OCR
RECOGNISING ACHIEVEMENT

GCE

Critical Thinking

Advanced GCE

Unit **F504:** Critical Reasoning

Mark Scheme for January 2013

Oxford Cambridge and RSA Examinations

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of candidates of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, Cambridge Nationals, Cambridge Technicals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support, which keep pace with the changing needs of today's society.

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.

© OCR 2013

Annotations

Annotation	Meaning
	Quality of reasoning. Questioning-can be used to identify key definitions and good structure in reasoning eg reasons leading to ICs/strands of reasoning; hypothetical reasoning etc
	Thinking deeply/clearly—useful in Qs 3,4 for well-made points, original ideas, interesting links
	Judgement/Conclusion.
	Evaluation-useful for identification of valid flaws; also for well-defined strengths and/or weaknesses
	Accurate (eg accurate analysis of argument when element/structure accurately labelled/described) – Q2 usually
	Level 1 – **must be put at end of question**
	Level 2 – **must be put at end of question**
	Level 3 – **must be put at end of question**
	Level 4– **must be put at end of question**
	Effective Response (to a Counter argument or Counter assertion ie CA)
	Not answering question - very useful in all questions
	Unclear
	Additional/supplementary/blank page seen **- must be used to notify that all blank pages and additional sheets have been looked at**

NB Examiners should use the above annotations to assist them in deciding their marks.

Marking Grid – Question 1

Level 4 (9–10 marks)	**Correct** judgement **well supported** by: • **thoughtful** justification making reference to all 3 of the documents and what they imply, possibly with reference to limitations of inference from such information.
Level 3 (6–8 marks)	**Correct or implied** judgement, possibly with some overstatement, **mostly supported** by: • **clear** justification making reference to at least 2 of the documents, with perhaps some (implicit) awareness of the limitations of inference from such information.
Level 2 (3–5 marks)	Judgement, possibly overstated, more likely incorrect, **poorly supported** by: • **simple** justification with reference to the documents (which may be either too general or too descriptive) with basic awareness of the limitations of inference from such information.
Level 1 (1–2 marks)	If a judgement is made, it is likely to be **implausible,** extreme and/or based on significant and possibly problematic assumptions OR tend to re-describe the evidence. Accompanied by: • **simplistic** or unconvincing justification, possibly based on speculation and very vague or imprecise reference to the documents.
Level 0 (0 marks)	No creditworthy material.

Question			Answer	Marks	Guidance
1			It can't be reliably concluded, but the evidence gives us some reason to think that child labour might make a contribution to economic growth. Document 1 is opposed to child labour, partly because it interferes with education. As education is important to economic growth it might be argued from this that child labour interferes with economic growth rather than being essential to it. However, the statistics they give show that 158 million children in the world are involved in child labour – this is a huge workforce, probably being paid little. If employers had to pay adults a living wage, they might not make a profit, so removing all these children from the workforce might have a negative effect on economic growth. Document 2 shows a correlation between those countries which are currently experiencing most economic growth and those with a high occurrence of child labour. Better candidates may point out that in sub-Saharan Africa, there are countries with poor economic growth but a high occurrence of child labour. We can't therefore jump to a causal link from this correlation, but nor can we be sure that there isn't one without more investigation. Document 3 is a cartoon which is exaggerated but implies that goods made by skilled adults in developed countries would be prohibitively expensive. So, there are reasons to think that economic growth might be affected without child labour – this is not the same as saying that child labour is essential to economic growth.	10	LOOK AT THE MARKING GRID Assign a level first. Reference by a candidate to Docs 4-6 should be ignored Use of the term post-hoc is acceptable

