



General Certificate of Secondary Education
June 2012

General Studies

47602/1

Unit 2

Friday 18 May 2012

9.00 am to 11.00 am

For this paper you must have:

- an objective test answer sheet for Section A
- a question paper/answer book for Sections B and C (enclosed).

You may use a calculator.

Time allowed

- 2 hours (for Sections A, B and C)

Instructions

- Use black ink or black ball-point pen.

Section A

- Answer **all** questions.
- For each question four responses are given. When you have selected the response which you think is the best answer to a question, mark this response on your answer sheet.
- Mark all responses as instructed on your answer sheet. If you wish to change your answer to a question, follow the instructions on your answer sheet.
- Do all rough work in this book, **not** on your answer sheet.

Section B and Section C

- Answer **all** questions in Section B and **one** question in Section C.
- You must answer the questions in Section B and Section C in the spaces provided in the enclosed question paper/answer book. Do not write outside the box around each page or on blank pages.
- At the end of the examination make sure you hand in **both** your Section A answer sheet **and** your Sections B and C question paper/answer book.

Information

- The maximum mark for this unit is 85.
- In Sections B and C you will be assessed for Quality of Written Communication.

Advice

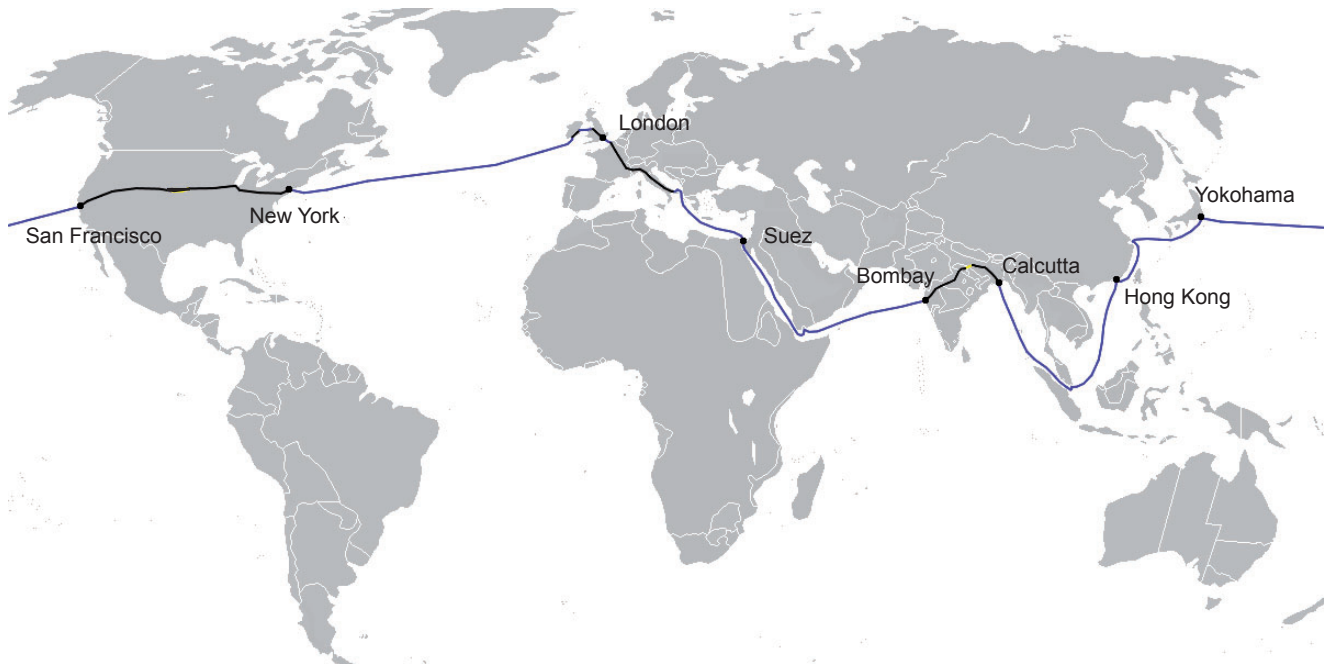
- You are advised to spend up to 40 minutes on Section A and up to 1 hour 20 minutes on Sections B and C.

