

GCE

Critical Thinking

Advanced Subsidiary GCE

Unit F501: Introduction to Critical Thinking

Mark Scheme for January 2013

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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.

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Annotations

Annotation	Meaning
V	Use a ✓ to indicate the separate marks given in 1(b), 1(d), Q2, Q6,Q7,Q8 and Q9

Use the following annotations in Q10:

Annotation	Meaning
	to indicate strong credibility
	to indicate weak credibility
	to indicate strong plausibility
P	to indicate weak plausibility
SEEN	on pages 10 and 11 any additional pages to indicate that these continuation sheets have been looked at

Subject-specific Marking Instructions

Question 1

You must only credit the words written; ellipses (....) should not be credited.

The words in brackets are not required, but candidates should not be penalised if these words are included.

Credit 3 marks for precisely stating the argument element in the exact words of the author.

For partial performance marks see the guidance for each question.

Credit 0 marks for no creditworthy material for all questions.

Que	stion	Answer		Guidance	
1 (a	a)	it is important that we support the DDS trial (3)	3	 2 marks for any omissions eg 'DDS' or 'the trial'. 1 mark for any additions eg the counter assertion Whilst the resulting darker mornings may be hugely unpopular' for any paraphrase eg 'We should support the DDS scheme.' 	
(E	0)	Gaining an extra 235 hours of daylight after work every year could actually raise people's spirits (3) it /DDS could (also) result in fewer accidents (3)	6	Use ticks ✓ to identify where marks are awarded in the candidate's answer. 2 marks for any omissions eg 'gaining an extra 235 hours of daylight after work each year', 'actually'. 1 mark • for any additions eg both reasons written as one • for adding the example 'including fewer deaths from road crashes.'	
(c	(3)	Hypothetical reasoning (MPs have claimed that) long, lazy summer evenings could be on the way if Britain decides to put its clocks forward by an extra hour all year round. (3)	3	2 marks for a slight omission eg 'long', 'lazy', 'summer', 'extra', 'all year round'. 1 mark for a substantial omission eg either half of the reasoning.	
(c	1)	3 argument indicator words if (1) whilst (1) also (1) including (1) like (1)	3	Use ticks ✓ to identify where marks are awarded in the candidate's answer.	

Q	uestic	Answer	Marks	Guidance
2	(a)	Argument element	2x1	Use ticks ✓throughout the assessments in Q2 to identify where marks are awarded in the candidate's answer. (Do not credit 'claim')
	(b)	Element explanation	2x1	2(a) and (b) should be marked independently ie if 2(a) is incorrect, marks can be awarded for a correct answer to 2(b). A definition is all that is required. However if an answer explains the element correctly via the text, this should be credited 2 marks.
3	(a)	 Representative: farmer for a correct comparison that relates to a difference and explains the <i>impact</i> of lighter evenings/DDS Farmers who grow crops (1) might welcome the lighter evenings to continue to harvest these (1). Not all livestock farmers have to see their animals in at night and they might value being able to check their stock in the lighter evenings (2). 	2	 1 mark for a correct bald statement of difference without reference to the impact of lighter evenings. This might characteristically focus on types of farmer rather than their views/impact of lighter evenings eg Not many farmers rear free range chickens. Many farmers don't have fox problems. Crop farmers won't be affected. 0 marks This is only one person's view. Other professions won't have this problem. Challenges e.g. Farmers can get up later so staying out late isn't a problem

Question	n Answer		Guidance
(b) (i)	Representative: One US state representative of the effects for a correct comparison that relates to the <i>impact</i> upon energy eg different usage/cultural difference/infrastructure difference A state in the US might also have costs of air-conditioning, whereas in Britain there might be a saving because you wouldn't have to factor this in so much (2). Population size The \$8.6 million increase might not be representative of the increase in the UK if the population size in both is different	2	 1 mark for a correct bald statement of difference without reference to the impact upon energy eg The climate in the UK is different from that of the US. They are different types of country. The population size might be different in both countries Allow difference in usage without development for one mark. 0 marks for answers that state that: this is only one state's energy consumption figures they are in different time zones
(ii)	 Alternative explanation for a plausible explanation of a change in cost or usage (at individual or state level) There may have been a weather change in the same years that there was a move to daylight saving which accounted for the increase in electricity consumption (2). There may have been a rise in electricity costs that accounted for the bills rising in the years that they put the clocks forward in time. (Credit any other rises eg taxes, cost of coal, production costs that might have caused the price of electricity to rise) (2). There may have been a fall in the price of electricity causing more people to switch to this source or something that happens every year at this time despite daylight saving Daylight saving happens in the summer when people use air-conditioning which accounts for the increase in electricity usage. 	2	1 mark for a correct bald statement without reference to the impact on electricity issues eg • The weather may have changed. • The use of appliances may have changed. O marks for answers that relate to the effects of daylight saving do not include a statement of the change/trigger for increased cost or usage • People may have used their heating more

