



**General Certificate of Education (A-level)
June 2013**

Critical Thinking

CRIT4

(Specification 2770)

Unit 4: Reasoning and Decision Making

Final

Mark Scheme

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all examiners participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for standardisation each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, examiners encounter unusual answers which have not been raised they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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Critical Thinking Mark Scheme

INTRODUCTION

The nationally agreed assessment objectives in the QCA Subject Criteria for Critical Thinking are:

- AO1** Analyse critically the use of different kinds of reasoning in a wide range of contexts.
- AO2** Evaluate critically the use of different kinds of reasoning in a wide range of contexts.
- AO3** Develop and communicate relevant and coherent arguments clearly and accurately in a concise and logical manner.

- Marks are allocated to the assessment objectives according to the nature of each question and what it is intended to test.
- For Questions 1–7, Examiners need only provide a total mark for each of the candidates' answers. They do not need to provide a breakdown by Assessment Objective.
- For Question 8, marks should be awarded according to the generic marking grid.
- Candidates should be able to achieve the highest marks with a selection of relevant points, not necessarily the complete range.
- **Indicative content is provided as a guide for examiners. It is not intended to be exhaustive and other valid points must be credited.**

Marking methods

In fairness to students, all examiners **must** use the same marking methods. The following advice may seem obvious, but all examiners **must** follow it as closely as possible.

1. If you have any doubt about which mark to award, consult your Team Leader.
2. Refer constantly to the mark scheme throughout marking.
3. **Always** credit **accurate, relevant and appropriate** answers which are not given in the mark scheme.
4. Do **not** credit material irrelevant to the question / stated target, however impressive it might be.
5. If a one word answer is required yet a list is given, take the first answer (unless it is crossed out).
6. If you are considering whether or not to award a mark, ask yourself 'Is this student nearer those who have given a correct answer or those who have little idea?'
7. Read the information on the following page about levels of response mark schemes.
8. Use the full range of marks. Don't hesitate to give full marks when the answer merits them or give no marks where there is nothing creditable.
9. No half marks or bonus marks can be given under any circumstances.
10. The key to good and fair marking is **consistency**. Once approved, do **not** change your standard of marking.

Marking using CMI+

All GCE Critical Thinking papers are marked electronically using a software application called CMI+ (Computer Marking from Image). Instead of paper being posted to examiners, student responses are scanned and sent electronically. The software is easy to use, but demands a different approach

1. Instead of marking paper-by-paper you will mark item-by-item. An item is a part-question. Each time you log on you will need to choose an item to mark.
2. Before you start marking your own items you will need to mark some pre-marked items known as seeds. These ensure you are still applying the same standard set during standardising. If you are not, you will need to speak to your Team Leader before you can continue marking in order to clarify the correct interpretation and application of the mark scheme.
3. Seeds will also appear at random intervals during your marking to ensure you are maintaining the correct standard. If your marking is out of tolerance for a seed you will be prevented from marking that item until your Team Leader discusses this with you and clears you. You will, however, be able to mark other items.
4. Some higher mark questions are Double Marked. This means that a certain number of answers that you mark will be marked by another person. If the marks are within tolerance of one another, the higher mark awarded is the mark the student will be awarded.
5. You can annotate items in various ways: underlining, highlighting and adding icons from a drop-down menu. Your Team Leader will tell you which types of annotation to use. Examiners must not add extra annotation as this can be confusing for teachers and students if they request Access to Scripts.
6. As you mark each response, enter the mark you are going to award in the box at the bottom of the screen. If you realise you have made a mistake you can go back one paper to change the mark.

7. Your assessments will be monitored throughout the marking period. This ensures you are marking to the same standard, regardless of how many clips you have marked or what time of day you are marking. This approach allows senior examiners to ensure your marking remains consistent. Your Team Leader can bring you back to the right standard should you start to drift.
8. If your marking of a particular item is out of line, your Team Leader will contact you as soon as possible to explain where differences are occurring and how this can be addressed.

