

Critical Thinking

Advanced GCE A2 H452

Advanced Subsidiary GCE AS H052

Report on the Units

June 2010

HX52/R/10

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Reports should be read in conjunction with the published question papers and mark schemes for the Examination.

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Chief Examiner Report

Candidates found the subject matter of all four units engaging and accessible, and it was felt that this generally helped them to produce strong answers to some questions, particularly those which require the candidates to draw on their own thinking. This engagement was less helpful in other questions, however. For example, candidates who had strong opinions about what Adam22 in F502 or Cornelius Holtorf in F504 argued, tended to confuse expression of their own opinions about the issue with evaluation of the reasoning. These candidates tended to attribute strength to the reasoning on the basis of their own agreement with it, or to argue against the conclusions, rather than evaluating the reasoning by considering its strengths and weaknesses.

This would indicate that centres should familiarise candidates with as many different topics as possible, broadening their general knowledge and ability to deal with high level thinking in a range of contexts. It would also indicate that time should be spent encouraging candidates to think in a precise and technical way about issues which are important, engaging or even emotive. Critical thinking requires a balance between thinking about issues and ideas in order to form judgements and mastering technical skills which, when used well, can improve the quality of that judgement formation.

Across all four units there is a need for candidates to use appropriate technical skills with precision to answer the questions that are asked. For example:

- In F501 Q9, candidates tended generally to quote a claim, but to evaluate the credibility only of the person or institution making the claim, without making reference to whether the claim itself was strengthened or weakened by this.
- In F503 Q3, a high proportion of the candidates were unable to identify criteria against which to judge a choice or decision. This skill was not required in the legacy specification, but it is in the new specification. Centres would be well advised to read mark schemes, specification and textbook to help candidates build up a list of suitable criteria.
- In F503 Q4, a significant proportion of candidates either used the appropriate technical skills or answered the question. It was common to find answers which cited some (often too many) pre-learned principles and/or ethical theories but which barely referred to the issue of smokers fostering children, and certainly did not answer the question. Another variant was candidates answering the question precisely and well but without using any principles, and the use of some relevant principles is a requirement of the question.
- In F504, unlike in F494, the legacy examination, there are no bullet points given to aid candidates in the evaluation question. In some cases this seems to have led to candidates forgetting the technical skills taught them, such as identifying flaws and assumptions and explaining why and to what extent these might weaken the reasoning. These candidates often simply paraphrased the reasoning. Other candidates identified flaws and assumptions, but without using them to answer the question. Centres should make sure that candidates are aware of which technical skills are required to help them answer the questions (just as any good craftsman knows which tools to use for each job) and also of the need to use these technical skills for a purpose (answering the question).
- In F502 and F504 there are still candidates who treat argument writing as an exercise in applying a rigid formula, prioritising structure and the semblance of technical precision over cogency or answering the questions. Others write fluently about the issues without sufficiently structuring their ideas, ignoring the technical aspect of structuring an argument. A balance is required.

Report on the Units taken in June 2010

- In F502, F503 and F504 candidates need to be able to write arguments about issues which are structured with technical precision. Candidates who achieve highly use, for example, intermediate conclusions. They do this not as the main aim of the exercise, but because they have structured their thinking about the issue in order to answer the question, and a strong structure generally involves reasons which support intermediate conclusions which support a main conclusion. Centres should be aware that Q3 and Q4 in F503 include marks for the quality of argument used to answer the questions, in addition to the questions in F502 and F504 which are specifically focused on the development of argument.

Having said that there is room for improvement in some areas, it should be emphasised that performance was generally pleasing, and that the very strongest candidates performed at a very high level indeed. The candidates who have gained the new A* are thoroughly deserving of this new distinction.

F501 Introduction to Critical Thinking

General Comments

Entry figures show that over half of candidates sit the F501 examination for the first time in January, whereas nearly all candidates sit F502 for the first time in June. This suggests a fairly even divide between centres which choose to enter candidates for the AS Critical Thinking examinations over the two available sittings and those which choose to teach the whole AS syllabus before entering the students for both papers at the end of the course.

There was little evidence that candidates omitted any particular parts of the paper and almost all candidates wrote at length in response to question 10, suggesting that there was no serious problem with the length of the paper.

The performance over the two parts of the paper was fairly even with the strongest answers appearing in question 1 (identifying the parts of an argument), question 8 (identifying consistent and inconsistent claims) and question 9 (assessing the credibility of personal claims). The weakest performances were in question 2 (identifying the argument element), question 4 (the assumption) and question 6 (assessing how strongly the reasons in a paragraph support the conclusion).

As in previous papers, in question 9 candidates appear still to be failing to read the question closely and do not explain how the credibility criteria strengthen or weaken the credibility of the claim but there were fewer candidates than in previous papers using incorrect credibility criteria. Also, pleasingly there was little misunderstanding about the judgement in question 10, with almost all candidates correctly addressing the task ie considering whether it was likely that smokers would widely convert to e-cigarettes.