Question			Answer	Marks	Guidance
			Examples of Candidate-Style Responses **Level 4** No, you cannot reliably conclude this but it might be used to show how important child labour is to economic growth. Document 1 argues against the use of child labour - however it makes no reference to any link between the occurrence of child labour and economic growth. Document 2 identifies a correlation between key emerging economies and countries with high or extremely high occurrence of underage workers. However, correlation is not the same as a cause and other factors may be involved, and so this does not reliably lead to the conclusion that child labour is essential to economic growth. Doc 3 does not show any direct link between child labour and economic growth; it merely suggests that goods produced in developing countries are cheaper than goods produced in developed countries. **Level 3** No, you cannot conclude this. Document 1 gives evidence about the extent and type of child labour, it does not talk about economic growth, so you cannot use this information to show that child labour is essential. Document 2 shows a correlation between high economic activity and high occurrence of child labour, but this doesn't mean one causes the other. The cartoon shows that things would be more expensive without child labour. **Level 2** Yes, you can conclude this. 158 million children wouldn't be working in the global economy if they weren't necessary. Countries with high occurrence of child labour have good economies; the UK doesn't believe in child labour and our economy is rubbish and this just goes to show. And the cartoon shows how awful it would be without child labour – no one would be able to afford decent shoes.		• At least a passing reference should be made to all 3 docs 1-3 • A Level 4 answer will probably contain a reference to correlation/cause relationship and some explanation of it. • Looking for some awareness of the lack of certainty, and that evidence is not always either supportive or challenging,

Marking Grid – Question 2

Level 4 (9 – 10 marks)	**Judgement** about whether the document is an argument or not which is **well supported** by: • justified thinking about whether some or all parts of the reasoning (such as reasons, explanations, report, anecdote etc) give rationally persuasive support to a stated main conclusion **or not**, or whether there might be an implied but unstated conclusion. • a clear and correct indication of what that conclusion might be (if appropriate) • justified thinking about what types of reasoning, such as explanation, report or a short argument as part of the whole document, are present in the document.
Level 3 (6 – 8 marks)	**Judgement** about whether the document is an argument or not which is **mostly supported** by: • thinking about whether some or all parts of the reasoning (such as reasons, explanations, report, anecdote etc) give rationally persuasive support to a stated main conclusion **or not** or whether there might be an implied but unstated conclusion. • a clear and reasonable indication of what that conclusion might be (if appropriate) • some acceptable thinking about what types of reasoning, such as explanation or report, are present in the document.
Level 2 (3 – 5 marks)	**Judgement** about whether the document is an argument or not which is **partly supported** by: • simple thinking about whether some parts of the reasoning (such as reasons or anecdotes) give rationally persuasive support to an inaccurate main conclusion **or not** • an inaccurate indication of what that conclusion might be (if appropriate) • simple thinking about what types of reasoning, such as background information, are present in the document.
Level 1 (1– 2 marks)	If a judgement is present, it is likely to be **arbitrary, unsupported or contradicted**. It may be accompanied by: • simplistic comments about whether some parts of the reasoning support a main conclusion **or not** • an inaccurate and unreasonable indication of what that conclusion might be • simplistic comments about elements of argument, such as 'it has reasons.'
Level 0 (0 marks)	No creditworthy material.

Question			Answer	Marks	Guidance
2			Document 5 is not an argument because it doesn't have a main conclusion supported by reasons. However, it is a persuasive, partly logical and partly argued piece of writing which gives facts and makes suggestions. It could also be argued that there is an implied conclusion that we <u>should</u> support CARE, which does more or less follow from his reasoning. It clearly aims to persuade us that we should actively oppose child labour by supporting the CARE Act. However, it doesn't actually state that we should, or logically argue for it; it operates by reporting facts, implying that these facts have a negative value and telling us what we can do about it. Much of the reasoning is done by implication. Could see paragraphs 1 and 2 as either argument or explanation. It tells us, using evidence, of the ways in which the US has a bad record re child labour. This part of the document is on the borderline between argument and explanation. In the third paragraph it answers the counter-argument against regulation by asserting that lack of regulation leads to exploitation, and moves on to the assertion 'we can take the next step…'. This is not a conclusion, but it clearly has emotive persuasive force and carries with it, an implied conclusion.	10	LOOK AT THE MARKING GRID. • Candidates who refer to the wrong document get zero marks