Levels of Response marking

Levels of response marking requires a different approach than traditional 'point for point' marking. It is essential the **whole response is read** and allocated the level it **best fits**.

Marking should be positive, rewarding achievement rather than penalising for failure or omissions. The award of marks must be directly related to the marking criteria.

Use your professional judgement to select the level that **best** describes a student's work. Levels of response mark schemes enable examiners to fully reward valid, high ability responses which do not conform exactly to the requirements of a particular level.

If a student demonstrates knowledge, understanding and/or evaluation at a certain level, he/she must be credited at that level. **Length** of response or **literary ability** should **not be confused with critical thinking skills themselves**. A short answer which shows a high level of conceptual ability, for example, must be credited at that level.

Levels are tied to specific skills. Examiners should **refer to the stated assessment target** of a question (see the mark scheme) when there is any doubt as to the relevance of a student's response.

Levels of response mark schemes include either **examples** of possible students' responses or **material** which students might use. These are intended as a **guide** only as students will produce a wide range of responses to each question.

Assessment of Quality of Written Communication (QWC)

Where students are required to produce extended written material in English, they will be assessed on the quality of written communication.

Students will have to:

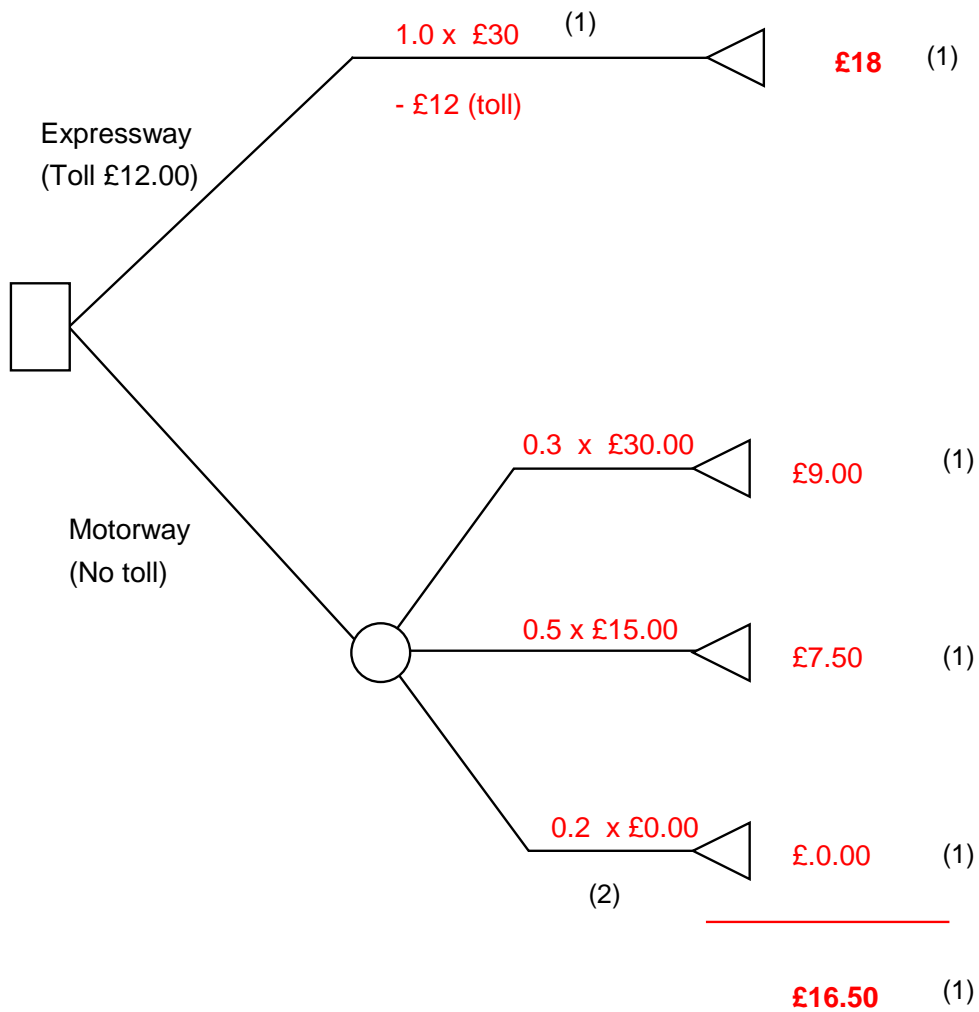
- ensure text is legible; spelling, punctuation and grammar are accurate and meaning is clear
- select and use a form and style of writing appropriate to purpose and to complex subject matter
- organise information clearly and coherently, using specialist vocabulary when appropriate.