Quest	ion Answer	Marks	Guidance
4	Assumption for an accurate statement of an assumption examples of answers that would gain 3 marks The saving in lighting and heating in the evening is greathan any extra costs in lighting and heating through dark mornings. People are not using green forms of energy for their lighting and heating. Most forms of heating and lighting do produce CO2. People only use heating and lighting when they need to People will alter their habits of using heating and lighting because of DDS.	aer er	2 marks for a less precise statement of the assumption eg Everybody uses non-green forms of energy. People will not use heating and lighting till later in the day. 1 mark for the essence of an assumption expressed as a challenge eg There wouldn't be any savings, because people will use more energy in the morning instead of the evening. 0 marks for the statement of an incorrect assumption eg Everyone will want to save energy at night It is good to save CO2. Most households would not need lighting and
5	One reason: for a reason that is specific to Europe or reference back to stem eg 'they' 'which' 'it' examples of answers that would gain 3 marks • We are geographically very close to Europe. • We share a European heritage. • We are a part of the European Union. • It would be dangerous to isolate ourselves from Europe.	3	heating until later in the day (stated) People will only use heating and lighting later in the day marks For a reason that is not specific to Europe eg We then have allies if we are in trouble. mark For an answer that goes beyond a reason eg We are a part of the European Union, so we should try to develop good relationships with them. (argument) It may encourage cultural interchange, such as
	 It may encourage cultural interchange with Europe. It may help to foster good relationships with Europe. It makes it easier to travel abroad It will help the UK economy. 		that brought about by the European cup matches. (R + eg) O marks for a direct quote from the text or for a further conclusion drawn from the claim. eg so we will improve trade

Question	Answer	Marks	Guidance
6	 Links between reasoning and conclusion: 1 mark for reference to a key word(s) in the correct conclusion, "We should support the introduction of DDS for economic reasons." 1 mark for reference to a key word(s) the reasoning in paragraph 2 eg "a move to DDS would help business travel and communications with European partners, customers and suppliers." (or any part of reasoning in paragraph 2) PLUS either 2 marks for a correct point of assessment of a weakness that focuses directly upon the link between the reasoning and the conclusion eg The reasoning focuses upon communication/convenience, not the effects of this. If the discussions aren't acceptable, the trade won't increase. There is therefore not sufficient reason given to accept that DDS will improve the economy. If we are at saturation point in trade with Europe, then DDS increasing possibilities for business wouldn't necessarily increase trade. So, there may not be sufficient 	4	 Use ticks ✓throughout the assessments in Q6 to identify where marks are awarded in the candidate's answer. These marks should be credited independently of each other, ie it is not necessary to gain the first before the others can be credited. The reference to the text maybe brief. A full quote is not necessary, eg 'for economic reasons' The reference to the text need not be indicated by speech marks.
	 reason given to support DDS on economic grounds. or 1 mark either for a weak version of a 2 mark answer eg The discussions may not be successful. or for an assessment of the reasoning rather than the link eg Using the internet, many businesses are open 24/7, so it does not matter if the time zones are parallel. Some businessmen may live further from an airport, so they may still need to stay overnight for a morning meeting. 		