Question			Answer	Marks	Guidance
			Examples of Candidate Style Responses **Level 4** It's not an argument all the way through because it doesn't state its conclusion, but it does try to persuade us to support legislation on child labour. It tells us we 'can' do this, but it clearly means we 'should' and if it had said 'should' it probably would be an argument. It gives lots of facts to show that there is child labour in the US, but this is evidence and explanation. He attempts to persuade us that the situation is sufficiently bad to make us support his point of view – but a lot of this is done emotionally rather than with argument. **Level 3** It's an argument with the conclusion 'you can join thousands of change.org readers who have contacted their representatives and support the CARE Act'. He gives the reasons that 'a larger, inconvenient truth is that the US has not ended child labor' and 'another report by the International Labor Rights Forum found that the US is not in full compliance with International Labor Organisation Convention 182 on the Worst Forms of Child Labor.' **Level 2** It's an argument with the conclusion that 'the US has not ended child labour '		• If a candidate refers to an implied conclusion that 'we should support CARE', this could enable them to access L4. • A candidate who merely points out that it is not an argument because there is no stated conclusion would access L3. • Candidates who state that the *conclusion* is 'you can support the CARE Act ……', and that therefore Doc 5 is an argument can also access L3, as long as they have shown some thinking about how that *conclusion* is rationally supported. • Any other incorrect conclusion.

Marking Grid – Question 3

Level 4 (16 – 20 marks)	Candidates come to a **reasonable conclusion** about which document reasons more effectively, **supported** by: • mostly well justified and perhaps occasionally insightful evaluation of **key** points, which may show understanding that a single point could be a strength interpreted in one light yet a weakness interpreted in another light • effective weighing up of which document argues more effectively overall, which might include direct comparison and/or consideration of how significant a strength or weakness is. Inappropriate forms of evaluation may occur. The language is clear and mostly precise.
Level 3 (11 – 15 marks)	Candidates come to a **reasonable conclusion (perhaps slightly too strongly stated)** about which document reasons more effectively, **mostly supported** by: • mostly relevant and mostly justified evaluative comments • weighing up of which document argues more effectively overall, which perhaps lacks balance, but may attempt comparison or consideration of how significant a strength or weakness is. Inappropriate forms of evaluation may occur. The language is mostly clear.
Level 2 (6 – 10 marks)	Candidates come to a **conclusion which may be overstated** about which document reasons more effectively, **partly supported** by: • some basic evaluative comments with an attempt at justification • some attempt to weigh up which document argues more effectively overall, perhaps by comparing two points of limited significance or using simple phrases such as 'this weakens the argument.' The language is simple and may lack precision.
Level 1 (1 – 5 marks)	Candidates may come to a conclusion which does not follow from their reasoning or they may have reached no conclusion at all. This may be **accompanied** by: • limited comment about the reasoning with little or no explanation, possibly consisting of stock, pre-learned phrases which are not applied to this reasoning • any weighing up is assertive and unconnected to other points and may be contradictory. Answers may be descriptive or incoherent. The language does not always communicate candidates' thinking.
Level 0 (0 marks)	No creditworthy material.

