



General Certificate of Education  
Advanced Level Examination  
June 2010

## General Studies (Specification A)

## GENA4

Unit 4 A2 Science and Society

Wednesday 23 June 2010 1.30 pm to 3.30 pm

**For this paper you must have:**

- a copy of the Pre-release Case Study Source Material (enclosed)
- a 12-page answer book.

**Time allowed**

- 2 hours

**Instructions**

- Use black ink or black ball-point pen.
- Write the information required on the front of your answer book. The **Examining Body** for this paper is AQA. The **Paper Reference** is GENA4.
- Answer **five** questions.
- Answer **all** questions in Section A and **one** question from Section B.
- Use your own words, rather than simply repeating those used in the sources, to show your understanding of the points being made.

**Information**

- The maximum mark for this paper is 70 (45 for Section A and 25 for Section B).
- This paper consists of **two** sections.  
**Section A** contains four compulsory questions based on the pre-release Case Study Source Material provided earlier and the new source provided in this examination paper (a new copy of the pre-release material is provided as an insert to this question paper).  
**Section B** contains four alternative essay questions based on Science and Society.
- Write your answers in continuous prose as if you are addressing the intelligent general reader. You will be marked on your ability to use good English, to organise information clearly and to use specialist vocabulary where appropriate.
- Where appropriate use examples to illustrate your answer.

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## Section A

Answer **Questions 1 to 4** using pre-release **Sources A to E** and new **Source F** provided below.

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### Source F

#### Has the congestion charge been effective in reducing London's traffic?

##### Why are we asking this question now?

Ken Livingstone, London's Mayor, is proposing that the daily fee would more than triple to £25 for gas-guzzling vehicles. The levy could be scrapped altogether for the most environmentally-friendly vehicles as the mayor seeks to encourage a switch to cleaner vehicles or public transport. Those who carry on driving the most polluting vehicles will pay more for the environmental damage they cause.

The scheme – a key pledge in Mr Livingstone's mayoral election manifesto in 2000 – has quickly become part of everyday life in central London and is much studied by other cities around the world desperate to tackle congestion.



##### Has the scheme cut traffic and is there less congestion?

By the late 1990s, London suffered some of the worst congestion levels in Europe. The introduction of the congestion charge had an immediate impact, reducing the amount of traffic in the heart of the capital by about 15%.

Transport for London (TfL), which administers the scheme, said the overall amount of traffic fell by 21% between 2002 and 2006. The result is that 70 000 fewer vehicles are on the streets every day than before the charge began.

There was a drop in congestion after the introduction of the charge but this has not been sustained. With more taxis, coaches and bicycles being used, there have been significant changes to London's transport pattern over the last five years. However, traffic snarl-ups seem to be returning to the capital.

##### What is the revenue from the scheme used for?

In 2007, drivers handed over £252.4m in congestion charge payments to TfL. Running the scheme cost £130.1m. After other costs such as administration and depreciation were taken into account, TfL was left with a net income of £89.1m from the charges. TfL is required, by law, to reinvest this "profit" into public transport.

##### Has business in London suffered?

Many retailers were hostile to the congestion charge from the start with some blaming the levy for a drop in takings. Broadly speaking, the views of most retailers have not changed with a fear that the long-term impact of the charge will push shoppers more to out-of-town retail parks.

Source: Adapted from NIGEL MORRIS, 'Has the congestion charge been effective in reducing London's traffic?'  
*The Independent*, 28 February 2008

0	1
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Using the data and other information in **Source A** on transport and environmental concerns, consider how far new technology and government policies can address these concerns. *(11 marks)*

0	2
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Using information from **Source B** and your own knowledge, consider how far the construction of a third runway at Heathrow is justified. *(12 marks)*

0	3
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Using evidence from **Sources C** and **D** examine the likelihood of the increased development and use of electric vehicles in the UK. *(11 marks)*

0	4
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Using information from **Sources E** and **F** and your own knowledge, assess the strength of the case for the extension of congestion charging in British cities. *(11 marks)*

**Turn over for Section B**

**Turn over ▶**

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**Section B**

Answer **one** question from this section.

There are 25 marks for each question.

Where appropriate use examples to illustrate your answer.

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**EITHER**

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‘Rural life might be ideal for the retired and the elderly, but for young people it means isolation and boredom. For young people at least, city living offers many more opportunities and few disadvantages.’

To what extent do you agree or disagree with this statement?

Discuss the difficulties of adapting to a different environment and new style of life.

**OR**

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‘The problem with many contemporary advances in science and technology is that the changes they create produce anxiety and insecurity and often lead to unemployment.’

Using specific examples, consider how far contemporary advances in science and technology produce change that is threatening to the individual and society.

Discuss the possible consequences of unemployment for the individual and family life.

**OR**

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‘There has been considerable debate in recent years about the origins of life on Earth. Disagreement is particularly marked between supporters of the theory of evolution and those who believe in creationism or intelligent design.’

Examine the main differences between evolution and creationism.

Discuss the case for teaching creationism or intelligent design as part of the science curriculum.

**OR**

0	8
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‘Despite birth control programmes, population growth in many Less Economically Developed Countries continues largely unchecked resulting in continuing poverty and putting greater pressures on aid organisations and governments.’

Explain why it has proved difficult to slow down population growth in some parts of the world.

Discuss the consequences of continued rapid population growth in developing countries.

**END OF QUESTIONS**