are incorrect, then no marks can be awarded.
	(c)	Credit 1 mark for underlining 'The only thing this would prove, (therefore), is that the patient's attention was on something else'.	1	Credit can only be given if <u>all</u> the words in the intermediate conclusion are underlined, with the exception of 'therefore' which can be justifiably omitted.
2		Credit 1 mark for putting a tick next to 'rant'.	1	Please follow the guidance on crossed out and duplicated answers.
3	(a)	Credit 1 mark for underlining ' (so) we should not support the funding of this research'.	1	Credit can be given here if the final three words ('of this research') are omitted.
	(b) (i)	Credit 1 mark for putting a tick next to 'Straw man'.	1	Please follow the guidance on crossed out and duplicated answers.
	(ii)	Credit 1 mark for answers which show an understanding of the straw man flaw.  Creditworthy examples: <ul style="list-style-type: none"> <li>• It distorts the original argument</li> <li>• It misrepresents the opponents argument</li> <li>• She builds a false image of the researchers.</li> <li>• The reason people carry out research on NDEs isn't so that people get sick</li> </ul>	1	If an incorrect answer is given to part (i) then credit can still be given for part (ii) if the candidate shows an understanding of the straw man flaw.  Simply quoting the part of the argument which creates the distortion, 'these researchers just want to see people get sick', is not enough to gain credit for explaining the flaw.

Question	Answer	Marks	Guidance
4	<p>Award up to two marks for each clear and developed explanation related to a relevant credibility criterion.</p> <p>Award one mark for an answer that lacks clarity or for a partial but clear explanation.</p> <p>2 mark examples:</p> <ul style="list-style-type: none"> <li>• He has expertise because he is a neurologist</li> <li>• He might have a vested interest to exaggerate/lie about the results to get funding for further research</li> <li>• He might have a vested interest so his claim might be built up so that he keeps his job as a researcher</li> <li>• He has a good reputation as he is a published scientist so he would want to tell the truth to maintain it.</li> </ul> <p>Credit 1 mark for a partial explanation or an explanation that lacks clarity</p> <p>1 mark examples:</p> <ul style="list-style-type: none"> <li>• He wants more money</li> <li>• He wants to be famous</li> <li>• He is a published scientist.</li> <li>• He has relevant expertise</li> <li>• He has expertise because he is a doctor</li> </ul> <p>0 mark examples:</p> <ul style="list-style-type: none"> <li>• He has a good reputation</li> <li>• He has expertise</li> <li>• He is a doctor</li> </ul>	2	<p>Relevant answers which are developed and show an understanding of a credibility criterion but do not name it can still access two marks.</p> <p>Where candidates use expertise as a criterion, it must be clear that the expertise is relevant for two marks to be awarded. Using Blanke's status as a 'doctor' is not enough to establish relevance.</p> <p>Simply naming a credibility criterion is not enough for any credit to be given.</p>

Question	Answer	Marks	Guidance
5	<p>Credit 2 marks for an answer that clearly shows an understanding of how the language is loaded.</p> <p>2 mark examples:</p> <ul style="list-style-type: none"> <li>• If Francesca does not admit that NDEs are caused by brain activities, she'd be calling herself an idiot.</li> <li>• It is an example of loaded language because it uses the word 'idiot' which makes it a personal insult</li> <li>• The question gives only 2 possible answers and both are not what she would want to say.</li> <li>• She uses abusive language to contradict her rather than backing up her argument with reasoning.</li> </ul> <p>Credit 1 mark for an answer that shows a partial understanding or that lacks clarity.</p> <p>1 mark examples:</p> <ul style="list-style-type: none"> <li>• It's loaded language because she uses the word 'idiot'</li> <li>• It is unfair because you have to agree</li> <li>• It's a rhetorical question</li> <li>• She can only answer one way.</li> <li>• She is insulting Francesca</li> </ul> <p>0 mark examples:</p> <ul style="list-style-type: none"> <li>• It's an ad hominem argument</li> </ul>	2	<p>Successful answers can either focus on the use of emotive language ('idiot') or on the fact that the question itself is loaded/rhetorical.</p>