Question			Answer	Marks	Guidance
3			Credit **either** that Ellie Mae or Tim Newman is strongest, as each has strengths and weaknesses. **Suggested points that could be made** Ellie Mae gives a plausible explanation of the causes of child labour, and provides a reasonable consideration of the consequences – it might seem a bit of slippery slope, or false dilemma, and it's certainly emotive, but is actually quite plausible and probably does happen. She makes a reference to 'the statistics of increasing teen-prostitution' but does not fully explore or develop it, or indicate her source. Her point is plausible but needs a great deal more support than it gets. Ellie Mae raises an important issue about milk versus debts, which is a strength to some extent, as it does show that we have to find solutions to the real problems (the reasons that create child labour). However this is not well developed – it's asserted rather than argued. It is reasonable to prefer seeing a girl working in a brick kiln rather than in the red light area, and this does give us a reason to sort out the underlying causes of child labour rather than simply eliminating child labour. However, none of this gives us a reason to support child labour, but rather to accept it as the lesser evil. TN gives facts from reliable sources which is a strength. There is, however, a leap from the statement of the facts about the law to 'as a result of loopholes in legislation and lack of enforcement… children often face exploitation working in US agriculture.'	20	LOOK AT THE MARKING GRID • **A candidate who overwhelmingly refers to just one of the documents cannot access higher than top L2** • Check that the candidate's reasoning supports the conclusion they have come to. • The mark scheme cannot cover every possible reasonable point or interpretation that candidates might make so this mark scheme is not an exhaustive list of creditworthy material. • Candidates can gain credit for responses which include interpretations and ideas not explicitly made in the mark scheme if they seem reasonable and are argued well. If unsure, contact your Team Leader or Principal Examiner.

Question			Answer	Marks	Guidance
			'Exploitation' is a strong word – perhaps the ILRF report contains specific evidence that would justify this, but it's not in this report. Also it is merely an assertion that current rules are not enforced. His claim that a lack of regulation leads to exploitation is plausible but not well argued. There's an inconsistency in that he says that existing regulation is ignored, but is pushing new regulation as the cure. His reasoning becomes rather emotive at the end, and implies rather than states that we should take action. So although it has some strength, there are also weaknesses. **Examples of Candidate Style Responses** **Level 4** One of the main weaknesses in Doc 5 is that the author only bases his reasons on US agriculture but then generalises to US child labour in general. The author deliberately chooses one sector of work in which legislation is not enforced or well defined and then uses that to reason that child labour is a significant problem. The main weakness in Doc 4 is the author's tendency to exaggerate, and the use of the restricted options flaw (possibly called slippery slope), particularly in regard to teen-prostitution. On the other hand, the document is not seriously weakened by this as there are actually very few ways for children in some countries to acquire money other than child labour or prostitution. A strength in Doc 5 is the use of cited sources of evidence: also the use of C/A and RCA.		

Question			Answer	Marks	Guidance
			A strength in Doc 4 is that she mentions the importance of focusing on eliminating the need for child labour rather than child labour itself **Level 3** In Doc 4, Ellie Mae restricts the options when she says the only other course for poor children in poor countries is to go into prostitution etc (can be called slippery slope) A strength in doc 4 is the use of the 90% statistic to support the fact that child labour should be allowed to continue until the reasons for it are themselves eliminated In Doc 5, a strength is the use of good sources of evidence and/or use of C/A and RCA in para 3 etc … **Level 2** Tim Newman's reasoning is stronger than Elli Mae's as he uses lots of facts from reliable sources. Also his language is more formal and he includes a counter argument. Ellie Mae only has one statistic and doesn't say where it comes from. Also she uses rhetorical language, slang and words like "coz".		

Marking Grid – Question 4

Level 4 (16 – 20 marks)	Answers **must**: • answer the question which was asked with some precision and subtlety • give generally strong support to their conclusion, using reasons and intermediate conclusions (although there may be some weaker parts to the argument). Answers **may** include some of the following characteristics: • accomplished argument structure using strands of reasoning • questioning of key terms, such as *acceptable, children, work;* this questioning if present should inform the argument, possibly qualifying the conclusion • subtle thinking about the issue/relevant own ideas or examples about the issue/thoughtful use of ideas from resource booklet • anticipation of key counter-arguments and **effective** response to these. The argument is written in clear, precise prose in language capable of dealing with complexity.
Level 3 (11 – 15 marks)	Answers **must**: • answer the question which was asked • give support to their conclusion, using reasons and intermediate conclusions (although there may be some irrelevance or reliance on dubious assumptions). Answers **may** include some of the following characteristics: • clear argument structure, which may be simple and precise or attempt complexity with some success • an attempt to question or define terms such as (*see above*) and an attempt to use this questioning or definition in the argument • clear (if perhaps one dimensional) thinking about the issue/own ideas or examples about the issue/reasonable use of ideas from the resource booklet • anticipation of relevant counter-arguments and some response to these. The argument is written in prose, in language which is clear and developing complexity.

