Write your name here

Surname	Other names

Edexcel GCE

Centre Number	Candidate Number

General Studies

Advanced
Unit 3: Change and Progress

Friday 7 June 2013 – Morning **Time: 1 hour 30 minutes**	Paper Reference **6GS03/01**

You must have: Insert (enclosed)	Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions in Sections A and B and **one** question in Section C.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- Do not return the insert with the question paper.

Information

- The total mark for this paper is 90.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- Quality of written communication will be taken into account in the marking of your answers
  – *you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Check your answers if you have time at the end.

Turn over ▶

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PEARSON

SECTION A

Answer ALL questions.
You should aim to spend no more than 30 minutes on this section.

Read Source 1 on the separate insert and then answer questions 1–5.

1 For the traveller, state three differences between making a journey by rail compared with road.

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(Total for Question 1 = 3 marks)

2 Briefly state and compare two contributions to human progress in the UK made by the introduction of the railways in the 19th century, with two expected contributions from the high-speed rail networks in the 20–21st centuries.

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(Total for Question 2 = 4 marks)

3 (a) What is meant by the term 'Benefit-to-Cost Ratio' (paragraphs 4 and 5)?

(3)

(b) How could it be used to evaluate different high-speed rail routes?

(3)

(Total for Question 3 = 6 marks)

4 State three moral or political issues that may arise with the introduction of a high-speed rail network.

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(Total for Question 4 = 3 marks)

5 Explain the strengths and weaknesses of the case for a high-speed rail extension to Leeds and Sheffield as presented in Source 1, discussing how well the case is justified.

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(includes 4 marks for Quality of Written Communication)
(Total for Question 5 = 14 marks)

TOTAL FOR SECTION A = 30 MARKS

SECTION B

Answer ALL questions.
You should aim to spend no more than 30 minutes on this section.

Read Source 2 on the separate insert and then answer questions 6–10.

6 Identify an analogy used in the source, and explain how it is used to develop an argument.

(Total for Question 6 = 3 marks)

7 CERN, is a major international research organisation. Its best known current investigation uses an enormous device – the Large Hadron Collider (LHC) – to develop a greater understanding of the universe and the laws of physics.

Suggest why research like this is a product of international collaboration.

(Total for Question 7 = 3 marks)

8 In what ways has the web changed since its invention in 1990?

(Total for Question 8 = 4 marks)

9 Explain how features of the web described in Source 2 are used in politics and government.

(Total for Question 9 = 4 marks)

10 The invention of the WorldWideWeb is described in paragraph 1 as a 'revolution… that changed the way we live today'.

Briefly describe three aspects of life, apart from politics and government, that have changed as a result of this revolution.

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(Total for Question 10 = 3 marks)

11 In paragraph 1 of Source 2, the invention of the web is implicitly compared with other major events in 1990.

Evaluate the justification developed in Source 2 for making this comparison.

(includes 4 marks for Quality of Written Communication)
(Total for Question 11 = 13 marks)

TOTAL FOR SECTION B = 30 MARKS

SECTION C

There are two questions in this section. You should answer ONE of them.
Write your answer in the space provided.

Indicate which question you are answering by marking a cross in the box ☒. If you change your mind, put a line through the box ☒ and then indicate your new question with a cross ☒.

Use knowledge and understanding from a range of disciplines to reach an appropriate conclusion.

Chosen question number: **Question 12** ☒

Question 13 ☒

12 It is commonly believed that a country's economy should grow continually to sustain and improve the living standards of the population. When this growth is below 3%, governments show concern and talk of recession, job losses and belt-tightening.

Some say that the world's resources cannot sustain such growth in the long term.

Others say that human creativity and innovation will always be able to sustain economic growth.

How realistic are these opposing views?

(includes 6 marks for Quality of Written Communication)
(Total for Question 12 = 30 marks)

13 To what extent is a democratic form of government the best way to achieve a full and happy life for its citizens?

(includes 6 marks for Quality of Written Communication)
(Total for Question 13 = 30 marks)

TOTAL FOR SECTION C = 30 MARKS
TOTAL FOR PAPER = 90 MARKS

Edexcel GCE

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Do not return this insert with the question paper.