Question	Answer	Marks	Guidance
7	Document: Award up to 3 marks for each correct answer:	6	Use ticks ✓ throughout the assessments in Q7 to identify where marks are awarded in the candidate's answer
	2 marks for a correct developed justification The authors of the document have a good ability to perceive the data necessary to provide expert advice and analysis as they will have access to these figures through their link with GLA (developed justification ✓✓) or 1 mark for a correct limited justification eg The authors of the document have a good ability to perceive the data necessary to provide expert advice and analysis because of their job (limited justification ✓) Plus 1 mark Additional mark where the correct assessment is supported by a relevant reference to the text The authors of the document have a good ability to perceive the data necessary to provide expert advice and analysis as they will have access to these figures through their link with GLA (developed justification ✓✓) 'The unit is funded by the Greater London Authority.' (relevant reference ✓)		 A correct assessment of a source within the document is capped at 1 mark eg The credibility of the UK trading statistics However if the individual source is used as an example to assess the credibility of the whole document, it can access all 3 marks eg "The credibility of Document 3 is increased by its use of the UK trading statistics because" Credibility criteria Credit only assessments related to RAVEN criteria not corroboration (N – neutrality – includes its opposite, bias.) Assessments that relate to the same credibility criterion can only be credited if a different assessment is made eg vested interest that weakens and a different assessment of VI that strengthens credibility If candidates choose both bias (here what is true for London) and vested interest, they can only be credited if the same material is not used twice. Accept experience as a version of expertise.
	Cap at 1 mark any answer where the correct assessment is no more than the reference itself eg Expertise – GLA provide 'expert analysis on London's Economy' 0 marks for an incorrect assessment		 Reference to the text This need not be in quotation marks. It need not be a sentence – a relevant phrase or term may be adequate to support an assessment. This needs to be relevant to the assessment made. It needs to justify why the document has credibility eg expertise rather than being a demonstration of expertise.

Question	Answer	Marks		Guidance
	Examples of a 3 mark answer:		•	The name of GLA can be used where relevant, (see vested interest opposite).
	Vested interest (an example of where the name of the Dept is			(see vested interest opposite).
	used as a relevant reference to the text.)			
	'GLA Economics' has a vested interest to interpret the statistics			
	as accurately as possible, as the success of their city's			
	businesses' trade with Europe and America will be directly			
	affected by the move to DDS.			
	Vested interest			
	GLA economics is 'funded by the GLA' so it may have a vested			
	interest to exaggerate the positive effects of DDS, if this would			
	benefit London in particular			
	Expertise			
	GLA Economics may have the necessary expertise to be able to			
	correctly present the statistics, if their self-acclaimed providing			
	'expert advice and analysis of London's economy and the			
	economic issues the capital' is to be believed and the reviewer's			
	expert comments have been taken on board.			
	NB Accept answers that take the GLA Economics unit to be the			
	same body as the GLA in that they are self-funded.			

Q	uestion	Answer	Marks	Guidance
8		Consistent with increased economic activity: Source Conservative MP/Rebecca Harris Claim We would have longer, lighter evenings, which could extend the tourist season and boost the economy by up to £3.5 billion a year. Source GLA (Economics) Claim either DDS would inevitably act as a boost to UK trade or Changing the clocks would provide businesses in London with 40% more business time overlap with Europe. A move to DDS would help business travel and communications with European partners, customers and suppliers	4	Use ticks ✓throughout the assessments in Q8 to identify where marks are awarded in the candidate's answer • These marks should be credited independently. • Credit either part of the MP's claim ie extending the tourist season or boosting the economy. • Do not credit the second answer if the MP's claim is divided into the parts above and presented as two separate claims. There are no other possible answers. (Do not credit the claim of the ability to attend morning meetings without an overnight stay, as this is a matter of convenience not an opportunity for increased economic activity.)
9	(a) (b)	 Claim (1) 1 mark for an accurate statement of the claim. 0 marks for an inaccurate claim (gist), or incorrect claim (another person's claim). Assessment (6). 	1	Use ticks √throughout the assessments in Q9 to identify where marks are awarded in the candidate's answer.

