

# THINKING SKILLS

Paper 9694/01

Problem Solving and Critical Thinking, Multiple Choice

| <i>Question Number</i> | <i>Key</i> | <i>Question Number</i> | <i>Key</i> |
|------------------------|------------|------------------------|------------|
| 1                      | <b>B</b>   | 26                     | <b>C</b>   |
| 2                      | <b>C</b>   | 27                     | <b>B</b>   |
| 3                      | <b>C</b>   | 28                     | <b>D</b>   |
| 4                      | <b>A</b>   | 29                     | <b>C</b>   |
| 5                      | <b>E</b>   | 30                     | <b>B</b>   |
| 6                      | <b>D</b>   | 31                     | <b>C</b>   |
| 7                      | <b>E</b>   | 32                     | <b>D</b>   |
| 8                      | <b>D</b>   | 33                     | <b>C</b>   |
| 9                      | <b>E</b>   | 34                     | <b>C</b>   |
| 10                     | <b>E</b>   | 35                     | <b>B</b>   |
| 11                     | <b>C</b>   | 36                     | <b>C</b>   |
| 12                     | <b>C</b>   | 37                     | <b>B</b>   |
| 13                     | <b>B</b>   | 38                     | <b>E</b>   |
| 14                     | <b>E</b>   | 39                     | <b>E</b>   |
| 15                     | <b>D</b>   | 40                     | <b>D</b>   |
| 16                     | <b>C</b>   | 41                     | <b>D</b>   |
| 17                     | <b>D</b>   | 42                     | <b>D</b>   |
| 18                     | <b>A</b>   | 43                     | <b>D</b>   |
| 19                     | <b>E</b>   | 44                     | <b>B</b>   |
| 20                     | <b>A</b>   | 45                     | <b>B</b>   |
| 21                     | <b>A</b>   |                        |            |
| 22                     | <b>C</b>   |                        |            |
| 23                     | <b>E</b>   |                        |            |
| 24                     | <b>B</b>   |                        |            |
| 25                     | <b>E</b>   |                        |            |

# THINKING SKILLS

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Paper 9694/02  
Critical Reasoning

## General comments

The new format of the paper continues to work well. In general, candidates are able to attempt all questions, show that they understand what the task involves, and do not waste time and effort in simply repeating the information given in the stimulus material. Performance was more even across the four questions than in the previous two sessions, although **Question 4** proved most challenging. The questions discriminated well between candidates. Most candidates showed evidence of reasoning skills and some gave excellent answers.

## Comments on specific questions.

### Question 1

Although this question was answered well, candidates performed a little less well than they did on **Question 1** in June and November 2006. This may have been partly due to the interpretation of two of the sub-questions. However, it seems that parking is an issue which splits candidates around the world roughly evenly into irreconcilable groups of angered residents and puzzled parkers. This apparently instinctive affiliation seems to have affected candidates' ability to question the reliability or plausibility of the evidence.

- (a) This question provided two easy marks which almost every candidate gained.
- (b) Again, this question provided two easy marks which a majority of candidates gained. A small minority of candidates simply repeated key parts of the evidence without making evaluative comment. A majority made a number of relevant points, despite the question only attracting two marks.
- (c) Most candidates spotted the inconsistency between Mrs Thomas' and Carla's evidence and gained two marks for a well developed point. However, most stopped there, although the question was worth 4 marks. To gain the additional two marks, these candidates would have needed to discuss Mrs T's position as an eye-witness, or possible reasons for prejudice against Dr Angelou or for Carla.
- (d) Although this question did discriminate, candidates clustered around middle marks for this question. Few really weighed up evidence, balanced probabilities or considered plausible alternative scenarios. Many tended to be too positive that Dr A either did or did not kick Carla's car. A significant minority tended to repeat evidence without really questioning it or pulling it all together.

