

Thinking and Reasoning Skills

OCR Level 2 Award

Unit 1 **B901**: Thinking and Reasoning Skills

Mark Scheme for January 2012

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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
	Correct point
	Incorrect point
	Benefit of the doubt
	No benefit of doubt given
	Information omitted
	Unclear
	Level one
	Level two
	Level three
	Level four
	Not answered question
	Development
	Irrelevant, a significant amount of material that does not answer the question

Subject-specific Marking Instructions

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

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.

Be consistent from script to script and from batch to batch.

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.

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.

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.

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.

Crossed out and duplicated answers**Crossed out answers**

- where a candidate crosses out an answer and provides an alternative response the crossed out response is not marked and gains no marks
- where a candidate crosses out an answer to a whole question, but makes no second attempt and the inclusion of the answer would not cause a rubric infringement, the assessor should attempt to mark the crossed out response and award marks appropriately.

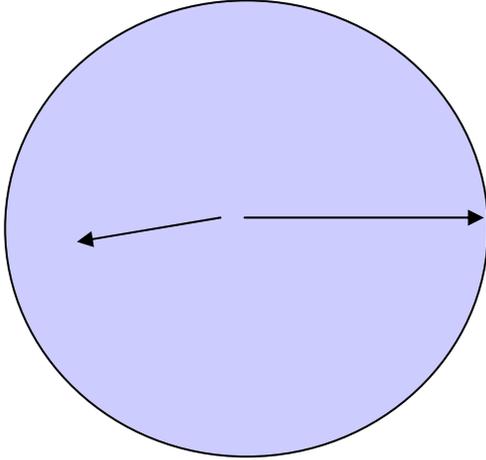
Duplicated answers

- normally all responses are marked and the highest mark given
- where alternate answers are provided to a multiple choice question, no mark should be awarded (for example: following a request to tick one box, the candidate ticks two or more boxes)
- where the candidate provides contradictory responses, no mark should be awarded (for example: the candidate writes a statement such as 'water freezes at 0C and this means it is a liquid at -10C). The candidate, here, does not seem to understand the context of the 'question.
- where the candidate has adopted a 'scattergun' approach by providing multiple answers to a single response question, no mark should be awarded.

Question			Answer	Marks	Guidance
1	(a)	(i)	1 mark for circling “so” 1 mark for circling “therefore”	4	“should” is to be accepted as a possible indicator word either instead of circling “so” or instead of circling “therefore”. If three correct answers are circled, two marks are to be awarded. If two correct words and one incorrect word is circled, one mark would be awarded.
		(ii)	1 mark for placing brackets around “(so) porridge is a healthy food”		The mark is to be awarded to candidates who bracket the indicator word as part of the intermediate conclusion. If other additional information is bracketed, the mark is not to be awarded.
		(iii)	1 mark for underlining “(therefore) school children should be encouraged to eat porridge for breakfast.”		The whole of the conclusion is to be underlined for the mark to be awarded. The mark is to be awarded to candidates who underline the indicator word as part of the main conclusion.
	(b)		1 mark for identifying that there are 2 and only 2 reasons. 1 mark for identifying that two reasons are joint reasons 1 mark for identifying the intermediate conclusion supports the main conclusion directly on its own	3	Map should look like this: $\begin{array}{c} \underline{R1 + R2} \\ \downarrow \\ IC \\ \downarrow \\ C \end{array}$ <p>The addition sign and a single line leading from the reasons signifies that the reasons are joint.</p> <p>C1 and C2 instead of IC and C are to be credited.</p>

Question			Answer	Marks	Guidance
					MC instead of C is acceptable. The two reasons must be labelled with the letter R or "Reason" for the first mark.
2	(a)		1 mark for circling 6.20	1	Please follow the advice on crossed out or duplicated answers shown on Page 2.
	(b)		1 mark for circling 25 minutes	1	Please follow the advice on crossed out or duplicated answers shown on Page 2.
	(c)		1 mark for identifying any likely explanation for Ben's journey by bus taking longer than Cassie's journey by bike. Up to 3 marks for three separate and distinct explanations	3	Possible answers could include any of the following: <ul style="list-style-type: none"> • Heavy traffic/traffic jams • Bus broke down • Bus took very indirect route • Cassie can use cycle lanes. • The bike does not have to stop for passengers. • Ben had much further to travel/the bus journey is a much longer distance. Repeated or very similar answers should not be credited twice.