Question	Answer	Marks	Guidance
	Plus 1 mark (NB This mark can only be credited where an aspect of the claim is assessed.) Plus 1 mark (NB This mark can only be credited where an aspect of the claim is assessed.) where a correct assessment explicitly indicates whether this strengthens or weakens the claim. eg "This would weaken (W/S ✓) the credibility of his reported claim."	6	 Credibility criteria Credit only assessments related to RAVEN criteria not corroboration (N – neutrality – includes its opposite, bias.) Accept expert, neutral, biased, unbiased, selective, do not accept reputable or trustworthy. Assessments that relate to the same credibility criterion can only be credited, if a different assessment is made in eg vested interest that weakens and a different assessment of VI that strengthens credibility. If candidates choose both bias and vested interest, they can only be credited if the same material is not used twice. Reference to the claim does not have to be in speech marks may be a generic word not found in the claim eg the scheme measure/time change/daylight saving. Synonyms of strengthen or weaken should be credited eg increases credibility. Accept positive/negative credibility, strong/weak, credible/not credible.
	Example of undeveloped assessment capped at 1 mark *Expertise: The professor of economics would know the figures. This increases the credibility of his cash. O marks for irrelevant or inaccurate assessment/no creditworthy material.		 Cap at 1 mark for correct assessment of an incorrect claim correct assessment of a missing claim (However credit according to the 3 marks available, if the candidate refers to the correct claim in (b).) correct undeveloped assessment of correct claim.* correct assessment without reference to an aspect of their claim eg As a university professor, he may have a vested interest to preserve his public image by making an accurate claim

Question	Answer	Marks	Guidance
	Spokeswoman for (RoSPA)		Economics professor from University of California
	Claim Accept any part of these claims.		Claim Accept any part of this reported claim.
	"There were a lot of misconceptions about the success of the trial at the time but if you read through studies done back then, they clearly show an overall decrease in road deaths.		This measure cost an additional \$8.6 million in electricity bills and therefore daylight saving may actually lead to more energy use, not less.
	Studies since have also concluded the measure would save lives and we agree."		Assessment Example of assessments that would each gain three marks:
	Assessment Example of assessments that would each gain three marks:		Reputation/vested interest As a university professor, he may have a vested
	Reputation/vested interest As a spokesperson for RoSPA, she may have a vested interest to preserve her professionalism by making an accurate claim about the decrease in road deaths during the experiment. This would strengthen the credibility of her claim about the success of the experiment.		interest to preserve his public image by making an accurate claim about the cost of the measure. This would strengthen the credibility of his (reported) claim that moving clocks forward may actually lead to more energy use rather than save it.
	Vested Interest/neutrality As a spokesperson for RoSPA, she may have a vested interest to make accurate interpretations of the experiment, as the society should have no motive to support DDS other than if it were to prevent accidents – the aim of their society. This would strengthen the credibility of her claim about the decrease in road		Vested Interest/lack of neutrality As his evidence goes against a measure that has been adopted, he may have a vested interest to exaggerate his evidence to make his point. This would weaken the credibility of his (reported) claim that moving clocks forward may actually lead to more energy use rather than save it.
	deaths during the experiment. Expertise/experience/ability to perceive		Expertise/experience/ability to perceive As a university professor in Economics, he should have the mathematical expertise to interpret the data from
	As a spokesperson for RoSPA, she may be relying on their expertise as a society dedicated to the prevention of accidents to make an accurate claim <i>about the experiment</i> . This would strengthen the credibility of her claim about the decrease in road deaths during the experiment.		the mathematical expertise to interpret the data from the electricity bills to be able to identify a rise. This would strengthen the credibility of his (reported) claim that moving clocks forward may actually lead to more energy use rather than save it.

Question	Answer		Marks	Guidance		
Question 10	In this question there are four credibility and plausibility to sup and credibility and plausibility to The assessment for each could See the grid below: Credibility side for positive effects Strong/Weak/Not covered MP Rebecca Harris, Mayor Boris Johnson, spokeswoman/RoSPA, GLA /Economics Unit (Dr Mayer Hillman) UK reports Plausibility positive effects Strong/Weak/Not covered	areas: port one side; support the other side.	Marks 16	Credibility Strong Use the annotation • More than one correct source is identified for the side and credibility is assessed for two sources. Credibility Weak Use the annotation Either a number of sources are identified and criteria named but not applied or only one source's credibility is assessed with at least one criterion. Plausibility Strong Use the annotation Either there are completely new thoughts with some reference to the text or the text is developed and discussed or the ideas in the text are synthesized to make a reasoned case (This should include a coherent comment on, or assessment of, the ideas in the text, rather than just a list of what the text says or a paraphrase of it). Plausibility Weak Use the annotation • A relevant part of the text is restated specifically in relation to plausibility but without development. (This should refer to positive or negative effects)		
				Apply the levels mark scheme on the next page:		