### Question 2

Candidates accessed the entire range of marks for this question, from 0 to 12. Most candidates gained between 5 – 8 marks, but there were significant minorities performing exceptionally well and exceptionally poorly. Candidates responded well to the topic, even though insurance might not normally form a staple of teenage conversation.

- (a) Most candidates were able to identify the conclusion of the passage. Even those who could not were generally attempting the right task. There was, however, a minority who thought that they were required to summarise the passage. This misapprehension tended to occur throughout Centres. A number of candidates paraphrased the conclusion, 'we ought to be using insurance policies as little as possible,' as, 'we don't need insurance.' This is sufficiently different in meaning that it could not be credited.

- (b) It was pleasing that many candidates were able to identify an unstated assumption as a necessary but missing step in the argument. Most candidates who did identify an assumption were able to say that the argument in paragraph 2 assumed that people were *able* to pay for cars and mishaps without insurance. There were, however, as usual, a large number of candidates who merely copied a stated reason they disagreed with and called it an unstated assumption. Work needs to be done in Centres communicating this key concept to candidates.
- (c) Most candidates were able to access both marks in this question, generally by identifying that having insurance does not encourage people to park in dangerous areas because they do not wish to be robbed/go through an insurance claim/pay higher premiums or even because they loved their cars. Weaker candidates tended to simply state that you don't park in dangerous areas.
- (d) This question caused some confusion because the analogy was so poor that many candidates did not know where to begin in their evaluation. Some brought up their own confusion or 'wrong-footedness' as a problem with the analogy, but a pleasing number were able to give reasons why our expectations of trains and insurance were significantly different, making the analogy ineffective.
- (e) Most candidates produced good answers to part (e), continuing the trend of improvement in this aspect of the paper from the previous two sessions. Although few candidates really addressed the idea of using insurance policies as little as possible, most gave a clear conclusion, usually that we should use insurance or that insurance is necessary, and supported it with a reason and example. Candidates who did less well tended to make a series of unlinked statements of opinion rather than providing an argument, or just repeated disagreements with the passage.

### Question 3

Candidates responded well to the issue of fingerprint reliability and justice, and generally provided good answers. This was welcome after the disappointing performance in **Question 3** in November 2006.

- (a) (i) This was an easy two mark question.
- (ii) This question discriminated well.
- (b) This question also discriminated well. Most candidates were able to identify two reasons, but a significant number identified the counter argument or an irrelevant part of the text alongside a correctly identified reason.
- (c) Most candidates were able to make an evaluative comment supported by a reason why the example was useful, normally that people make more mistakes than machines, so this would be further support for the author's claim that we need to research the error rate in human fingerprinting. Occasional candidates gave a good reason why the example was not useful, and they gained credit for this.
- (d) This question discriminated well between those who reacted to the comment at face value, and those who evaluated its usefulness as an objection to the argument. Most candidates took the ethical line that it is never acceptable to imprison innocent people. The best candidates recognised that the claim did not object to the argument because the author was trying to get fingerprint analysis improved to help imprison the guilty rather than the innocent.

### Question 4

Most candidates managed to write something for all three parts of this question, suggesting that they were not too pressed for time. They also responded well to the topic, largely in staunch defence of the Olympics, which seem to inspire great loyalty in many countries. However, this was the question in which many candidates achieved their lowest mark. It is not clear whether this was because it was the last question, or because candidates were less secure in their thinking skills in a more open ended question.