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PEARSON

Source 1

The Economic Case for a High-Speed Rail Link to Leeds and Sheffield

South Yorkshire Passenger Transport Executive and Metro have welcomed new research which highlights the economic benefits Yorkshire would gain by being connected to a high-speed rail network.

Research already carried out had shown that a 'Y-shaped' network travelling from London to Birmingham, where it would split with one arm of the 'Y' heading east to Yorkshire, could provide a boost of £1.5 billion to £3 billion to the economy of the area as well as substantial transport improvements . The other arm would head west to Manchester.

New research estimates that linking Sheffield, Leeds and the cities of Derby, Nottingham and Leicester, as part of a national high-speed rail network, would connect an area of 6.7 million people and 3 million jobs. Onward connections northwards to the Tees Valley, and Tyne and Wear would provide access to a further 2.2 million people and 0.9 million jobs.

This route to the east would deliver considerable transport improvements and a further £2.3 billion of economic benefits. Its Benefit-to-Cost Ratio would be 5.61, compared with 2.58 for the route to Manchester.

In addition, a direct route to Leeds, via the East Midlands and Sheffield, would have greater economic benefits than the alternative option of a less direct route to Leeds via Manchester. It would have a higher Benefit-to-Cost Ratio of 2.46 compared to only 1.88 for the less direct route via Manchester.

It would also deliver far greater economic benefits – £2.3 billion compared to £0.4 billion – and result in far faster journey times to Leeds, York and the North East of England.

The latest research also highlights the need to make improvements to existing rail routes in the short-medium term. Delivery of high-speed rail to the north will be a long-term (20–30 year) project, but existing proposals to upgrade and electrify the Midland Main Line, East Coast Main Line, Trans-Pennine and Leeds–Sheffield links can deliver substantial benefits, in some cases at modest costs. Improvements to existing routes and services will improve access to high-speed stations, helping to exploit the benefits of high-speed rail by providing an improved service on existing lines.

(Source: adapted from www.sheffieldcityregion.org.uk/general-documents. Reproduced with kind permission of Sheffield City Region)

Source 2

A Web of Intrigue?

1990 was a momentous year in world events. In February, Nelson Mandela was freed after 27 years in prison. In April, the space shuttle Discovery carried the Hubble Space Telescope into orbit. And in October, Germany was reunified. 1990 also saw a revolution that has changed the way we live.

CERN, the European Organization for Nuclear Research, is where it all began in March 1989. A physicist, Tim Berners-Lee, wrote a proposal for information management, showing how information could be transferred easily over the internet by using hypertext, the now familiar point-and-click system of navigating through information. The following year, Robert Cailliau, a systems engineer, joined in and soon became its number one advocate. The idea was to connect hypertext with the internet and personal computers, thereby having a single information network to help CERN physicists share all the computer-stored information at the laboratory. Hypertext would enable users to browse easily between texts on web pages using links.

Berners-Lee created a browser-editor with the goal of developing a tool to make the web a creative space to share and edit information and build a common hypertext. What should they call this new browser: The Mine of Information? The Information Mesh? When they settled on a name in May 1990, it was the WorldWideWeb.

However, a website is like a telephone; if there's just one it's not much use. Berners-Lee's team needed to send out server and browser software. By spring of 1991, testing was underway on a universal browser which would be able to run on any computer or terminal. It was designed to work simply by typing commands. There was no mouse, no graphics, just plain text, but it allowed anyone with an internet connection access to the information on the web.

Although the web's conception began as a tool to aid physicists answer tough questions about the Universe, today its usage applies to various aspects of the global community and affects our daily lives. Today there are hundreds of millions of websites, with many more computers connected to the internet, and thousands of millions of users. If households nowadays want a computer, it is not to compute, but to go on the web.

(Source: adapted from © http://info.cern.ch/)

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