Quality of written communication will be assessed in all units in this specification via Assessment Objective 3.

Unit 4 Reasoning and Decision Making

Section A

No.	Question	AO:	1	2	3
1(a)	Complete the blank decision tree to represent the likely benefits and cost per delivery of each option. <i>(8 marks)</i>				
			8		



No.	Question	AO:	1	2	3
1(b)	<p>Which of the options would be better financially, and by how much over a typical year?</p> <p>Briefly explain your reasoning.</p> <p style="text-align: right;"><i>(3 marks)</i></p>			3	

Expressway [1], by £600 [1]

eg $£18.00 - £16.50 = £1.50 \times 400 = £600$ [+1]

Or

If the drivers take the toll road the company will collect £30.00 per delivery, less £12.00 toll:
ie $£18.00$ or $£7200.00$ over the year (18×400)

Using the motorway the likely bonus will average $£16.50$, ie $£6600.00$ [+1]

If answer incorrect but method sound, award [1] (or [2] if minor calculation-error only).

No mark if no justification given (though could be from 1a)

No.	Question	AO:	1	2	3
1(c)	<p>Suggest <u>two</u> other factors, besides the bonuses, which might support your decision.</p> <p style="text-align: right;"><i>(4 marks)</i></p>			4	

Example

By using the expressway, drivers might return in time for another delivery the same day. The expressway may be more pleasant / relaxing etc. for the drivers, improving performance, health, efficiency. Shorter journey times could also mean less fuel consumption.

(In the case of an incorrect answer to 1(a) and 1(b), a possible benefit of using the regular motorway can be credited, eg risk of speeding fines on the expressway; higher fuel use because of travelling faster.)

For each plausible, relevant suggestion [2]

If no financial benefit, but some other advantage [1].

Section B

Questions 2 to 4 refer to one or more of the Pre-Release Documents A – K

No.	Question	AO:	1	2	3
2	<p>In Document A, the author considers the view that ‘the golden age of motoring is over’. Critically assess the evidence and reasoning in the first three paragraphs. How much support does the evidence give for the view?</p> <p style="text-align: right;">(4 marks)</p>			4	

The evidence is largely anecdotal, limited in scope.

The evidence is that fewer people are learning to drive; and that, whilst transport volume generally is static, figures for cars and taxis has peaked (in 2007) and started to fall.

The reasoning is that the end of love affair with the car would explain this. (It is an example of inference to the best explanation.)

However, as the author also states, there is another equally plausible explanation in oil prices and the economy generally. The only difference is that the alternative view is more ‘fundamental’. (This could count against it, since more fundamental explanations tend to be more far-fetched.)

Also, the 4 years from 2007 to 2011 is not a very long period. The trend could easily change again, especially if the economy picks up.

More positively it could be noted that there is a reversal of the trend in car use, relative to overall use of transport – but it is weak evidence for a major shift in attitudes.

[4 marks for identifying evidence, explaining the reasoning, and commenting critically on these. 1–3 for partial answer.]

Other valid points:

- LP in London not representative
- People learning to drive later, especially if going to university
- LP tried but failed, so it’s not that she didn’t want to.

No.	Question	AO:	1	2	3
3	In <u>Documents D</u> and <u>E</u> car clubs and car sharing schemes are presented in a very positive light. Suggest <u>two</u> possible drawbacks of these initiatives. <i>(4 marks)</i>			4	

Example

There will be peak periods when cars will be in high demand and may not be available. If the number of cars is large enough to avoid this, there will be greater cost, idle time, and unnecessary additional parking space.