Question			Answer	Marks	Guidance
3	(a)	(i)	1 mark for circling "this is false"	1	Candidates who circle "this is true" supported by an appropriate reason e.g. "none of the males have a horse as their favourite animal" or "only the girls like horses" are to be credited in part (ii) only as they provide a reason which can be said to support their claim but the claim itself is false.
		(ii)	1 mark for recognising that there is a distinction to be made between not having a horse as your favourite animal and not actually liking horses.	1	
	(b)	(i)	1 mark for circling "this is false"	1	For part (ii) the candidates must identify that Daniel has a job and that he has a musical hobby. Candidates who circle "this is true" supported by an appropriate reason e.g. "those whose hobby is listening to music have no job" are to be credited in part (ii) only as they provide a reason which can be said to support their claim, but the claim itself is false.
		(ii)	1 mark for identifying that Daniel delivers newspapers is a counterexample to this generalisation as he has a job and he plays drums.	1	
	(c)	(i)	1 mark for circling "this is false"	1	
		(ii)	1 mark for recognising that the sample is too small to generalise about boys in general Or alternatively 1 mark for recognising that in the table only 2/4 like computer games	1	
	(d)		1 mark for identifying that student X is female 1 mark for identifying that student X likes listening to music 1 mark for identifying that student Y is male 1 mark for identifying that student Y enjoys computer games	4	

Question		Answer	Marks	Guidance
4	(a)	1 mark for circling 2.30	1	Please follow the advice on crossed out or duplicated answers shown on Page 2.
	(b)	1 mark for any drawing which closely approximates to that below 	1	<p>The mark is also to be credited to any candidate who draws a straight horizontal line dividing the circle in two roughly equal halves.</p> <p>Candidates who draw both hands the same length while drawing a horizontal line which divides the circle in two equal halves are to be credited the mark.</p> <p>The hand on the left side should be between the points on the clock which on a normal clock correspond to 8 and 9 but candidates who draw the hand pointing straight at the point which would be 9 on a normal clock are to be credited with the mark.</p> <p>The hand on the right side should point to the point which on a normal clock would be 3 but candidates who draw the hand slightly either side of this point are to be credited with the mark.</p>
5	(a)	1 mark for pizza and diet coke	1	Examiners are to ignore the table and mark only what appears on the dotted lines.
	(b)	1 mark for salad and fresh orange	1	Examiners are to ignore the table and mark only what appears on the dotted lines.
	(c)	1 mark for pasta and mineral water	1	Examiners are to ignore the table and mark only what appears on the dotted lines.

Question		Answer	Marks	Guidance
6	(a)	1 mark for "The world champion 1500m runner eats seven chocolate bars a week"	1	Allow a clear indication that the first bullet point is the relevant evidence. If the evidence is quoted, it should be quoted with a reasonable level of accuracy.
	(b)	1 mark for "People with heart disease are known to have eaten more chocolate in their lifetime than those without heart disease"	1	Allow a clear indication that the third bullet point is the relevant evidence. If the evidence is quoted, it should be quoted with a reasonable level of accuracy.
	(c)	1 mark for "Many people do not like chocolate"	1	Allow a clear indication that the fourth bullet point is the relevant evidence. If the evidence is quoted, it should be quoted with a reasonable level of accuracy.

Question	Answer	Marks	Guidance
7	<p>There are at least three acceptable approaches to this question:</p> <p>1 mark for identifying that it is a false appeal/appeal to tradition/appeal to popularity</p> <p>1 mark for explaining the nature of the false appeal ie just because people believe something is no guarantee that it is true</p> <p>Alternatively allow:</p> <p>1 mark for identifying that this is just opinion or observing that there is a lack of evidence.</p> <p>1 mark for explaining that it is just an opinion or a belief and therefore further evidence would be required to accept the truth of the conclusion.</p> <p>Also allow:</p> <p>1 mark for identifying that the reasoning rests on an assumption</p> <p>1 mark for explaining that it assumes that what people always believe is actually true</p>	2	<p>The first mark is for an undeveloped explanation and the second mark is for development or expansion.</p> <p>An undeveloped explanation is one that invites the response “and so....?”</p>

Question		Answer	Marks	Guidance
8	(a)	<p>1 mark – Partial answer that identifies a lack of credibility relating to the people who have made these claims.</p> <p>2 marks – Full answer contextualised eg expands on relevance and significance of credibility criterion in this kind of case</p> <p>Indicative content</p> <p>“these people may have poor reputation” (1 mark)</p> <p>“these people may have poor reputation because they might have a track record for making up stories and hoaxes” (2 marks)</p> <p>“these people may have had something to gain/vested interest” (1 mark)</p> <p>“these people may have had something to gain/vested interest because if they were making money by selling these stories they could be making it all up ” (2 marks)</p> <p>“these people may have been hallucinating” (1 mark)</p> <p>“People close to death may be in a weak state of mind and so they may hallucinate.” (2 marks)</p>	2	For the 1st mark it is necessary that the candidate signifies that the witness in some way fails to satisfy the criterion ie poor reputation or poor ability to see = 1 mark. The criterion by itself does not get the mark.