Level 2 (6 – 10 marks)	Answers **must**: • answer the **general** thrust of the question which was asked, possibly in an overstated or vague way • give some support to their conclusion using examples and reasons (although there may be considerable irrelevance and/or reliance on dubious assumptions). Answers **may** include **some** of the following characteristics: • either clear, straightforward, possibly simplistic arguments, or a discourse at length with a focus on the ideas and content but only basic structure of reasoning • an attempt to define some terms, but definition is used ineffectively, if at all • some thinking/own ideas about the issue/inclusion of any ideas from the resource booklet • inclusion of a counter-argument or counter assertion but any response to this is ineffective. • use of rhetorical questions and emotive language The argument may be written as annotated bullet points rather than in coherent prose. The language may be either simple and clear or overly flowing, with little attention to meaning and precision.
Level 1 (1 – 5 marks)	Answers **must**: • attempt to answer the general thrust of the question, although there may be no stated conclusion. • attempt to support this answer, possibly using examples in place of reasoning (and there is likely to be considerable overstatement and reliance on very dubious assumptions). Answers **may** include **some** of the following characteristics: • disjointed, incoherent reasoning with little structure, possibly a discourse or rant on the theme • excessive use of rhetorical questions and emotive language • 'reasons' and 'intermediate conclusions' presented with no logical connection • ideas which tend to be contradictory, asserted or derived largely from the resource booklet The argument may be written as annotated bullet points rather than in coherent prose. Language is used in a vague, imprecise way.
Level 0 (0 marks)	No creditworthy material.

Question			Answer	Marks	Guidance
4			Definition of key terms: • eg type of work: school work, domestic work, paid work within limits, work within the family versus work outside. (Candidates may refer to UN guide in Document 1). • Duration of work eg hours per week • Age of child: • Acceptability: Practical vs ethical? eg what is ethical in developed economies may not be practical in less developed economies Benefits of work: • income • self esteem • part of education for life eg doing a paper round • if suitably part time, can make useful employer contacts/gain experience/apprenticeships etc Disadvantages • work v education – future prospects • excess work: draining, dangerous • exploitation of children is never acceptable but drawing the line is difficult.	20	LOOK AT THE MARKING GRID.

APPENDIX 1

Candidates should be able to….		Qn 1	Qn 2	Qn 3	Qn 4
The Cambridge Assessment Definition of Critical Thinking quoted on p4 of the specification	The rational processes of critical thinking include: • analysing arguments • judging the relevance and significance of information • evaluating claims, inferences, arguments and explanations • constructing clear and coherent arguments • forming well-reasoned judgments and decisions.	 / /	 /	 /	 / / /
General demand	F504 offers a synoptic assessment. Unit F504 differs from previous units, and in particular, the AS units, by presenting a greater level of challenge, rather than by introducing new concepts and ideas.	/ (3.2.1 infer and inference, draw a conclusion) /	/ (3.1.1 identify an argument, 3.2.1.3, 3.2.1.4) /	/* /*	
Depth of Study	Candidates will be asked to analyse the structure of a short argument (or significant part of an argument) in detail, identifying elements, and commenting on the structure using words and/or a diagram. Candidates are expected to be able to take an overview, identifying several issues, in an assessment of the strength (or weakness) of an entire argument. Candidates will be presented with a wide range of material based on articles • found in newspapers, journals, books and magazines • including diagrams, images and statistical data.	/ /	/	/	