Question		Answer	Marks	Guidance
6	(a) (b)	<p>Credit one mark for each clear statement of any reasonable assumption.</p> <p>Creditworthy examples:</p> <ul style="list-style-type: none"> <li>• That they changed their lives because of what they had seen.</li> <li>• That because something creates a positive impact it must be true.</li> <li>• If it happens to many people it must be true.</li> <li>• That they weren't already planning to change their lives before the NDE.</li> <li>• It is the NDEs that change their lives for the better.</li> </ul> <p>0 mark examples:</p> <ul style="list-style-type: none"> <li>• NDEs are good experiences</li> </ul>	1+1	<p>Answers that simply restate the idea in the argument should not be credited eg 'that their lives have changed for the better' or 'that there must be some truth in what they have seen'.</p> <p>Answers which are posed in the form of a question cannot be credited.</p> <p>Where the part (b) answer is simply a repeat or paraphrase of an answer that gained credit in part (a) then no mark should be awarded for part (b)</p>
7	(a) (b)	<p>Credit one mark for each relevant point that would challenge Trent Smith's claim.</p> <p>Creditworthy examples:</p> <ul style="list-style-type: none"> <li>• NDEs are not the same as out-of-body experiences (OBE)</li> <li>• Their attention could have been on something else</li> <li>• They saw it but did not remember it.</li> <li>• It's a false dilemma: either they see the images or they're just hallucinations.</li> <li>• When a spirit leaves its body it's more interested in the body it left behind.</li> </ul>	1+1	<p>Accept answers which interpret 'image' as being digital and therefore make reference to the image being distorted or unclear.</p> <p>Where the part (b) answer is simply a repeat or paraphrase of an answer that gained credit in part (a) then no mark should be awarded for part (b)</p>
8	(a)	Credit 1 mark for putting a tick next to <b>B</b>	1	Please follow the guidance on crossed out and duplicated answers.
	(b)	Credit 1 mark for circling 'because'.	1	
	(c) (i) (ii)	Credit 2 marks for each clearly stated, relevant reason that would support the importance/necessity of scientific research into NDEs.	2+2	Two marks can only be awarded for a developed answer which is relevant. More tangential developed answers can only be credited with one mark.

Question		Answer	Marks	Guidance
		<p>2 mark examples:</p> <ul style="list-style-type: none"> <li>• People who have had NDEs deserve to know the truth about what they have experienced</li> <li>• It would help us to learn more about the brain, which could have other medical uses</li> <li>• It might help us to understand the truth about the afterlife, which affects all people.</li> </ul> <p>Credit 1 mark for a relevant reason that may lack development, clarity or relevance or may require assumptions.</p> <p>1 mark examples:</p> <ul style="list-style-type: none"> <li>• The truth is important</li> <li>• Science has other applications</li> <li>• We will learn more about brains</li> <li>• It could help establish whether NDEs are real and then we can help patients</li> </ul>		Where the part (ii) answer is simply a repeat or paraphrase of an answer that gained credit in part (i) then no marks should be awarded for part (ii)
9	(a) (b)	<p>Credit one mark for each plausible, relevant alternative explanation for the accuracy of her description.</p> <p>Creditworthy examples:</p> <ul style="list-style-type: none"> <li>• She might have seen a bone saw before</li> <li>• She could have spotted it as she came round</li> <li>• She might have had a lucky guess.</li> <li>• She may have researched the operation and seen a bone saw</li> </ul>	1+1	For two marks there need to be two distinct alternative explanations given. 'She might have seen the saw before her operation' and 'She might have seen the saw after her operation' are not distinct alternatives. However, saying she may have seen it before the operation because she researched it and then saying she saw the bone saw after she came round are distinct.
10	(a) (b) (c)	<p>Credit one mark for each accurate statement of a weakness. Creditworthy examples include:</p> <ul style="list-style-type: none"> <li>• 20% is an insignificant number</li> <li>• The sample is self-selecting</li> <li>• Just because they claim it doesn't mean it happened</li> <li>• NDE is not the same thing as OBE</li> <li>• People might just ring in to become famous on TV</li> <li>• The callers may have been lying</li> </ul>	1+1+1	<p>Answers which suggest the sample is biased as it is only drawn from America should not be credited. Equally, suggesting that it is biased by only including heart attack victims cannot be credited.</p> <p>No credit is to be given for an answer that repeats or paraphrases a weakness which has already been credited.</p>

