

## **Critical Thinking**

Advanced Extension Award **AEA 9913**

# **Mark Schemes for the Components**

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**June 2007**

**9913/MS/R/07**

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#### **MARK SCHEMES FOR THE COMPONENT**

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**Mark Scheme 9913**  
**June 2007**

**Section A**

1 B

2 C

3(a) A

3(b) D

4 C

5(a) E

5(b) D

6 B

7 B

8 A

9(a) C

9(b) A

9(c) D

10 E

11 E

## Section B

## 1 Inappropriate

Award two marks for a correct developed explanation e.g.

- The original shape no longer has a practical function, as screw caps have replaced corks and there is no need to keep these wet to be watertight.
- The original design is not practical for today's market where bottles are designed to stand vertically and to incorporate a base to do this loses the original shape.
- Recreating the bulge might make this design inappropriate for increased global consumption, for example, more difficult to package or to stack efficiently.
- The design recalling Wiawara's history might bring with it associations of health giving properties rather than water for everyday consumption.
- Using the original shape may not lead to the cheapest or most efficient design.
- To use the historic design might not be appropriate because this would not meet the criterion of an 'innovative' design.

(Award one mark where there is an implication rather than explanation eg. It doesn't have a cork.) **[2 x 2 marks]**

## 2 (a) IC

Award one mark for each of the three correct intermediate conclusions.

Buying bottled water is a serious waste of money.

There isn't any health benefit to drinking bottled water over tap water.

The disposal of the plastic bottles that the water comes in poses a massive environmental problem.

We need to reduce the pressure on our natural water supplies by drinking tap water.

There is absolutely no reason to buy bottled water when wandering around a city.

**[3 x 1 mark]**

## 2 (b) Function Weakness

It is an **assertion** to be countered.

**[1 mark]**

It rules out reasons other than convenience without evidence.

It assumes that you can carry all that you need.

It assumes that you have a supply of clean tap water. **[1 mark]**

## 2 (c) Image

Award two marks for a correctly developed assessment of one point e.g. If the bottles were made of a plastic that could be recycled, the number of bottles implied by the image would be less relevant to an environmental problem, although this would make little difference to the bottles causing a litter problem.

**[2 marks]**

Or one mark each up to two marks for a weakness or strength that is stated e.g.

- The image lacks context and is not directly relevant to the disposal of the bottles.
- An image of a large number of bottles does not indicate the extent of the problem of inappropriate disposal.
- The image does create the impression of the impact of a number of bottles.

- 2 (d) Award one mark for a correct explained weakness in each e.g.

**American scientists**

- Their use of evidence does not support their conclusion in that it rests on a generalisation from one research project.
- Moreover if this state water was atypically free of bacteria, then bottled water may (although containing bacteria) be more pure than tap water from elsewhere.
- It does not differentiate between the sources of bottled water, as 3/4 of the bottled water had fewer bacteria than tap water and so was more pure.
- It assumes the bacteria are harmful.

**New Zealand dentists**

- Their claim is exaggerated, in that bottled water does not actually do harm to teeth. It is rather that tap water contains fluoride to protect teeth.
- Their claim assumes bottled water will replace tap water completely.
- Their claim assumes that bottled water does not contain fluoride.
- Their claim assumes that other sources of fluoride are not used.

[2 x 1 mark]

- 2 (e) **Parallel Strength**

The characteristic common to both water and oil i.e.  
Excessive demand / leading to both reserves running out.

[1 mark]

**Weakness**

Spring water is renewed readily by rain / the water cycle, whereas oil takes many years to be replenished.  
Spring water flows regardless of whether it is collected, whereas oil is a static reserve.

[2 x 1 mark]

- 2 (f) **Weaken**

Award one mark for each correct answer up to 2 marks

if tap water is not available  
if the tap water is contaminated  
if the tap water is less healthy to drink than the bottled water  
if the tap water has additives that are not desired  
if the bottled water has additives that are desired  
if the bottled water tastes better than the tap water  
if the bottled water is cheaper than the tap water  
if one is not used to the local tap water  
if the tap water would endanger those with weak immune systems  
if carrying bottled water gives street credibility that might deter negative attitudes  
if you can't carry all the water that you need in bottles filled from the tap

[2 x 1 mark]

**3 (a) Key dilemma**

For a **correctly phrased dilemma and the harm caused by each option**

'Kelly Hours' should be encouraged – causing possible harm in the form of tired and bored children with lower exam results

**Versus** these hours should be discouraged – causing possible harm in children returning to empty houses when parents are working and a lost opportunity to support a behaviour improvement programme.