Comments on individual questions:

Section A

- 1 Although many candidates answered this question correctly, there were a number who made unnecessary errors which proved expensive in terms of marks.
 - (a) The majority of candidates were able to correctly identify the main conclusion of the argument with over 80% gaining the full 3 marks.
 - (b) A substantial number of candidates correctly identified the two reasons but lost marks by omitting the appropriate first part of the reason which was necessary to be completely correct, ie they failed to include "some consider", "others think" or "the medical profession believes", which cost them 1 mark on each answer or they included examples like "such as health risks" which reduced the candidates' marks to 1 since additional information had been included. After one year of a course, candidates should be able to distinguish supporting material such as evidence and examples from the reasons, particularly since questions of this type appear on every paper and are basic to understanding the technicalities of critical thinking.
 - (c) A majority of candidates correctly identified the hypothetical reasoning but about 50% reduced their mark from 3 to 1 by repeating the type of error made in (b), ie they included the example "like lung cancer ..." suggesting once again that there is some confusion over what is actually meant by a "reason" since the hypothetical element of the question was obviously understood.

- (d) Over 50% of candidates correctly identified the counter conclusion but about 20% of these reduced their marks from 3 to 2 by omitting the phrase “The introduction of ...”, which substantially alters the point being made.
- 2 (a) This question was extremely poorly answered. The correct answer was “example” but there was some sympathy for those candidates who wrote “evidence” so they received 1 mark for that answer. The difference between evidence and example is that evidence takes the form of “statements of fact, statistical claims, personal observations and statements from sources” whereas an example is something which “gives a specific situation in which the reason holds”. This means that the quotation given is clearly an example, as the general idea about the introduction of the e-cigarette being seen as providing a modern and acceptable way to smoke indoors is illustrated through the more developed example of the comment made by the student from Ashford. However, even accepting “evidence” for 1 mark, over 60% of candidates scored 0, with many candidates writing “the counter-argument” as their answer, which meant they were considering the role of the whole paragraph and not just the quotation given in the question.
- (b) Those who correctly identified the quotation as being an example (or evidence) often failed to gain the 2 marks available in (b) as they wrote little more than the idea that it “gave support” to a reason. Examiners were looking for a little more development as to how an example gives this support, eg the idea that it “illustrates” the reason, as explained above.
- 3 A large number of candidates seemed to struggle with this question. When asked “how representative is a particular person?” the candidate should be looking at the idea that if you were to conduct a random survey about the particular issue how typical of those surveyed would the person who is quoted be? In this case the quotation is about purchasing the e-cigarette and the quotation is from a bar worker in Bethnal Green, so the answer needs to be looking at the cost of purchasing the cigarette (ie the bar worker’s income) and/or the relevance of purchasing an e-cigarette (ie whether the person is a smoker or not).

The fact that the person comes from Bethnal Green is not relevant unless it is linked to his income. Similarly the fact that he is a bar worker can only be used if it is linked to his experience of smoking/not smoking.

To say that the bar worker “is only one person” does not give any information about how “representative he is” so it is wrong. It can only form part of answer if information is given about sample size and therefore how valid it is to take the comments of one individual within that sample.

Having appreciated what the question is asking, candidates then need to make sure that there is a comparison between the bar worker and others in order to be able to explain how he might be/might not be representative of the cohort which could have been asked the question.

- 4 The majority of the candidates gained two rather than 3 marks in this question because they wrote something along the lines of “Men do not want to look feminine” whereas the reasoning in the paragraph is linked to “the e-cigarette should be seen as an unwise choice” and so the assumption should be that “It is unwise for men to look feminine”, ie when looking for assumptions candidates need to consider both the reason and the conclusion, not just the former.
- 5 Candidates still seem to find this question extremely difficult. Previous reports on the examination have explained that this is both a “technical” and a “creative” question and the technical element is for the candidates to recognise what is a reason and to merely write

that down without adding a second reason, explanation, example, conclusion etcetera. Candidates are allowed to copy out the question without penalty and they may be less tempted to add “extra” material if they do this ie “E-cigarettes are not a good way to help smokers quit smoking because” This type of exercise could be practised frequently in class whilst the candidates are learning the “components of an argument” and appreciating exactly what makes a simple reason without any elaboration might also help them to avoid the type of errors made in question 1.

- 6 Some centres have obviously taken note of the comments made in previous reports as there was an improvement in performance in this question with more candidates appreciating that it is impossible to assess the link between a reason and a conclusion without quoting both elements. To comment on whether “the price could put some people off” (reason) is a strong or weak link to the conclusion means you have to examine whether it supports/does not support the idea that the e-cigarette is an unwise choice (the conclusion) or you have not answered the question. It is an examination of the strength of the link which is required, not simply a comment on the reason.

There is a wide range of possible answers and all are valid, provided the link is discussed.