Section A

Each of Questions **A1** to **A30** is followed by four responses, **A**, **B**, **C** and **D**. For each question select the best response and mark its letter on the answer sheet.

Questions A1 and A2

This is a map of Phileas Fogg's journey in the novel 'Around the World in 80 Days'.



- A1** Phileas Fogg travelled east on his journey from London. The order of continents passed through on the journey would have been
- A** Europe, Asia, Africa, America.
 - B** America, Asia, Africa, Europe.
 - C** Europe, Africa, Asia, America.
 - D** Africa, Europe, America, Asia.
- A2** The story starts in London in 1872. The means of transport available to Phileas Fogg would have been each of the following **except**
- A** a train.
 - B** a sledge.
 - C** an aeroplane.
 - D** a hot air balloon.

Questions A3 and A4

- A3** '..... a puzzling force, capable of altering minds to find styles and customs completely normal at one point in time, where they would be considered completely ridiculous at any other point in time.'

This definition relates to which of the following concepts?

- A** Culture
 - B** Fashion
 - C** Art
 - D** Politics
- A4** Art and clothing are often closely linked. Which of the following images displays a relationship between pop art style and fashion?

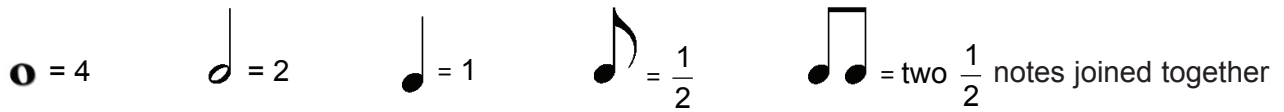
The images have been removed due to copyright restrictions.
The four images were of hats depicting different styles of fashion.

Turn over for the next question

Turn over ►

Questions A5 and A6

Musical rhythms use notes of different lengths. The number of beats in each note is as follows.



A dot after a note adds half the value of the original note (e.g. $\bullet = 3$)

In the piece of music below the numbers at the beginning are a guide to how many beats there should be in each bar. The top number in this case tells you that there should be 5 beats in every bar.



A5 The Bar above which contains too few beats is

- A Bar 1.
- B Bar 2.
- C Bar 3.
- D Bar 4.

A6 The rhythm below is the rhythm to the first line of



- A Happy Birthday to You.
- B the UK National Anthem.
- C Twinkle, Twinkle Little Star.
- D Here Comes the Bride.

Questions A7 and A8

A7 A SCALAR quantity is one that contains no reference to direction.

Which of the following is a scalar quantity?

- A** speed
- B** magnetic field
- C** electric current
- D** acceleration

A8 A VECTOR quantity refers to both magnitude and direction.

Which of the following is a vector quantity?

- A** volume
- B** velocity
- C** mass
- D** length

Turn over for the next question

Turn over ▶

Questions A9 and A10

The test marks obtained by a group of students are listed below:

4	3	2	4	1	3	6	7	10	10
10	9	8	7	7	7	6	8	10	9
13	13	11	12	11	14	11	15	11	12
12	13	13	11	13	14	15	15	11	13
11	14	15	20	16	18	20	17	17	18

A9 Which group frequency table is correct for the test marks shown above?

A

1–5	6
6–10	14
11–15	23
16–20	7

B

1–5	8
6–10	12
11–15	23
16–20	7

C

1–5	6
6–10	14
11–15	22
16–20	8

D

1–5	6
6–10	13
11–15	24
16–20	7

A10 What is the median mark for the whole group of students?