**[3 marks]**

For simply identifying **conflicting options** eg

The need to provide choice	v	children's' need for a different environment
The need to support BIP	v	children's freedom
The need to provide child care	v	children's need for shorter school hours.

Credit if the dilemma is expressed as 'whether (or not)...

**[2 marks]**

For simply **raising an issue** eg

Should the state be responsible for providing the support for parents to return to work?

Should schools provide child care beyond its 9 am – 4 pm role?

Should the government reduce taxes to allow one parent to stay at home?

**[1 mark]**

**(b) Principles**

For a relevant principle

**[2 marks]**

For two of these

**[3 marks]**

**Supporting** the proposal to encourage Kelly hours eg

Children have a right to equal opportunities for a wider education.

There is a moral duty to ensure that children do not come to harm.

Parents have the right to work and childcare.

Schools have a moral duty to correct behaviour problems.

It is in the interests of the greater good for the greatest number that schools should provide child care to facilitate positive community life.

NB Award no marks for a principle that would lead to the proposal being rejected.



**(c) Weakness in reasoning**

Candidates need to evaluate the claims made by **the opposition** eg

**Pejorative language** by the Daily Mail, such as ‘dumping’ and ‘unnatural’, gives a bias to their claims.

**False dilemma** presented by the Telegraph, which presents a more appealing option of taxing less as an alternative to ‘passing the buck to the state’s appointees’.

**Exaggerated negative consequences** used by the Telegraph with ‘enforced detention’ and ‘exhausted parents’.

**Post hoc argument** used by the Daily Mail, as there may be other reasons why exam results went down in these schools, such as increased numbers of lower ability students in that year.

**Generalisation implied** by the reported co-ordinator of one school where children don’t want to stay until 6 pm.

**Bias** of the Telegraph, against New Labour and ‘Miss Kelly’ weakens the credibility of the claims.

**Vested interest** of the head teachers’ union to describe the initiative in negative terms, as a ‘national baby sitting service’, if it brings with it additional supervisory or administrative role for head teachers.

**[3 x 1 mark]**

**(d) Reasoning to counter the opposition**

Candidates need to counter the stance made by the **opposition** eg

Not all children will see the extra hours as ‘enforced detention’, if there is a wide choice of activities offered that match their interests.

There should not be a need for ‘extra taxes to support this’ after 2008, as fees will be charged and some services will be run by volunteers.

Taxing people less would not solve the problem for those parents who work for reasons in addition to financial gain.

Section B      AO1 [4],      AO2 [18],      AO3 [2],      AO4 [6]      **Total: [30]**

## Section C

Specific points to supplement the Generic Performance Descriptors:

- **Clarify parameters of the question eg**

The **type of travel choice** is not specified. The wider the application of the green taxes, eg everyday or holiday travel, the greater the justification necessary for these taxes.

The **extent of taxation** is not specified. The more punitive the green taxes proposed, the greater the justification that would be needed.

- **Assess the credibility of overall documents or sources within them.**

Document 4 **Selectivity but objectivity** by the Guardian presenting one side of the issue, the policies of Miliband, without comment.

Document 5 **Balanced report** of the BBC, presenting the proposed measures and the responses of opinion such as Ken Livingstone, the Friends of the Earth and the Motorists' Association.

Document 6 **Vested interest** by the AA to be selective in their evidence and to present opinion that would promote the interests of their clients ie motorists, not to have further taxation that might impact negatively upon them.

Document 7 **Informed proposal** by Richard Starkey working at the Tyndall Centre for Climate Change Research upon DTQs and building on the work of David Fleming who invented the concept.

- **Select three key issues to direct the reasoned case, use textual examples to illustrate their conflicting perspectives and develop further reasoning on both sides of the argument eg**

**ISSUE 1      To legislate to reduce CO2 emissions**


**Conflict**      **ought v can**

**The government has a duty to tackle climate change by reducing CO2 emissions in which personal travel choices play a part.**

Document 4 “The government should curb environmentally damaging behaviour by raising the cost of motoring, especially in high-emission cars, and increasing the price of flights, David Miliband has urged.”