Question	Answer	Marks	Guidance
11 (a) (b) (c)	Credit one mark for each accurate statement of a pattern found in the data.  1 mark examples: <ul style="list-style-type: none"> <li>• None of the males reported seeing a tunnel</li> <li>• None of the females reported a religious element</li> <li>• None of those who changed afterwards had seen a bright light or a tunnel</li> <li>• None of the ones who reported seeing dead relatives reported peace</li> <li>• Everyone who saw a bright light saw a deceased relative</li> <li>• No-one who experienced peace saw a tunnel/light/deceased relative/heavenly vision</li> </ul> 0 mark example: <ul style="list-style-type: none"> <li>• 3 people did have OBEs, 3 didn't</li> </ul>	3	Answers must be referring to a pattern rather than a basic similarity or connection between two people's accounts.  Answers which are repeated or logically equivalent to a previous answer should not be credited.  There are other possible correct answers in addition to the examples given. The table in the question paper must be checked carefully.
(d)	(i) Credit one mark for circling necessary.	1	
	(ii) Credit one mark for an answer which shows an understanding of why it is said to be a necessary condition  Examples: <ul style="list-style-type: none"> <li>• because if it doesn't have OBE then it can't be a NDE</li> <li>• because it has to be there to be classed as a NDE</li> </ul>	1	Credit can be given for a valid explanation of why it is a necessary condition even if 'sufficient' has been circled for the previous answer.
(e)	Credit 1 mark for circling 'paul'.	1	
(f)	Credit 1 mark for 'floating'. No other answer is acceptable.	1	Answers might be developed into longer sentences, but as long as 'floating' is identified as the common factor, all these answers can be credited.
12 (a)	Credit 1 mark for saying that Adil would agree with statement <b>B</b> and 1 mark for a valid justification. Possible explanations might include: <ul style="list-style-type: none"> <li>• Because he says we can't argue with the number of people who think their experience was real.</li> </ul>	2	Answers which state an incorrect letter should not attract any marks, regardless of the quality of the explanation.  No credit can be given for the explanation if the letter

Question	Answer	Marks	Guidance
(b)	Credit 1 mark for saying that Francesca would agree with statement <b>C</b> and 1 mark for a valid justification. Possible explanations might include: <ul style="list-style-type: none"> <li>• Because she says there will never be enough evidence to convince scientists NDEs are real.</li> <li>• Because she says that Scientists dismiss it as 'pseudoscience'</li> </ul>	2	is missing.  Explanations which are so unclear that they do not link the statement to anything we know about the person should not be credited e.g. 'Because Adil believes in God'.  Explanations do not have to include a direct quotation but should extract some relevant information about the person from Document 7.
(c)	Credit 1 mark for saying that Georgina would agree with statement <b>A</b> and 1 mark for a valid justification. Possible explanations might include: <ul style="list-style-type: none"> <li>• Because she says scientists are working hard so they can tell us what happened one day.</li> </ul>	2	