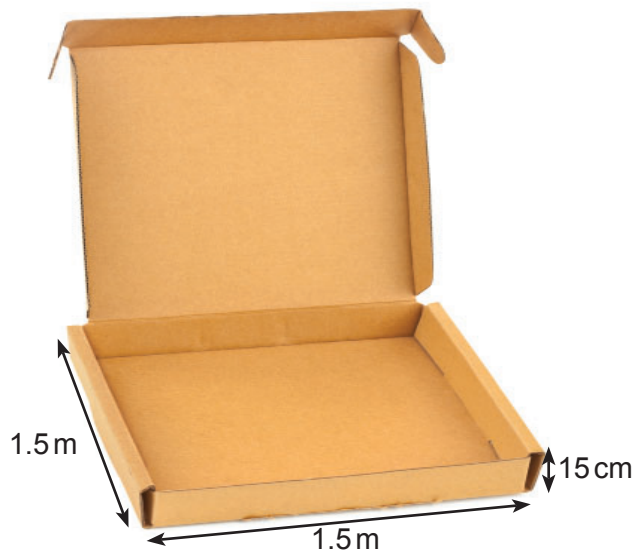
- A** 11
- B** 12
- C** 13
- D** 14

Questions A11 and A12



A11 A baker wants to make 200 cheese and potato pies with a ratio of cheese to potato of 3 : 2. If one pie contains 50 grams of filling, how many grams of cheese are needed to make 200 pies?

- A 2 kg
- B 4 kg
- C 6 kg
- D 8 kg



A12 A pie is 15 cm in diameter by 5 cm deep. How many pies of this size will fit into a box/carton that is 1.5 m square and 15 cm deep?

- A 150
- B 300
- C 350
- D 450

Turn over ►

Questions A13 and A14

A13 Many of the world's greatest religions have their own holy scriptures. These are

- 1 stories about the main characters in each religion.
- 2 plays about the main events in each religion.
- 3 carvings of symbols relating to that religion.
- 4 books that contain spiritual guidance.

Answer

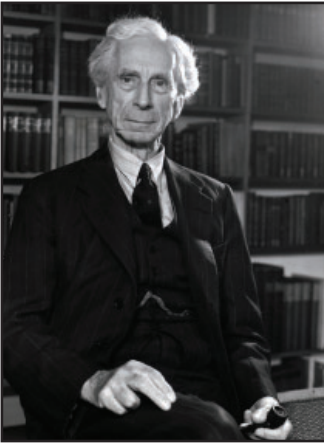
- A if 1 only is correct.
- B if 1 and 4 only are correct.
- C if 2 and 3 only are correct.
- D if all are correct.

A14 Symbols are very important parts of worship in all religions. They are used for many reasons, including

- 1 unifying people of different nationalities.
- 2 they can be used anywhere.
- 3 representing something worshippers value.
- 4 bringing followers closer to their object of worship.

Answer

- A if 4 only is correct.
- B if 1 and 3 only are correct.
- C if 1, 2 and 3 only are correct.
- D if all are correct.

Questions A15 and A16

“I do not pretend to be able to prove....”

The full Bertrand Russell quote has been removed due to copyright restriction. It was published in Russell’s book entitled *What I Believe, Chapter 1 Nature and Man* (first published 1925).

A15 Bertrand Russell felt that

- A** he believed God did not exist.
- B** some gods were more believable than others.
- C** there was no reason to believe in God.
- D** there was definite knowledge about God.

A16 Bertrand Russell’s views could be described as

- A** monotheistic.
- B** agnostic.
- C** nationalistic.
- D** superstitious.

Turn over for the next question

Turn over ►

Questions A17 and A18

A17 An apostrophe is the sign of an omitted letter(s) or of the possessive case. Each of the following should contain an apostrophe **except**