Candidates should be able to….		Qn 1	Qn 2	Qn 3	Qn 4
	Candidates will be expected to sift passages of argument from articles which, in themselves are not argument.		/	/	
	Candidates will be expected to follow a train of reasoning, even though this may not be technically an argument.		/	/	
	Candidates will be expected to analyse and evaluate a wider range of forms of reasoning than those encountered at AS.	/	/	/	
3.4.1.1	Analyse and describe the structure of complex arguments, or part arguments, identifying strands of reasoning. In addition to identifying elements of reasoning encountered in previous units, candidates should recognise, identify and describe: • Assumptions • Valid and invalid arguments • Syllogisms • Sustained suppositional reasoning • Sustained counter-argument • The relationship between the various components in the argument	/ (understanding of relationships of support)	/		
	• Whether reasons act independently or jointly in supporting an IC or MC • Smaller arguments, counter-arguments or explanations • Sections of text that are not part of the argument but have other functions such as scene setting, clarification, repetition, rhetorical statements or questions, etc.		/ /		

Candidates should be able to….		Qn 1	Qn 2	Qn 3	Qn 4
3.4.1.2	Candidates should be able to evaluate the strength or weakness of an argument, or part argument by: • identifying and explaining any flaws in the reasoning; • identifying and explaining the use in the reasoning of rhetorical means of persuasion, such as appeals; • identifying and explaining any weaknesses in the way that evidence is presented or used in the reasoning; • identifying any explanations and offering alternatives; • identifying and assessing any assumptions needed by the argument; • evaluating the impact of the use of analogy on the strength (or weakness) of the reasoning; • suggesting alternative conclusions that could be drawn from the reasoning presented; • evaluating and commenting on weakness or strength in an argument, such as reasons which give strong relevant support to a conclusion, or evidence which comes from a reliable/credible source and is relevantly used.		/	/ / / / / / / / /	
3.4.1.3	Candidates should demonstrate an understanding that a complex argument may have both strengths and weaknesses within it and be able to make a holistic evaluation of the reasoning.			/	
3.4.2	Candidates should be able to form their own cogent arguments in response to source material. They should demonstrate the ability to select and use components of reasoning (including sustained response to counter-argument), and synthesise them, to create perceptive, complex, structured arguments.				/

*Note re 'Whose reasoning is stronger?' Qn3. Candidates are required to be able to compare and contrast (credibility) in F501. This is an extension of that skill beyond credibility. Candidates are required to make judgements in F501 and F503 between different scenarios or choices, informed to some extent by considerations of the quality of the source material and reasoning. The judgement formation between extended passages of reasoning is an application of these skills in a synoptic, challenging context. Candidates are expected to 'make a holistic evaluation' of the reasoning in F504. This question is a comparison of holistic evaluations of reasoning leading to a judgement. P4 spec 'form judgements.'

Assessment Objectives [AOs] and Allocation of Marks

The total mark for the paper is 60, allocated as follows:

- AO1 Analyse argument 20 marks
- AO2 Evaluate argument 20 marks
- AO3 Develop own arguments 20 marks

This weighting is reflected in the different types of questions asked and in the application of the mark scheme.

Question	AO1	AO2	AO3	Total
1	8	2		10
2	10			10
3	2	16	2	20
4		2	18	20
Total	20	20	20	60

'NB In Critical Thinking the three assessment objectives are inter-dependent. It is not, therefore, feasible to assess them entirely discretely. Accordingly, the weightings indicated are approximate.' Specification p24

OCR (Oxford Cambridge and RSA Examinations)
1 Hills Road
Cambridge
CB1 2EU

OCR Customer Contact Centre

Education and Learning
Telephone: 01223 553998
Facsimile: 01223 552627
Email: general.qualifications@ocr.org.uk

www.ocr.org.uk

For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored

Oxford Cambridge and RSA Examinations
is a Company Limited by Guarantee
Registered in England
Registered Office; 1 Hills Road, Cambridge, CB1 2EU
Registered Company Number: 3484466
OCR is an exempt Charity

OCR (Oxford Cambridge and RSA Examinations)
Head office
Telephone: 01223 552552
Facsimile: 01223 552553

© OCR 2013