- 7 This question acted as good discriminator. The majority of candidates correctly discussed the document and not individuals within it. Although it is acceptable to assess the document by reference to the individuals contained within it, candidates must make it clear that they are using these individuals to look at the document as a whole (see the mark scheme for examples). There was far more appreciation of the need to explain why the document could be assessed in terms of a credibility criterion so many candidates gained the 2 marks available here. For example, if they used “vested interest”, a large number of candidates explained that the authors appeared to have a vested interest to promote the e-cigarettes because the website made its money from people who support the product, rather than just saying that the authors had a “vested interest because they wanted to make money” with no explanation as to how the money was to be made. The best candidates then used a quotation which supported this, eg e-cigarette-global.com is “The place for electronic cigarette reviews”, which gained the third mark. An alternative reference for the point earlier could have been, “The authors have included comments from the inventors who are using the website to state the advantages of the e-cigarette, presumably in the hope that readers will purchase their product”.
- 8 Many candidates gained high marks in this question and there were very few candidates who failed to score at all. However, some candidates did forfeit marks because they included too much of the claim, which meant they put down both the consistent and inconsistent elements, demonstrating that they did not fully understand the question. For example, in section (a) some candidates wrote quite correctly that a source was the 58 year old smoker from Herne Bay but then gave as the quotation, “The barman did initially ask me to stop, but I showed him the product and he was fine with it”. Obviously the second part was inconsistent with the claim and could have been used to answer part (b).

Candidates do need to appreciate that Critical Thinking has a precision to it and that in order to do well careful reading and accuracy are required.

- 9 As usual, there was a wide range of marks achieved in this question but at the higher end there was some evidence of very good understanding of the relevant criteria, with sound explanation and a clear answer to the question where the candidate stated whether the criterion “strengthened” or “weakened” the claim. This last is extremely important since it shows that the candidate does understand what they are being asked to do and those who fail to make this point reduce the potential marks to 1 out of 3 for each area, potentially losing 8 marks on the question if they do not make this point each time.

- (a) Most of the claims made in this section were valid, although there were a few candidates who quoted the medical profession rather than the World Health Organisation. There were a number of potential claims and any reasonable quotation was accepted. However, some claims are easier to assess by means of credibility criteria and centres should be aware that in future the mark scheme and its application may be looking more closely at the appropriateness and usefulness of the credibility criterion to assess the claim given. In this case, most of the quotations were either to do with the fact that WHO had no knowledge of the product being tested or evidence for the claim that the e-cigarette helps people quit smoking so these were the areas that the candidate should have considered when making their assessment. This means that criteria such as expertise and reputation were probably easier to use than a criterion such as vested interest, since the latter then has to link back to reputation which candidates do not find easy to do. In terms of expertise to access the second mark the criterion would need to be expanded to explain that the WHO would be likely to employ doctors who work in the field of public health so if there had been any studies into the safety claims of the e-cigarette they would know and be able to interpret such studies. The third mark would then come from explaining how would strengthen their claim.
- (b) Many candidates found it easier to examine the claim(s) made by the inventors, often scoring more highly in section (b) than section (a). The main problem which arose here was where candidates used both vested interest and bias but did not clearly distinguish between these two. The majority, quite correctly, linked the vested interest to the financial gain to be made by selling their product but often the bias was a repeat of this when it should have been linked to the inventors' interest in seeing their product adopted and successful because they had spent time and effort in developing it so they had an "emotional" investment in it. Candidates do seem to find it difficult to appreciate the difference between vested interest and bias. Also when the candidates talk about "vested interest to maintain a reputation", some explanation is needed as what the reputation is and why the individual/organisation would wish to maintain this reputation. This makes this particular approach to vested interest quite difficult for some candidates and they may be better advised to see if there is another criterion which it is simpler to use.
- 10 There were some extremely good answers to this question and far fewer candidates remained in Level 1. The majority of candidates understood what they were being asked to do and seemed to have understood the material well. This meant that this time the plausibility "for" and "against" were accessible and many candidates wrote a reasonable paragraph on each based on the material in the resource booklet and their own knowledge. For example, many candidates developed the argument against the adoption of the e-cigarettes along the lines that smokers already know the risk of smoking and the availability of gums etcetera but these are outweighed by the pleasure they gain from their habit and so they are unlikely to change to a device such as the e-cigarette. This line, taken together with the points in the text, ie price, not knowing whether it is safe or not, and looking "feminine", meant that a sound argument against the product could be developed. Similarly, those in favour used the ideas given in Document 2, such as "saving money" in the long run, reduced cancer risk and the prospect of being able to smoke indoors together and tended to elaborate these by examining the cost claim further and the disadvantages of not being able to smoke indoors.

Frequently in the past the plausibility has been weaker than the credibility but this was not the case this time. Unfortunately, there were a number of examples of quite long pieces of prose about the credibility of the various parties involved receiving no credit at all because the criteria were just stated with no development or link to the question. It is not sufficient to say that the inventors will favour the e-cigarette because they have a vested interest but this weakens their claims about its safety so it is unlikely that they will persuade smokers to convert to using it. Candidates must say something along the lines of "The inventors will

favour the e-cigarette because they are biased in that they have invested time and finance into its development but also they have a vested interest to sell the product as they will then make more money and so potential purchasers should view their claims about the health advantages of the product with caution as, in order to increase sales, they are likely to stress its merits rather than make people aware of any defects”.