## Section B: thinking to a conclusion based on reasons and evidence.

Question		Answer	Marks	Guidance
13	(a)	<p>(i) Credit 1 mark for each reasonable and relevant example</p> <p>(ii) Creditworthy examples:</p> <ul style="list-style-type: none"> <li>• They might stop believing in their religion</li> <li>• They might start thinking they are crazy</li> <li>• They might start to fear death more</li> <li>• They might change their life back to how it was before.</li> </ul>	1 + 1	Where the part (ii) answer is simply a repeat or paraphrase of an answer that gained credit in part (i) then no mark should be awarded for part (ii)
	(b)	<p>Credit two marks for a relevant, developed reason that offers good support for the claim.</p> <p>Credit one mark for a reason that is relevant but less clearly developed/supportive.</p> <p>2 mark examples:</p> <ul style="list-style-type: none"> <li>• It might be consoling as it would reassure them to know that there is a rational explanation for such a strange experience.</li> </ul> <p>1 mark examples:</p> <ul style="list-style-type: none"> <li>• It would explain what had happened.</li> </ul>	2	Credit cannot be given for answers which suggest that science could confirm paranormal experiences actually happened.

Question	Answer	Marks	Guidance
14	<p>Marks are to be allocated in accordance with the performance descriptors below.</p> <p><b>Performance descriptions for 5 to 6 marks: Level 3</b></p> <ul style="list-style-type: none"> <li>• The conclusion is precisely stated</li> <li>• Two reasons are provided for the conclusion, at least one of which is persuasive, cogent and well developed</li> <li>• The structure of the reasoning is clear and explicit and places minimal reliance on assumptions</li> <li>• Grammar, spelling and punctuation are good.</li> </ul> <p><b>Example of a Level 3 answer:</b> Sometimes it is better not to know the truth, because the truth is not always nice. For example, when girls talk amongst themselves about their boyfriends. If people found out the kinds of things people said about them then they might get paranoid and insecure, so it's better not to know what people think of you. Also, many people believe in God, and that gives them a lot of comfort even though it might not be true, so in some cases knowing the truth could lead to a negative change in a person's beliefs. (6 marks)</p> <p><b>Performance description for 3 to 4 marks: Level 2</b></p> <ul style="list-style-type: none"> <li>• The conclusion is clearly stated, though not necessarily precisely focused</li> <li>• At least one reason is provided for the conclusion, which is plausible and relevant</li> <li>• The structure of the reasoning is not fully explicit and does rely on some assumptions</li> <li>• Grammar, spelling and punctuation are adequate.</li> </ul> <p><b>Example of a Level 2 answer:</b> Sometimes it is better not to know the truth. The truth can</p>	6	<p>The main discriminator here in terms of levels is likely to be the quality of the reasoning.</p> <p>Candidates may choose to make use of evidence and/or examples. These can be rewarded within levels if they enhance the quality of the reasoning, but are not required to reach level 3.</p> <p>We are looking here for candidates to take the argument beyond the specific case of NDEs and apply their reasoning to the wider issue of it being better not to know the truth.</p> <p>For level 3 candidates will need to produce at least one reason which is more than just implied by good examples. There needs to be a clear and explicit reason <u>why</u> it is better not to know the truth.</p> <p>Answers which include two or more relevant examples which provide support for the <u>same</u> one reason can only be awarded a maximum of 4 marks (top of level 2), no matter how good the examples are.</p> <p>Where a candidate produces an argument which argues that it is always better to <u>know</u> the truth, this can be awarded a maximum of 3 marks (bottom of L2) if the argument displays strong reasoning skills.</p>

Question	Answer	Marks	Guidance
	<p>lead to upset and distress for yourself and others. For example, when one person in a marriage has an affair. If the truth came out about this then it could lead to the breakdown of the marriage, which could affect the whole family in lots of negative ways. (4 marks)</p> <p><b>Performance description for 1 to 2 marks: Level 1</b></p> <ul style="list-style-type: none"> <li>• The conclusion is imprecise and unclear</li> <li>• The reason(s) provides weak support for the conclusion</li> <li>• Structure is either absent or minimal or unclear</li> <li>• Grammar, spelling and punctuation may be inadequate.</li> </ul> <p><b>Example of a Level 1 answer:</b> Lies can be better than the truth, because you'd rather not know that your friend stole £10 (1 mark)</p>		