Question		Answer	Marks	Guidance
	(b)	<p>1 mark – Partial answer that identifies a lack of credibility relating to the people who have made these claims.</p> <p>2 marks – Full answer contextualised eg expands on relevance and significance of credibility criterion in this kind of case</p>	2	<p>For the 1st mark it is necessary that the candidate signifies that the witness in some way fails to satisfy the criterion ie poor reputation or poor ability to see = 1 mark. The criterion by itself does not get the mark.</p> <p>The explanation in 8(b) has to be separate and distinct from that used in 8(a) to get the marks.</p>

Question		Answer	Marks	Guidance
9		1 mark for identifying that it is ad hominem/attacking the person/attacking the arguer	1	The flaw must be named. Paraphrases and explanations are not to be credited the mark.
10		<p>1 mark for a partial statement of a difference which undermines the analogy.</p> <p>2nd mark for a full statement of a difference which shows the analogy is weak by showing that my relationship with my body is more close/intimate/direct than my relationship with my clothes.</p> <p>Indicative content for 1 mark</p> <p>What you do to my clothes doesn't affect me. (1 mark) I can wander around without any clothes on. (1 mark) I can change my clothes regularly. (1 mark) Bodies are alive but clothes are dead. (1 mark) A soul is not a physical thing and so it cannot wear clothes. (1 mark)</p> <p>Indicative content for 2nd mark</p> <p>What you do to my clothes doesn't affect me but what you do to my body does affect me. (2 marks) I can wander around without any clothes on but I cannot wander around without my body. (2 mark) I can change my clothes regularly, I cannot change my body regularly. (2 marks)</p>	2	

Question		Answer	Marks	Guidance
11	(a)	1 mark for circling both necessary and sufficient	1	Please follow the advice on crossed out or duplicated answers shown on Page 2.
	(b)	<p>1 mark for pointing out that things which lack thoughts and feelings are therefore said not to have a soul eg the computer (necessary condition).</p> <p>1 mark for pointing out that things which possess thoughts and feelings are therefore said to have a soul eg animals (sufficient condition).</p> <p>Indicative Content:</p> <p>“Dogs feel and think and so they must have a soul.” (1 mark)</p> <p>“You have to have a soul to feel and think. If you feel and think, you must have a soul.” (2 marks)</p> <p>“Dhanish says that computers do not feel and think and so they cannot have a soul, but cats and dogs do feel and think and so they must have a soul.” (2 marks)</p>	2	<p>The marks are not to be awarded to candidates who offer definitions of necessary and sufficient without reference to the specific context.</p> <p>Candidates do not have to use the phrases “necessary condition” or “sufficient condition”, but if these phrases are used, they must be used accurately to gain credit.</p>

Question		Answer	Marks	Content	Guidance
12		<p>Indicative content for 9 marks</p> <p>We are clearly very different from computers. Firstly we are living things but computers are just complicated machines made of metal and silicon chips, so we develop and reproduce but computers do not. Secondly we experience powerful emotions and desires like love and anger. But computers don't have any emotions at all. They are just like pocket calculators which process data but without feeling anything at all. Therefore humans are different from computers.</p> <p>Indicative content for 6 marks</p> <p>We are not like computers. We are born whereas they are made in a factory. They don't move about or do things. They just sit on the desk and only do anything when we switch them on and tell them what to do by programming them. This shows we are superior to them.</p>	9	<p>Anticipated points include the following:</p> <ul style="list-style-type: none"> • We have emotions like love, jealousy, anger, fear • We have opinions and beliefs of our own • We make decisions and choices of our own • We have relationships/fall in love/make friends • We are conscious • We learn things • We can change our mind • We have desires and wants • We feel thirsty/hungry • We have parents not a manufacturer • We are alive not just a machine • We have personality • We are creative/original • We feel pain/pleasure • We make computers they don't make us 	<p>A "best fit" approach should be adopted when assigning an answer to a level. The quality of the reasoning is the most important factor in determining the level for a response. At least two developed reasons, relevant to the conclusion, are expected for a top level answer.</p> <p>If candidates argue in the wrong direction, they can access a maximum of 4 marks (bottom of Level 2).</p> <p>Performance descriptions for 7 to 9 marks:</p> <ul style="list-style-type: none"> • The conclusion is precisely and clearly stated. • Reasons are persuasive, cogent and fully developed • The structure of the reasoning is clear and explicit and places minimal reliance on assumptions. • Any ideas borrowed from the documents are developed and expanded • Evidence derived from the documents is used critically and strengthens the argument • Grammar, spelling and punctuation are good. <p>Performance description for 4 to 6 marks:</p> <ul style="list-style-type: none"> • The conclusion is clearly stated. • Reasons which are plausible and relevant are offered. • The structure of the reasoning is not fully explicit and does rely on some assumptions.