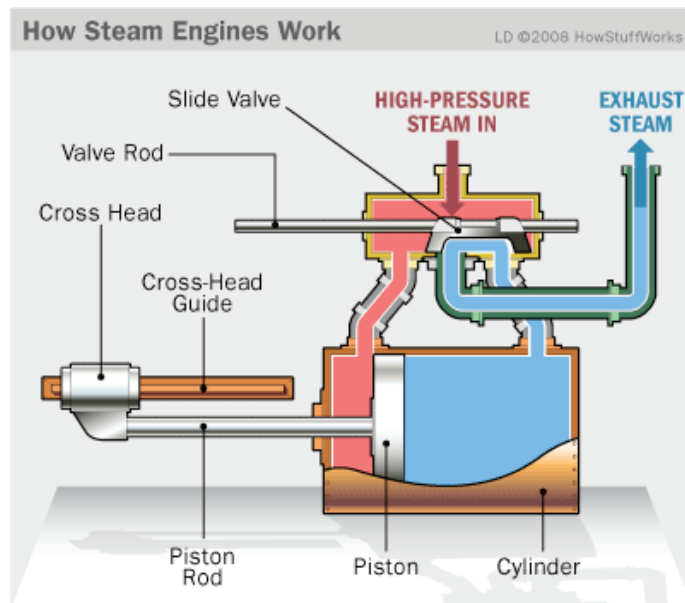
- A** All of the pie's are hot.
- B** The pie's filling is rhubarb and strawberry.
- C** Her pie's from the Crompton café.
- D** Jacob's on a diet so he is having no cream with his pie!

A18 A local pie shop owner wants to reduce the cost of pies while not wanting the pies to diminish or to change in any detectable way.

The word 'diminish' could be replaced with

- A** change shape.
- B** lose sales.
- C** become smaller.
- D** change proportion.

Questions A19 and A20



A19 The diagram above shows a steam engine. Each of the following statements about steam engines is true **except**:

- A steam is at the same pressure throughout the engine.
- B exhaust steam is vented into the air.
- C a constant supply of steam is needed.
- D steam power can be delivered via a piston.



Steam Locomotive



Diesel Locomotive



Electric Locomotive

A20 The above photographs show three types of power for railway locomotives. In order to build a 'clean' railway with little or no carbon emissions, it would be necessary to use

- A steam locomotives using 'clean burn' coal technology.
- B diesel locomotives running on diesel from natural resources.
- C electric locomotives with power generated from renewable sources.
- D all three forms of power so that there was a balance across the UK.

Turn over ►

Questions A21 and A22

A21 The British Museum is one of the most important museums in the world.

Museums are of cultural value because they

- A** can be a window into other civilisations.
- B** may contain items worth a lot of money.
- C** protect a country's foreign interests.
- D** provide translations for tourists.



A22 The British Museum contains artefacts from all over the world, including some which are controversial.



The Parthenon Marbles came from the Acropolis in Athens



The Rosetta Stone – found in Egypt – enabled people to understand ancient languages

There is great controversy over certain items in the British Museum because

- A** they are not being looked after properly.
- B** not enough people get to see them.
- C** the countries of origin want them back.
- D** they are part of a lost civilisation.

Questions A23 and A24

A23 Below is an extract from a dictionary definition for 'train'.

train [trein] vb (tr) to control.
n a sequence or series.

Each of the following could also be found in a dictionary definition for 'train' **except**

- A** to guide or teach.
- B** to travel.
- C** to do exercises.
- D** a line of coaches or wagons.

A24 'Train' can be either a verb or a noun. Each of the following words also has both these functions **except**

- A** soldier.
- B** book.
- C** mirror.
- D** quality.