However, in general it is pleasing to see candidates making far more successful attempts to engage with this question and appreciating that they do need to examine both sides of the issue before coming to a conclusion based on what they have already written.

Unfortunately, there are still a number of candidates at the lower end of the mark range whose basic knowledge regarding technical terms and their applicability is still quite weak so that they fail to gain fairly easily accessible marks which would boost quite considerably their performance and, hopefully, their ability to transfer the skills learnt to their other subjects.

However, the standard of many scripts in the middle and higher mark ranges continues to rise with evidence that the candidates’ understanding of the subject, both in terms of the “The Language of Reasoning” and “Credibility”, is improving and for this the centres should take credit.

F502 Assessing and Developing Argument

General Comments

The entry was very similar in size to that of June 2009, with over 19,000 candidates sitting the examination. There were very few questions not attempted by candidates and clear evidence that candidates had enough time for the paper in general.

Many candidates took time to plan their further argument questions first, often using the space at the back of the paper. When done, this in general seemed to result in more focussed and concise arguments which scored well. A smaller number of candidates than in previous sessions used the additional pages for the writing of their actual arguments, and the arguments in general seemed more tightly written. The passage and context seemed to interest the candidates, clearly evidenced by the further argument answers. A small number of candidates wrote emotive arguments utilising rhetorical questions, statements, and the like. In general these did not score as well, and I would recommend Centres practising with their candidates the skill of writing objective, logical arguments even if the topic is emotionally interesting to them.

Candidates continue to answer the 'state' questions with careful precision and without paraphrase.

Comments on Individual Questions

Section A – Multiple Choice Section

Note that the mark scheme has a rationale for the correct and incorrect options for each question, and this should help to make this paper a good teaching aid to prepare for future examination sessions. The comments below do not reproduce this rationale.

In general the candidates found these questions more challenging than in the past.

Feedback on some individual questions:

- Q2** – A sizeable minority of candidates went for each of the incorrect options. A large number went for option D, perhaps not picking up on the importance of the word 'average' in the passage, and how this stops it from being an *underlying* assumption needed to be drawn from the passage.
- Q3** – The vast majority of candidates were correct.
- Q4** – This question differentiated very well across candidates with a large minority going for A and B. A useful question for candidates to ask when considering A would be '*what is it explaining?*'. Similarly when considering option B, candidates could ask '*what reason in the passage would support the assertion so it could be classed as an intermediate conclusion?*'. Each of these questions would, I think, help to rule out these as options for the answer.
- Q5** – The vast majority of candidates were correct.
- Q6** – Most candidates were correct, but a large number went for option C. Just because data are used from the past and projections made, does not necessarily mean an appeal to history is being made.

- Q7** – The majority of candidates went for option B, correctly spotting that the element was a reason but incorrectly considering it to be hypothetical in nature, which it was not. The candidates who got this question correct generally did very well across the whole of the multiple choice section, indicating that it was a challenging question which differentiated in the right way.
- Q10** – A large minority of candidates went for option C, which is an appeal to popularity and as such should not be seen as offering much strength in comparison to A, which is a new reason based around hard evidence.
- Q11** – Candidates found this very challenging. The vast majority of candidates were split evenly between the incorrect options of B and C.
- Q13** – This question differentiated very well across candidates with a large minority going for A and B. The majority did answer it correctly, and this matched well to performance on the multiple choice section as a whole.
- Q14** – The candidates were largely split between the correct answer of D, and a similar number going for the incorrect option of B. Perhaps evidence in support of a reason was being confused with a reason in support of an intermediate conclusion. The words ‘*as shown by*’ could be put between the first two sentences but the word ‘*because*’ between them would not work in the same way. This might be a helpful way to illustrate the difference between the two structures.
- Q15** – The vast majority of candidates went for option B showing this to be a challenging question, although it did match well with performance on the multiple choice questions as a whole. Option B gives a suppositional weakness which is not stated or implied in the passage. Candidates are advised to read the passage carefully, and not apply what they think or have heard elsewhere, separately from the passage, when answering questions.

Sections B and C – Written Answer Sections

The question types which candidates found the hardest were the evaluative questions, Q17 and Q21. Candidates are often able to spot weaknesses or flaws in reasoning or evidence, but then do not score as highly as they could because of a lack of ability to explain or communicate why the aspect is a weakness or flaw. In a similar way, candidates found Q19b challenging even though the vast majority spotted the correct appeal – explaining why the appeal is weak in context was not something many could do clearly. It is clear that Centres would do well to practise with candidates the skill of explaining why weaknesses, flaws and appeals are present and detract from the reasoning. Indicating the presence of a flaw or giving a generic description of it does not do enough to explain why in the specific context the reasoning is weak because of its presence. For instance candidates could consider the questions ‘*why is the generalisation in this case not sound?*’, ‘*why does the appeal here not give strength?*’, or ‘*why won’t the consequences follow the slippery slope as laid out in the argument?*’. The higher scoring responses gave at least implicit answers to these questions in their explanations of the weaknesses.