Question			Answer	Marks	Content	Guidance
						Levels of response
			<p>Indicative content for 3 marks</p> <p>They are machines. They don't have feelings. They don't think. They don't talk. They are not alive. They are made of metal and don't have a heart or lungs and cannot do what we can do.</p>			<ul style="list-style-type: none"> Any ideas borrowed from the documents are re-expressed in the students own words and used appropriately but not necessarily further developed Evidence derived from the documents is used to strengthen the argument Grammar, spelling and punctuation are adequate. <p>Performance description for 1 to 3 marks</p> <ul style="list-style-type: none"> The conclusion is imprecise and unclear possible implied rather than stated. Reasons offered against are undeveloped and only provide weak support for their conclusion and are mixed with rant and irrelevant information. Structure is either absent or minimal or unclear. Ideas are copied from the documents without further development Evidence derived from the documents is not always relevant or significant Grammar, spelling and punctuation may be inadequate.

Question		Answer	Marks	Content	Guidance
					Levels of response
13		<p>Indicative content for 9 marks</p> <p>Lots of people have claimed to see ghosts but that does not mean lots of people have actually seen ghosts. In fact there is no reason to believe that lots of people have seen ghosts. In the first place many ghost stories lack credibility because they are told by people who gain something from telling them. Sometimes they gain money as when they sell the story. But even if they don't gain money they might gain fame and enjoy the attention their story gets them. Secondly when such stories are properly investigated it usually turns out that there is a more plausible alternative explanation. What is perceived as the sound of a ghost moaning turns out just to be the wind or rattling pipes and what is supposed to be a sighting of a ghost turns out just to be a shadow on the wall or another person in the dark.</p> <p>Indicative content for 6 marks</p> <p>It is just not true that lots of people have seen ghosts. Most ghost stories are told by people who have a poor ability to see. They confuse shadows and curtains moving in the wind for ghosts. Also the stories could just be made up. Ghosts don't actually exist.</p>	9	<p>Anticipated points include the following:</p> <ul style="list-style-type: none"> • People may have vested interest to tell these stories • People may have poor ability to see, dark etc • There could be alternative explanations in terms of overactive imaginations; scientific explanations for what is seen or heard (wind etc) • These stories mainly come from pre scientific times 	<p>A "best fit" approach should be adopted when assigning an answer to a level. The quality of the reasoning is the most important factor in determining the level for a response. At least two developed reasons, relevant to the conclusion, are expected for a top level answer.</p> <p>If candidates argue in the wrong direction, they can access a maximum of 4 marks (bottom of Level 2).</p> <p>Performance descriptions for 7 to 9 marks:</p> <ul style="list-style-type: none"> • The conclusion is precisely and clearly stated. • Reasons are persuasive, cogent and fully developed • The structure of the reasoning is clear and explicit and places minimal reliance on assumptions. • Any ideas borrowed from the documents are developed and expanded • Evidence derived from the documents is used critically and strengthens the argument • Grammar, spelling and punctuation are good.

Question			Answer	Marks	Content	Guidance
						Levels of response
			<p>Indicative content for 3 marks</p> <p>People haven't seen ghosts. Ghosts don't exist. The stories are made up. It is just the wind or something else. There is no real proof just stories.</p>			<p>Performance description for 4 to 6 marks:</p> <ul style="list-style-type: none"> • The conclusion is clearly stated. • Reasons which are plausible and relevant are offered. • The structure of the reasoning is not fully explicit and does rely on some assumptions. • Any ideas borrowed from the documents are re-expressed in the students own words and used appropriately but not necessarily further developed • Evidence derived from the documents is used to strengthen the argument • Grammar, spelling and punctuation are adequate. <p>Performance description for 1 to 3 marks</p> <ul style="list-style-type: none"> • The conclusion is imprecise and unclear possible implied rather than stated. • Reasons offered against are undeveloped and only provide weak support for their conclusion and are mixed with rant and irrelevant information. • Structure is either absent or minimal or unclear. • Ideas are copied from the documents without further development • Evidence derived from the documents is not always relevant or significant • Grammar, spelling and punctuation may be inadequate.

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