Car drivers will not drive or treat cars as carefully as they would their own.

People choose cars which suit them or their families personally. This choice will be lost.

Other points:

Limited to cities / those with internet access / convenient locations

Hard to distinguish who damaged a car

Fewer cars bad for economy

No emergency access

Misuse, eg drug dealers

Taking up parking spaces

Not used to car – more accidents

Costs if delayed

Unreliability

Increases usage as more available

No credit for affordability / price

No.	Question	AO:	1	2	3
4	<p>This question refers to Document J</p> <p>The Friends of the Earth article argues against new ‘toll roads’, but in favour of ‘variable road-user charging’.</p> <p>Briefly explain the difference between these with respect to ‘choice’.</p> <p>Assess the author’s environmental grounds for favouring one whilst opposing the other.</p> <p style="text-align: right;">(7 marks)</p>		3	4	

The difference is that tolls give people the choice about whether to pay for a clear road or put up with a crowded one. Variable road user charging differentiate between type of road use, and charges more for one than the other – eg high charge for a busy motorway in rush hour; low rate for a quiet country road.

The environmental grounds are that the tolls roads would not reduce traffic, but if anything increase it. There would be no extra charge for ordinary use, but new motorways or lanes for some. The money would go on the roads, not on improving the environment in other desirable ways. It is fair to say that this is a strong case, environmentally.

(could argue for opposite view, ie. Toll roads reduce congestion so reduce that pollution)

Nb Maximum of 4 marks if only one part of the question is answered.

Level	Marks	Description
Good	6–7	For relevant, perceptive, and <i>thoroughly</i> developed points which directly answer the question, and which show that the candidate clearly understands the issues; and for a clear and well supported judgement.
Intermediate	4–5	For an appropriate response to the question, showing reasonable understanding of the issues involved and giving two or more relevant points of view which are likely to be partially supported / explained.
Basic	1–3	For one or more relevant points related to the question, with some supporting or explanatory development.

Section C

Questions 5 to 8 refer to Document L (Unseen Source Material)

No.	Question	AO:	1	2	3
5(a)	Identify the proposed solution to traffic congestion that the author, Jade Cedar, is arguing against. <i>(2 marks)</i>		2		

Pricing as a method of regulation.

[Any recognisable paraphrase of this part of the passage is acceptable: clear and precise for 2 marks; in the right area for 1.]

No.	Question	AO:	1	2	3
5(b)	Identify the main conclusion of Jade Cedar's argument. <i>(1 mark)</i>		1		

The conclusion is that 'transport...must be available to all on equal terms: not affordable to some and beyond the means of others.

Other answers that capture this general position of the author are acceptable:
eg 'A fair / equal alternative to price control / road building must be found.'

No.	Question	AO:	1	2	3
6	Explain and evaluate the Jade Cedar's reasoning in <u>paragraph 3</u> of the document. (8 marks)		4	4	

The argument is that:

- R People pay more only if they get something for it.
- IC If public transport is made just as attractive as driving; drivers won't pay extra to drive.
- C Higher cost of motoring won't go on public transport improvement.

The reasoning in the argument is supported by two analogies: private education and private health. In both cases the parallel is that the paid for level has to be worth the money or people won't pay it.

In the main the argument works: the analogies are fair and persuasive in that they show up the necessity of a two tier system where control by pricing is applied. However, the analogies could be challenged. People may be willing to pay for the status of private schooling or the extra luxuries of a private hospital even if the basic service – medicine and education – are as good in each case. Travel is different in that it is the basic commodities that are on sale – speed, convenience, lack of congestion. There are no extras for the driver if the trains and buses are as good. On the other hand if the analogy is fair, there may be some kudos in driving for which the rich will pay, just as they do for private services in other sectors. In that case the money from extra tariffs could still be used on public services.