- Q16(a)** – The vast majority got this correct with precision and no paraphrase.
- Q16(b)** – Both of the principles in the mark scheme were given in high numbers, the more common being “Human beings have a responsibility to look after the natural world.” A small number went for “Zoos have a special responsibility to look after the animals...” In general, it seemed that the candidates were confident about

recognising principles in the passage. Candidates wrote with precision and it was rare that a candidate would have a correct principle but lose a mark for accuracy.

Q16(c) – Nearly all candidates correctly identified the counter-argument, showing that there was clear understanding of that element. Marks were then lost for lack of precision or for the reason and conclusion labelling being the wrong way around. Candidates should be encouraged to try out the insertion of words such as *'therefore'* or *'because'* between sentences if unsure as to the order in a structure. I am confident that if all candidates had taken the time to use this simple test, then fewer would have answered the parts the wrong way around. Some may have just copied it in the order of the passage, where more careful thought is required.

A significant minority wrote the whole of the counter-argument down for the reason part, then often putting the principle from the last sentence of paragraph 4 as the conclusion.

A number lost credit for a lack of precision on the reason. Examples included leaving out "try to" on the line "to try to show" or for replacing "one of the uses" with "the uses". These differences do change the meaning so lost credit in answers.

It was quite common for candidates to gain 3 marks, and lose credit for leaving out "like Gana's" from the conclusion. Candidates need to take care with trigger words, and not rely overly on them. In this case, the use of the "like" is not setting up for an illustration, but is clarification and necessary detail of the focus of the sorts of cases where it is better for zookeepers not to intervene.

Q17 – Candidates in general found this hard. It was rare that candidates would explain why the evidence failed to support the claim. A weakness was often given, but then no explanation or reference back to the text of why this meant zoos might not be dangerous. The most common responses were (v) and (y) on the mark scheme. A significant number criticised the fact that the sample was only for twenty years and some misunderstood the statistics as being 2,000 over twenty years. A number discussed it not being the zookeepers' fault necessarily, which did not directly address this question.

Q18 – This was well answered with the majority of candidates scoring 2, although many did get 3 marks. The most common answers for 2 marks were statements that it was the zookeepers' fault, or that they are 'not working hard' as opposed to 'not working hard enough'. Candidates need to be precise in answering assumptions questions and think carefully about the weight of the words they use. A common error was for candidates to give two assumptions and not just one. This often resulted in a loss of marks because they are essentially saying both need to be true and often one was worse than the other, thus decreasing their score. Candidates do better to think carefully about one assumption and then take time to write it precisely.

Q19(a) – A very large proportion of candidates got this right with many choosing to write "appeal to pity" or "appeal to sympathy", which was acceptable. Nearly all of the candidates who got this wrong gave appeal to history as the answer.

Q19(b) – Despite the fact that the vast majority got Q19(a) correct, candidates found Q19(b) very challenging. Most gave generic explanations of what an appeal to emotion is, which received no credit. Others stated where in the text the appeal was occurring for example by pointing out 'heartless' or 'tragic'. This did not receive credit as it does not explain why the appeal does not give strong support. Candidates needed to at least describe the type of emotion encouraged in the reader. Very few candidates discussed the fact that the paragraph contained no reasons to support

the conclusion, relying only on people's emotions being affected. This is an important way in which appeals do not give support, as they are usually in place of logical reasoning.

- Q20 –** Most candidates correctly spotted that this was an explanation and the justifications for this were usually well made. A few focussed purely on why the statement was not an argument, rather than justifying that it was an explanation. Candidates sometimes struggled to avoid using the word '*explain*' in their justifications, which was not surprising and they were not penalised for this despite it becoming a little circular. The best responses had the idea that explanations have causes for an action that is occurring or has occurred whilst arguments have reasons for an action that should occur in the future. This distinction of causes as opposed to reasons is a useful one.

Some candidates tried to justify on the basis of the word '*because*'. This is unhelpful in this case as both arguments and explanations can use this word.

- Q21 –** Candidates found this question challenging, as they have found flaws questions tough in the past. Many candidates did spot flaws or weaknesses in the reasoning but only gave superficial or descriptive statements of them. For example, the pointing out of the slippery slope then needed some explanation for why it was a slippery slope and why it is not inevitable that things would go that way. Similarly for generalisation, the better answers gave some sort of explanation for why it was not sound to generalise from one polar bear in captivity to animals in general. Candidates need to practise explaining why the flaw is present in context, along with explaining why the flaw's presence does make the argument weaker. For example, rather than just labelling Knut's dependence on humans as being *post hoc*, a better answer goes on to explain that this dependence does not illustrate a problem with zoos, as something else could have caused it in this case.