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15	<p>Marks are to be allocated in accordance with the performance descriptors below.</p> <p>The content for the arguments may be utilised and/or developed from the documents or may be independent of those documents.</p> <p><b>Performance descriptions for 7 to 10 marks: Level 3</b></p> <ul style="list-style-type: none"> <li>• The conclusion is precisely stated</li> <li>• Reasons are provided for the conclusion, which are persuasive, cogent and fully developed</li> <li>• The structure of the reasoning is clear and explicit and places minimal reliance on assumptions</li> <li>• Evidence and examples are provided which are both relevant and clearly strengthen the reasoning</li> <li>• Grammar, spelling and punctuation are good.</li> </ul> <p><b>Example of a Level 3 answer:</b>            Research into NDEs is a waste of time, money and resources for many reasons. First of all, there are lots of other causes that have more urgent and important needs, such as cancer research or dementia. Putting money and time into resolving issues like these would make a real difference to people's lives (e.g. by finding a cure for cancer and preventing thousands of deaths or by making life more bearable for the ageing population and their relatives) whereas NDE research only affects scientific progress and has less obvious benefits for society.            Also, we will never be able to prove anything one way or another with this type of research. Even if we can prove that chemicals in the brain are still working when the brain is 'dead' and this causes the NDE, the person who has had the experience will still believe that it was real because of how powerful it felt. So, there seems to be little point in using valuable scientific time and funding to find an</p>	10	<p>The main discriminator here in terms of levels is likely to be the quality of the reasoning.</p> <p>The candidates should all have had an opportunity to study the pre-release documents, so developed reasons should be expected in order to reach level 3, making use of evidence and/or examples drawn from the documents or introduced independently.</p> <p>Marks within the levels can be determined by the number of reasons provided and the extent of the evidence or examples provided</p> <p>Where a candidate produces an argument which <u>supports</u> research into NDEs, this can be awarded a maximum of 4 marks (bottom of L2) if the argument displays strong reasoning skills.</p>

Question	Answer	Marks	Guidance
	<p>explanation that will not have any effect. (10 marks)</p> <p><b>Performance description for 4 to 6 marks: Level 2</b></p> <ul style="list-style-type: none"> <li>• The conclusion is clearly stated</li> <li>• Reasons are provided for the conclusion, which are plausible and relevant</li> <li>• The structure of the reasoning is not fully explicit and does rely on some assumptions</li> <li>• Evidence and examples are provided which are relevant but are open to challenge</li> <li>• Grammar, spelling and punctuation are adequate.</li> </ul> <p><b>Example of a Level 2 answer:</b>  It is a waste of time and effort, as well as money, to research NDEs. Especially since we already know they are caused by the brain. The experiment by Dr Parnia and the Swiss experiment in doc 4 clearly show that there is a connection between what people experience as 'paranormal' and what is actually happening in the brain. There seems little point in continuing to pump money into something we already understand enough about. Secondly, scientists should be more concerned with things that actually matter like cancer. (6 marks)</p> <p><b>Performance description for 1 to 3 marks: Level 1</b></p> <ul style="list-style-type: none"> <li>• The conclusion is imprecise and unclear</li> <li>• Reasons are undeveloped and only provided weak support for their conclusion</li> <li>• Structure is either absent or minimal or unclear</li> <li>• Evidence and examples are poorly developed or explained and are open to obvious counter examples and objections</li> <li>• Grammar, spelling and punctuation may be inadequate.</li> </ul>		

Question	Answer	Marks	Guidance
	<p><b>Example of Level 1 answer:</b> We shouldn't bother with any more research. Scientists have already wasted enough time playing with goggles and stroking people's backs. Doctors have got better things to do. (2 marks)</p> <p><b>0 marks – no creditworthy material</b></p>		

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