- (a) Unlike in previous sessions, this part of the question was allocated five marks, to reflect the greater complexity of the stimulus passage. The greater number of marks also allowed the question to discriminate with more finesse. Whereas in previous sessions most candidates gained two out of three marks, in this session the majority of candidates were spread between two, three, and four marks out of five, with exceptional candidates gaining full marks. A small number of candidates gained zero or one mark. Most candidates appeared to understand the task, although some candidates from some Centres provided gist or summary rather than analysis of reasoning.
- (b) Five marks were also allocated for evaluation of reasoning. Although many candidates did produce very good answers which really evaluated the strength of the reasoning, most candidates tended to disagree with the reasons or provide counter argument rather than evaluation. Many candidates did recognise that having large numbers of obese, unfit people in rich countries does not mean that they cannot have the fittest, best athletes. A reasonable number noticed the slippery slope or exaggerated reasoning in paragraph 4. However, few candidates commented on the inconsistency and contradictions in the passage or the weakness of the analogy in the last paragraph. Whilst many identified that reasons were unsupported, they did not look at the weak support given by reasons to the intermediate and main conclusion; very few candidates, for example, were able to say that the strand of reasoning about rivalry was irrelevant to the conclusion. A worrying number of candidates did not seem to understand the role of the example in the line, 'If the Olympic Games were really about celebrating human physical prowess, there would only be events like running which test the human body to its limits'. Such candidates pointed out that running is not the only thing to test the human body.
- (c) Most candidates noticed the difference in rubric and did write one further argument for the three marks available, rather than the two for four marks in the previous two sessions. Many candidates produced lovely, clear, concise and well supported arguments in this section with either a clearly stated conclusion or an indication whether the comments were intended to support or challenge the conclusion of the passage. However, there were still significant numbers of candidates who seemed to think that a random comment on the subject of the Olympics would do, or who repeated disagreement with the passage from **section (b)**. It is important to note that this question tests candidates' own ability to reason, and answers should be *further* to the stimulus passage.

# THINKING SKILLS

Paper 9694/03

Problem Solving and Critical Thinking (Advanced) Multiple Choice

| <i>Question Number</i> | <i>Key</i>  | <i>Question Number</i> | <i>Key</i>  |
|------------------------|-------------|------------------------|-------------|
| 1                      | <b>A, B</b> | 16                     | <b>A, E</b> |
| 2                      | <b>B, E</b> | 17                     | <b>B</b>    |
| 3                      | <b>C, E</b> | 18                     | <b>A, E</b> |
| 4                      | <b>D, A</b> | 19                     | <b>B, B</b> |
| 5                      | <b>D, A</b> | 20                     | <b>A, B</b> |
| 6                      | <b>D</b>    | 21                     | <b>B, E</b> |
| 7                      | <b>A, C</b> | 22                     | <b>D, E</b> |
| 8                      | <b>E</b>    | 23                     | <b>B, D</b> |
| 9                      | <b>A, C</b> | 24                     | <b>C</b>    |
| 10                     | <b>D</b>    | 25                     | <b>C, C</b> |
| 11                     | <b>E, D</b> |                        |             |
| 12                     | <b>B, D</b> |                        |             |
| 13                     | <b>E, B</b> |                        |             |
| 14                     | <b>A, E</b> |                        |             |
| 15                     | <b>A, A</b> |                        |             |

Questions that require one answer: If the candidate chooses two or more answers then award zero marks.

Questions that require two answers: If the candidate chooses three or more answers then award zero marks.

# THINKING SKILLS

Paper 9694/04  
Applied Reasoning

## General comments

This was the first time occasion of examination of Thinking Skills at A Level. Paper 4 requires answer to both problem-solving questions and critical thinking questions. It is clear that the problem-solving questions proved to be hard for a number of candidates. In particular this was true of **Question 1**. There was no correlation evident between candidates' success on the problem-solving part of the paper and their success on the critical thinking part.

Candidates have 1 hour 30 minutes. There are 10 marks available for **Question 1**, 10 marks for **Question 2** and 30 marks for **Question 3**. This suggests that candidates should allocate approximately 50 minutes for answering **Question 3**. With the other 40 minutes devoted to answering **Questions 1** and **2**. A suitable strategy for some candidates (particularly those who are stronger at critical thinking than problem solving) will be to answer **Question 3** in the first 40 minutes and only then begin to tackle the problem solving **Questions 1** and **2**.

## Comments on individual questions

### Question 1

Many candidates failed to lay out their answers with any eye to the reader, and gave confused answers to the open-ended part of the question.