Credit was given when candidates evaluated strengths, for instance Knut as an example does illustrate where human intervention causes problems. In the main, however, points about strengths were incorrect or not justified well. The passage has many more flaws and weaknesses than it does strengths.

A number of candidates described appeals as positive aspects in the argument, which got no credit. Although it is true that emotive reasoning can persuade people, when evaluating an argument critically we are looking for an evaluation of whether the argument holds up logically or not.

Although candidates found this a hard question, it discriminated well. The candidates who scored well here nearly always did well on the paper as a whole. Evaluation of argument is one of the hardest aspects of unit 2, and one which it is recommended that Centres spend more time practising.

- Q22(a) –** Many excellent answers were given here. In the majority of cases, candidates did not repeat themselves on parts (i) and (ii). The majority of candidates took scientific research to mean testing drugs/substances on animals rather than a wider interpretation which was open to them, although this did not in general disadvantage them. Unsurprisingly, answers on (ii) were often weaker than (i) as a number of candidates struggled to think of a second reason. Most candidates managed to, however, and the range of different answers was impressive.

- Q22(b) –** Candidates found this a little harder than (a), many candidates giving a principle such as "it is wrong" or "against animal rights". These needed some more detail to get full credit such as saying that suffering was caused unnecessarily or such like.

Q23/Q24 – As mentioned above, there were fewer examples of candidates writing extended answers onto additional pages and in general there was less verbosity than previously. Many candidates wrote concise arguments with a good structure and clear use of intermediate conclusions.

A small number of candidates were writing in what seemed a learnt formulaic structure, for example, starting with a counter-assertion with the statement “some people say” before moving on to their argument. These rigid frameworks often seemed to limit the candidate’s natural flow. It was often the case that a counter-assertion was stated and then it was not rebutted in the argument. This does not help to support the candidate’s argument and the inclusion of un-rebutted counter-assertions does not gain credit.

In general, reasoning was better than in previous years with fewer examples of candidates giving spurious evidence in place of reasoning. Many candidates develop their reasoning with clear intermediate conclusions, but this is still an aspect which causes the largest differentiation in the marks for the arguments. Centres are recommended to devote time to helping candidates understand what intermediate conclusions are, and how to include them in an argument. The best examples have intermediate conclusions which are supported by several strands of reasoning and then support the main conclusion. For example, in Q23 the intermediate conclusion “*therefore the range of species on this planet is important to us*” can be supported by the reasons of bio-diversity, food chains, and scientific research, and the statement clearly links these reasons and the main conclusion.

In both Q23 and Q24 there was a tendency for candidates to write emotive arguments and give exaggerations in their reasoning, such as “*zoos make customers want to mistreat animals*” or “*mankind will not survive if the food chain is disturbed*”. When this was done answers did not gain the highest marks for quality of argument.

The range of reasoning given for both Q23 and Q24 was often impressive with many candidates being able to think quickly of a number of reasoning strands. In Q23 this was particularly evident with candidates often talking about stewardship, food chain issues, and the benefit to future generations.

F503 Ethical Reasoning & Decision-making

General Comments

The paper was well received, and candidates engaged with the subject matter.

A wide range of marks was used, with the majority falling in the 30s and 40s. There were few very low marks (below 20) but a pleasing number in the high 40s/low 50s. Nearly all students wrote fluently, but structure - especially the use of intermediate conclusions - was often poor in both Q3 and Q4.

A few candidates were still unaware of the advantages of working through the questions in printed order, and began with Q4 without the benefit of the warm-ups offered by the earlier questions.

Comments on Individual Questions

Many candidates achieved high marks on Q1, by demonstrating genuine Critical Thinking skills. As the mark scheme indicates, there were several issues of credibility or flaws which could be raised in Q1(a), and most candidates identified one or other of them, although some resorted to counter-argument, for which they were awarded one partial-performance mark. Nearly all candidates chose the inadequate sample size as their answer to Q1(b), which was a correct answer. Some correct answers to Q1(a) or Q1(b) were incomplete and thereby failed to gain the third mark, which is a fairly common problem in the two introductory questions: teachers who have time to do so might appropriately advise candidates how to gain the third mark in questions of this kind.

Q2 succeeded in differentiating at the lower end of achievement. Most candidates were able to think of appropriate answers, and only the weakest were frivolous or impractical. Some candidates wasted time by including introductory sentences, such as "Although Redbridge Council have voted to prevent children from being placed with foster carers who smoke, there are many other choices that could be made." Similarly, some candidates discussed or evaluated their answers, even though the question did not ask them to do so. A few candidates gave Redbridge Council's own decision as one of their answers, despite the clear instruction to identify "alternative" choices.

It is taking some time for candidates (and perhaps teachers) to adjust to the changed expectations of Q3. Some candidates devoted more time and thought to this question than were justified by the number of marks allocated.