Question	Answer		Guidance		
	Reasoned case: Answers might include some of the following comparisons: • The relative credibility of both sides eg Vested interest The side that argue that DDS will have positive effects include the MP introducing the bill, the spokeswoman for RoSPA, Boris Johnson and GLA Economics, all of whom have a vested interest to maintain a reputation, either as an MP, a society, a mayor or an authority. So they are more likely to make accurate claims about the effects of DDS in order not damage this or their own field of concern eg the spokeswoman would have no likely motive to claim that DDS 'would save lives' unless the society thought that it would actually do this. Although the MP introducing the bill might have a vested interest to exaggerate how much it would boost the economy in order to get support for the bill, taken as a whole their claims lack any motive to promote DDS per se, thus strengthening the credibility of this side's views. However, the credibility of the views on the side that argue that DDS would have negative effects appears to have a greater potential to benefit if their views are accepted eg the farmer's view is that DDS will be of "very little benefit" and he appears to have selectively chosen those examples that support this view. The US university professor may have a vested interest to interpret the data so that it supports his conclusion more strongly, to make his research more convincing. Only the UK professor appears to making a statement unconnected to a gain. Overall this weakens the credibility of their claims It thus appears that from the perspective of vested interest, the side arguing for the positive effects of DDS is slightly more credible.		Level 3 Strong, relative, sustained assessment 4 areas are strong 3 areas are strong 11 marks Plus credit 1 mark each for any of the following: • direct points of comparison • with effective reference to the text in at least 3 areas • clear and explicit judgement drawn from an assessment of both credibility and plausibility. • effective use of specialist terms and argument indicator words and grammar, spelling and punctuation are accurate. Level 2 6–10 marks Partial or weak assessment At least 3 areas covered and 2 are strong 8 marks 2 areas covered and 2 are strong 6 marks Plus credit 1 mark each for any of the following: • explicit relevant judgement relating to whether DDS will have positive or negative effects • a reference to the text in at least 2 areas • and correct use of specialist terms and grammar, spelling and punctuation are adequate. Level 1 1–5 marks Basic assessment 1 area covered is strong 3 marks At least 2 areas covered weakly 1 or no are		

Question	Answer	Marks	Guidance
Question	The relative plausibility (likelihood) of conflicting outcomes. It seems more likely that lighter evenings will make people happier overall, as this will give them daylight when they are in more of a position to make use of it to relax and follow outside activities in the 'long, lazy summer evenings' that DDS would reportedly bring. Daylight in the early morning would be largely used to get ready for work and school. So, the positive feelings from lighter evenings would probably outweigh the gloom from the darker mornings. Additionally it is clear that if the UK had the same time zone as Europe this would bring the benefits of not having to adjust times on European holiday travel or to take different time zones into consideration whilst making telephone calls to Europe. The negative effects of DDS would seem to affect a small number of people such as farmers with livestock that need to be put in at night. However these farmers are also likely to grow crops and make hay and so would benefit from lighter evenings to harvest these. It is plausible that people will feel 'more gloomy' on dark winter mornings and that more accidents will occur then, but it is very likely that lighter evenings and fewer accidents at that time will offset this. So the net result of an overall benefit seems to be likely, even if this is residual and slight. Overall, as both the credibility and plausibility are both slightly stronger on the side that argues for the benefits from introducing DDS, the judgement must be by a very slim margin, that very slight benefits might be achieved.	Marks	Guidance (0 marks) For no creditworthy material.

APPENDIX 1

Please note that the following table indicates the **range** of marks candidates must achieve in order to fall within a grade range. They are not grade boundaries.

Assessment Objectives Grid (includes QWC)

Question	AO1	AO2	AO3	Total	Grade A	Grade C	Grade E
1a	3			3	3	3	2
1b	3			3	3	2	2
1c	3			3	3	1	0
1d	6			6	6	4	3
2a	2			2	2	2	1
2b			2	2	2	2	1
3a		2		2	2	2	1
3b		4		4	3	3	2
4	3			3	2	1	1
5			3	3	3	2	1
6		2	2	4	3	2	2
Section A total	20	8	7	35	32	24	16
7		6		6	6	4	4
8	2		2	4	4	4	2
9 ((a)+(b)	2	12		14	12	10	8
10	2		14	16	13	10	7
Section B total	6	18	16	40	35	28	21
Unit 1 Total	26	26	23	75	67	52	37
Designer grade range					60–67	45–52	30–37

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