### However would taxation of personal travel choices achieve this?

Document 6 “Nobody disputes that carbon dioxide emissions must be reduced dramatically, but punitive hit after hit on the motorist will not achieve it,” says Ruth Bridger, Head of environment, fuels and taxation for The AA Motoring Trust. “The cost of petrol reached nearly a £1 per litre this summer, a dream level for those wanting to tax people out of their cars. Families continued to use their cars as before, cut back elsewhere in the family budgets, and hit high-street spending and tourism.”

Document 7 'David Fleming told me. "A carbon tax is a very bad idea because we know it's going to have an effect on the economy.'" ' 

**Further reasoning**

Carbon credit cards could have the overall effect of personal reduction in CO<sub>2</sub> travel emissions whilst preserving personal travel choices through prioritising personal travel needs. The public might find quotas more acceptable than financial penalties.

**Counter reasoning**

However those with financial resources might not be controlled by either system, since they could afford the penalties and could buy extra carbon credits.

**ISSUE 2 To prevent harm**

**Conflict protection of the environment v restriction of individual freedom of lifestyle travel choice**

**Green taxes could protect the environment by reducing the CO<sub>2</sub> emissions caused by some personal travel choices.**

Document 5 "Mike Rutherford from the Motorists' Association... acknowledged it might help to encourage people to buy different vehicles in the future."

**However this would limit the necessary personal travel choices of some**

Document 6 "How can the poorer large family afford the newer and cleaner large vehicle they need if their ability to buy is sapped by hundreds of pounds of extra tax every year?"

**Further reasoning**

A carbon credit card would enable large families to prioritise the choice for a large car whilst cutting down on other CO<sub>2</sub> emissions.

**Counter reasoning**

However the card would give less freedom of choice to poorer families as they would not have the financial resources to buy in credits to extend choice.

**ISSUE 3 When CO<sub>2</sub> self-regulation is not an option**

**Conflict Paternalism v self control**

**The public do not always have the self control to protect themselves from environmental harm.**

Document 5 "Climate change is the single greatest challenge facing the world today," said council leader Serge Lourie. "We can no longer bury our heads in the sand and pretend that it is not happening, or that dealing with it is up to somebody else."

**However a carbon credit card could give a framework for self control.**

Document 7 "This is in effect a carbon reward card," said Colin Challen MP, who set up the Westminster meeting in his role of chair of the all-party parliamentary group on climate change. "Or, if you like, it's a climate reward card. It enables people to watch the units they use during the year."

**Further reasoning**

Many of the public are used to self control in managing their financial limits with a credit or debit card, so a carbon credit card with CO<sub>2</sub> emission limits might be effective in the same way.

**Counter reasoning**

However for those who are not used to the credit card system the concept and paperwork may be confusing.

**Evaluate the reasoning and data offered**

These may be chosen from any of the documents eg

- Document 4 **weak parallel drawn** between company car choice and personal choice. Some members of the public have specific needs for bigger cars, such as large families, whereas companies might be able to be more flexible in their choice of fleet cars.
- Document 5 **rhetorical flourish** “No longer burying our heads in the sand” gives no more specific support to linking car parking permits to car emissions than to any other measures.
- Document 6 **assumption** that messages to reduce speeding would impact upon driving styles.
- Document 7 **false dilemma** reducing solutions to either taxation or rationing restricts the options, when other means are available, such as those suggested by the AA.

**Assessment objective breakdown**

Question		Assessment objective	
Section A		AO1	30
Section B	1	AO	22
	2a	AO1	3
	2b	AO1	1
		AO2	1
	2c	AO2	2
	2d	AO2	4
	2e	AO2	3
	2f	AO3	2
	3a	AO2	3
	3b	AO4	3
	3c	AO2	3
	3d	AO4	3
Section C		AO1	0
		AO2	16
		AO3	8
		AO4	16
Total		AO1	34
		AO2	34
		AO3	10
		AO4	22

**Advanced Extension Award Critical Thinking (9913)**  
**June 2007 Assessment Series**

**Component Threshold Marks**

<b>Component</b>	<b>Max Mark</b>	<b>Distinction</b>	<b>Merit</b>	<b>Ungraded</b>
1	15	9	6	0
2	30	19	14	0
3	20	11	8	0

**Overall**

	<b>Distinction</b>	<b>Merit</b>	<b>Ungraded</b>
Percentage in Grade	23.2	49.2	27.6
Cumulative Percentage in Grade	23.2	72.4	100.00

The total entry for the examination was 269



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