Level	Marks	Description
Good	7–8	For two or more relevant, perceptive, and <i>thoroughly</i> developed critical comments supporting or challenging the argument, and used to support an evaluative judgement about the argument as a whole. The response will demonstrate a clear understanding of the target argument.
Intermediate	4–6	For two or more relevant but perhaps partially explained points relating to the effectiveness or otherwise of the argument, and / or warrant for the claims. The response will demonstrate a broad understanding of the target argument.
Basic	1–3	For some relevant evaluative judgement related to the strength or weakness of the argument with some basic (usually under-developed) attempt at explanation or justification

Nb. 1 very well-explained point with understanding larger argument can get 4-5 if very good.

No.	Question	AO:	1	2	3
7	<p>What ethical point is being made in the ironic remark at the end of <u>paragraph 4</u>?</p> <p>‘At least in a traffic jam everyone moves at the same speed, even if it is zero.’</p> <p>Does it strengthen the argument?</p> <p style="text-align: right;">(4 marks)</p>				
			2	2	

That the existing congestion is at least fair, in contrast with the pricing policy [1 mark].

It also echoes / explains the title. It is ironic, not seriously meant as a suggestion to do nothing. (Various possible answers on this theme.) [1 mark]

Nonetheless there is an implied ethical point, namely that the congestion should not be solved in a manner which did not get everyone moving at the same speed and / or with the same convenience.

Does it strengthen the argument?

Yes, in as much as the argument is an ethical one or **No**, since it shows the impracticality, even absurdity, of applying ethical principles to a purely economic issue [1 – 2 marks]

(Any other valid answers possible)

No.	Question	AO:	1	2	3
8	<p>You may use any of the documents when answering Question 8</p> <p>Suggest <u>two</u> strategies or policies for addressing the problems of road transport in the UK. (They can be policies which are discussed in the documents, or different ideas.)</p> <p>Give a well-reasoned case for adopting one of the options over the other.</p> <p>In the course of your reasoning you should:</p> <ul style="list-style-type: none"> • Identify some of the possible consequences of each of the options. • Assess the consequences in terms of: <ul style="list-style-type: none"> ○ their likelihood, ○ their importance and ○ whether they count for or against the choice in question. • Consider which values and/or principles should be taken into account when judging between the options. • Refer selectively to (and/or quote from) the pre-release material where relevant; and introduce some relevant points of your own. • Briefly, but clearly, explain your decision, and give your main reason(s) for reaching it. <p style="text-align: right;">(25 marks)</p>				25

See marking grid on page 14.

Generic mark-grid for Question 8:

	Award level		
CRITERION: The candidate has:	<i>Thoroughly met, and presented in the context of a well-structured and clearly expressed argument</i>	<i>Satisfactorily or partially met with adequate expression and structure</i>	<i>Inadequately met. Basic response with some weaknesses of expression / presentation</i>
<i>identified appropriate options</i>	2	1	N/A
<i>identified a range of consequences which bear on the decision</i>	3	2	1
<i>presented an effective argument by considering the consequences in terms of their likelihood and importance – desirability, cost, benefit – and whether they count for or against each option</i>	5 – 6	3 – 4	1 – 2
<i>taken account of relevant values and principles</i>	4 – 5	3	1 – 2
<i>clearly articulated a decision, with summary of reasons</i>	3	2	1
<i>made good use of relevant source materials and introduced some relevant arguments of his or her own</i>	5 – 6	3 – 4	1 – 2

Distribution of marks across the questions and assessment objectives for Unit 4

AO Balance	AO1	AO2	AO3	Totals
Qu 1(a)	8			8
Qu 1(b)		3		3
Qu 1(c)		4		4
Total Section A	8	7	–	15
Qu 2		4		4
Qu 4		4		4
Qu 4	3	3	1	7
Total Section B	3	11	1	15
Qu 5(a)	2			2
Qu 5(b)	1			1
Qu 6	3	4	1	8
Qu 7	2	2		4
Qu 8			25	25
Total Section C	8	6	26	40
Paper Total: [70] Marks	19	24	27	70
Paper Total: [70] Percentage	27%	34%	39%	100%