Many candidates - including some of those who wrote a lot - lost marks by failing to identify three valid criteria. Most of the appropriate criteria are listed on the mark scheme; inappropriate suggestions included human rights, Kantianism, Utilitarianism, political, education, social factors, prejudice, moral responsibility, the right to smoke, pressure groups, foster carers available, and history. Markers were able to reinterpret some of these in such a way as to give them some credit. Nearly all (but surprisingly not quite all) candidates followed the suggestion on the question paper of using child welfare as one criterion. The criterion of cost was sometimes interpreted only in terms of the cost to the carer of fostering while maintaining a smoking habit.

Many candidates recognised ambiguity in the application of criteria, especially child welfare (since exposure to tobacco smoke and languishing in a children's home are both harmful to the welfare of the children concerned). Some of the best answers pointed out that child welfare is a

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particularly important criterion in relation to this issue, since it is the whole point of fostering schemes.

Many candidates supported their answers to Q3 by detailed reference to the resource documents, which the terms of the question no longer require (although it is not forbidden, and brief, selective references of that kind can strengthen an answer).

As in January, the changed format and timing of the examination enabled almost everyone to write a developed answer to Q4, to which more than half of the marks are allocated. There was no evidence of able candidates running out of time, as used to happen on F493. A few answers were particularly insightful.

Nearly all candidates argued in favour of particular choices, although some compromised their performance by arguing against a choice rather than in favour of a specific alternative (ie saying what a council should not do without identifying what they should do). Although most candidates did mention and reject an alternative position, only the best gave a reasoned basis for that rejection.

A few candidates still discussed the issue without reference to principles, despite repeated exhortations in successive Principal Examiner reports. Unusually, this issue did not lend itself to setting consequentialist and deontological approaches against one another, and those candidates who constructed their answers in that way found themselves inventing spurious or arbitrary distinctions. As on previous occasions, some weaker candidates discussed five or six principles superficially, in preference to developing the application of two or three. Some candidates wrongly interpreted Libertarianism (or the Principle of Liberty) as allowing complete freedom of action, failing to acknowledge the traditional limitation that the exercise of one person's freedom of choice must not harm another. As in previous sessions, many candidates lost marks because they used resource documents uncritically.

F504 Critical Reasoning

General comments

It was a joy to be able to introduce a 'whip-wielding hero' to critical thinking, and candidates responded well to the stimulus material about Indiana Jones, film and their relationship to archaeology and reality. Candidates also responded well to the new question types. As in January, some candidates performed better in the new question types because they were required to think rather than relying on pre-prepared, generic formulae which never quite answer the question.

There was further evidence that the reduced tasks and extra time meant that most candidates were able to spend more time thinking, which raised the quality of their answers.

Candidates accessed the full range of marks.

Comments on individual questions:

Question 1

Candidates who knew what to do were able to name the elements and locate them in the structure of this particular argument. Most candidates performed reasonably well in this question and in comparison with previous sessions, fewer candidates produced inappropriate answers relating to the use of English language.

As in the legacy specification, a significant minority gave generic, stock answers to these questions, without locating the element in the structure of this particular argument. For instance, 'analogy that compares two situations,' can gain only one mark for 'analogy'; to gain the second mark, the candidate would need to be specific.

- a) Many candidates identified that an analogy was being used. Fewer were able to say that the analogy was showing that dismissing a connection between Indiana Jones and archaeology was a bad idea. A significant proportion of candidates described the situations being compared in great detail – but this did not show what the analogy's function in the structure of the argument was.
- b) This element was found to be more problematic. The most able candidates were able to say that this was a counter-assertion which was dismissed or that it was background information shown to be wrong. Rather a large number of candidates said that it was a counter-argument that supported the main conclusion, which was puzzling. A number of candidates were unable to name this element here, but accurately identified it as a counter-assertion when answering Q2.

Question 2

This question form was used for the second time following its introduction in January. Those candidates who stopped and thought about what the question required of them produced the best answers. The vast majority of candidates thought that this was an argument because there was a conclusion in paragraph 3, and then analysed paragraph 3 to support their view, without mentioning paragraphs 1 and 2. These candidates were able to access reasonable marks, but to access full marks they needed to consider the document as a whole. It was possible to access full marks with a variety of interpretations so long as they were sufficiently justified. For example;

'It is an argument because it concludes that the crystal skulls were probably fakes and it gives reasons for this, but paragraph 1 is scene setting and paragraph 2 explains how the author did the research and establishes her credibility as a researcher.'

'It is not an argument but it contains an argument in paragraph 3. Overall it is a report which tells the story of how the author came to research the crystal skulls and explains how she did it. In paragraph 3 she argues that the crystal skulls are fake, giving the reason that they are too perfectly carved to be Pre-Columbian.'

'It is not an argument because there is no intent to persuade. It is a report in an archaeological journal which explains the author's conclusion that the crystal skulls are fake and how she came to research them. She is not persuading us that the crystal skulls are fake; she is telling us this as a fact that she has established. There is no more discussion about it.'