- (a) This required candidates to calculate the amount of power required; to use this to establish how many generators were needed; to calculate how much these cost to run; to add this all together. Very few candidates managed this without error.
- (b) This question required an appreciation of what constituted a justified conclusion. Some candidates managed to consider one of the possible combinations of Diesel engines, but very few showed an appreciation of the need to exhaustively list the options. A lot of the responses contained very confused working in which it was difficult to judge which combinations were being considered.
- (c) As with **Question 1(a)**, few candidates managed to calculate the required power, establish how many solar units were needed, and then calculate the minimum cost.
- (d)(i) Candidates who were still tackling this question seriously, tended to be able to propose a combination which met the cost requirement, but very few were able to meet the (demanding) daily time requirements of the different power sources.
  - (ii) This required a correct solution to **1(d)(i)** and therefore very few candidates managed it.

### Question 2

This question was tackled better on the whole than **Question 1**, but many candidates did have trouble extracting the vital instructions: in particular, the explanatory notes (see comments below).

- (a) Most candidates managed to answer this correctly.
- (b)(i) Candidates needed to appreciate what the 5<sup>th</sup> "note on Tables 1 and 2" required. Many candidates did not appear to have seen this instruction.
  - (ii) Few completely correct responses were presented.

- (c) The demonstration required a logical progression through the calculation, and clearly candidates achieved all three marks here. This was largely due to candidates failing to identify a vital 5<sup>th</sup> note (mentioned in the comment about **2(b)(i)** above). Some candidates may have lost marks due to their confused presentation, particularly in the final part of the demonstration.

### Question 3

A number of candidates did not finish **Question 3** and had clearly spent too much time on the problem-solving questions. Candidates should be encouraged to attempt the questions in an order which plays to their strengths.

- (a) The most common responses to this question simply paraphrased the document, with no reference to technical Thinking Skills terminology (conclusion, intermediate conclusions, counter-arguments, reasons). It was clear that many candidates had not been taught to **identify the main conclusion first**, and then identify supporting reasons. As shown in the mark scheme, candidates who did not clearly identify the main conclusion could not access the top third of the marks.

A small number of candidates confused analysis and evaluation: evaluative comments in candidates' answers to **Question 3(a)** gained no marks.

- (b) The most common weaknesses given by candidates were that the author "did not have enough evidence", "was not backed up by facts", or "was ignoring the fact that...". Such demands for further evidence and querying of evidence stated in the document are not considered as serious evaluation of the reasoning.

The most productive evaluation from candidates was often in the form of stating assumptions made by the author of the document. A few candidates clearly confused "unstated assumptions" in the author's reasoning (which clearly do not appear in the document) with "unjustified claims" made by the author (see comment directly above). Less than half the candidates used the word "flaw", and very few identified classic flaws by name (there was no need to do this as long as the candidate explained the weakness in the reasoning clearly). The best responses to this question included comments on the lack of conceptual clarity (particularly in the phrase "real human development").

A number of candidates gave perceptive comments on the strengths of the argument. Such positive evaluation had to involve more than a mere repetition of what the document stated, prefaced with the words, "A strength of the argument was when it said...".

- (c) Most candidates managed to clearly state and remain focused on the required conclusion, although some veered off onto tangential issues. There were very few examples of an essay-plan, but those that did do one usually produced high calibre responses. Given the wealth of material to comment on, and the need to integrate this with ideas of one's own, a plan of some kind seems advisable for candidates aiming for top-level answers.

Many responses concentrated on just the first (and perhaps the second) document. This may have been due to the lack of time. Of those who did comment on all the documents, most did little more than summarise what was said. It was more productive to omit one of the documents, and yet to provide some evaluative comments on the remaining ones.

There were a few excellent responses by candidates who had clearly considered the statement carefully, come to a conclusion on the matter, and then considered each of the documents in turn explaining how it supported their argument or was deficient.