Question 3

This question was familiar from the legacy specification, and candidates answered with a similar mixture of approaches. Many candidates performed the right task this session, but a significant number evaluated or paraphrased the reasoning without clearly analysing. The task requires candidates to break down the reasoning into its elements, label them and consider the structure of the argument.

It was possible to interpret the structure of this part of Holtorf's counter-argument in a number of ways, and these were credited. Many candidates felt that the first line of the two paragraphs which referred to objectionable values was the main conclusion of this part of the counter-argument, and successfully analysed each paragraph into a short argument, showing a diagram with two strands of reasoning supporting the main conclusion. This was a successful interpretation.

However, although the idea of objectionable values was clearly Holtorf's main idea, many candidates felt (rightly) that it was not strongly supported, sometimes to the extent that they did not think that it was the main conclusion of the whole counter-argument. This was acceptable so long as they did understand that it was supported by at least some of the reasoning. Candidates who treated this claim as a reason were felt not to have a clear understanding of the structure of the reasoning.

Question 4

After a first session in which a new question type appeared, the June session reverted to a question familiar from the legacy specification, 'How effectively does the author support this claim?' Although many candidates produced skilful and insightful evaluations, a disappointing number paraphrased the passage rather than evaluating the reasoning it contained.

Overwhelmingly, candidates thought that this was a strong argument, whereas the examiners were unanimous in thinking it was a really rather weak argument. Although candidates were able to access high marks if they justified their view that the argument was strong, the best candidates did consider at least some of the weaknesses. For example, some candidates accurately identified that Holtorf had selected key benefits to archaeology in terms of finance and recruiting students, and felt that he had sufficiently answered the counter-argument because the counter-argument was exaggerated and therefore weak.

Weaker candidates, however, tended to work through the passage paragraph by paragraph paraphrasing the reasoning and saying, 'this is a strength' or 'this is a weakness.' Many of these

candidates were unable to say why they felt that a given reason was a strength, and as they generally missed the weaknesses, they were unable to gain credit by explaining them.

The question highlighted an uncertain understanding about argument, counter-argument and their roles. A significant minority gave the impression that they were merely identifying reasons for and reasons against Indiana Jones being useful to archaeology, without understanding that some of these were intended to be a counter-argument. A further large minority felt that the reasoning in the passage was strong because it contained almost equal amounts of argument and counter-argument and was therefore balanced and unbiased. This is a common misconception that two years of studying critical thinking to advanced level ought to have cured.

The most able candidates generally argued that Holtorf had shown that there were benefits to be gained from an association between archaeology and Indiana Jones, but that he had not shown that these outweighed what archaeology had to fear from this association; they showed that Holtorf's counter-argument was very strong and morally compelling, and that his rather dismissive references to Indiana Jones' age and Lara Croft were both insufficient to show that the films did not portray stereotypes and irrelevant to the morally more significant claims about colonialism and intervention from the west. They thus felt that archaeology did indeed have something to fear from the connection, and it was this focus on whether Holtorf's claim had been supported or not that made them stand out. Answering the question is a very important and possibly underestimated skill.

Question 5

This question tests AO3, Development of Reasoning. The most important thing that candidates need to do is use reasons which support their intermediate conclusions and the main conclusion they have been given.

This question, in contrast to Q3, is best answered in prose. The argument structure should be evident in the logical support offered by reasons to intermediate and main conclusions, rather than through labels. Analysing and labelling arguments which students have written can be a useful teaching technique, but it is not a successful examination technique.

Candidates appeared to enjoy the question about whether films should aim to present reality as it is. Every candidate appeared to have ideas and opinions on the subject and most were able to organise these into some form of reasoning. Candidates were generally able to think of apt examples of films to illustrate their points, and there was, fortunately, a decrease in implausible invented evidence. There were therefore fewer very weak arguments than in previous sessions. The most able candidates produced some very high quality thinking and reasoning indeed.

Weaker answers assumed that films should entertain and that reality was so grim that the only form of entertainment involved complete escape from reality. They tended to create a false dichotomy between real time portrayal of events exactly as they are and extremely unrealistic fantasy or implausible events. These candidates tended to think that war films portray reality as it is. Nevertheless they were, broadly speaking, able to give reasons relating to entertainment and the financial stability of the film industry to support their view that films should not present reality as it is.

The strongest answers really engaged with what it means to present reality and these candidates were able to discuss in a reasoned way how genres such as fantasy might be better able to portray aspects of life such as forbidden love or cultural taboo than more 'realistic' films. They tended to consider that films are a form of art, and considered their purpose beyond merely entertainment, considering the principle of artistic freedom and the urge for creativity which might lead to new realities. These candidates tended to show that different people or groups of people have different perspectives on reality, and that this led to a difficulty in pinpointing which

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reality films should depict. A few very insightful candidates talked about the ways in which films shape and frame reality. It was typical of these very strong candidates that all their ideas were used to help them come to a conclusion rather than being simply presented.

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