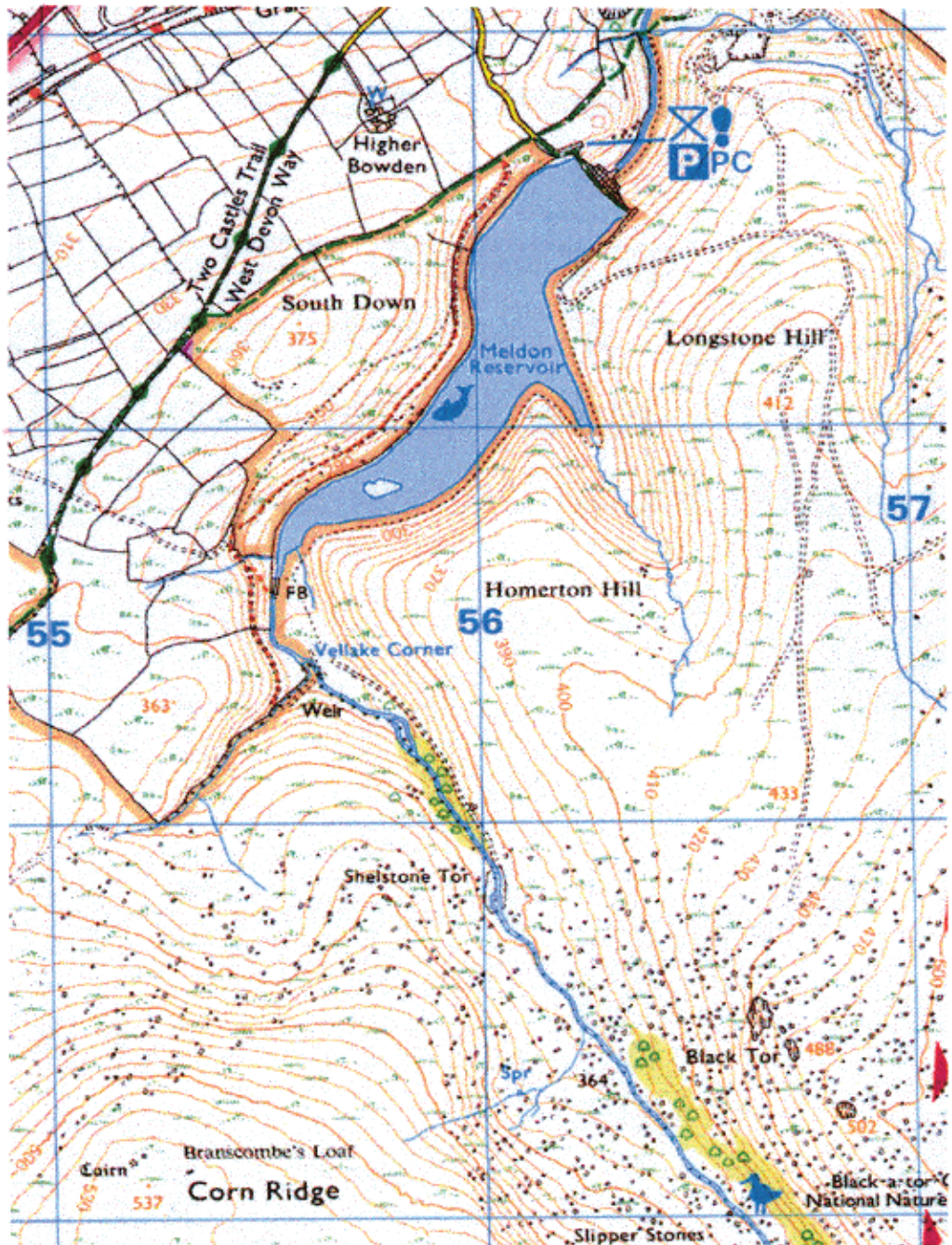
Turn over for the next question

Turn over ▶

Questions A25 and A26

Look at the two diagrams: **Figure 1** shows an Ordnance Survey map and **Figure 2** an aerial photograph of the same area of Dartmoor.

Figure 1



A25 A 'spot height' is the highest point on a feature such as a hill. From highest to lowest spot heights, what is the order on the map of: 1. Corn Ridge; 2. South Down; 3. Longstone Hill; 4. Black Tor?

- A** 4, 1, 3, 2
- B** 1, 4, 2, 3
- C** 1, 4, 3, 2
- D** 1, 2, 3, 4

Figure 2



A26 The area is characterised by granite outcrops called tors. Which of the arrows in **Figure 2** is pointing to one of these features?

- A W
- B X
- C Y
- D Z

Turn over ►

Questions A27 and A28



Air Ambulance facts

30 helicopters are leased or owned and in service for the 18 Air Ambulance charities; a further two are operated by the Scottish Ambulance Service.

Together they undertake over 19000 missions in a year:

- 40% road traffic collisions
- 24% other medical emergencies
- 3% hospital transfers.

On average a mission costs £1229.

The average spend per helicopter is £843 000 per year.

A27 How many missions each month (approximately) involve road traffic accidents?

- A 563
- B 633
- C 675
- D 727

A28 Which of the following points outline the main advantages of using air ambulances in an incident rather than other responses?

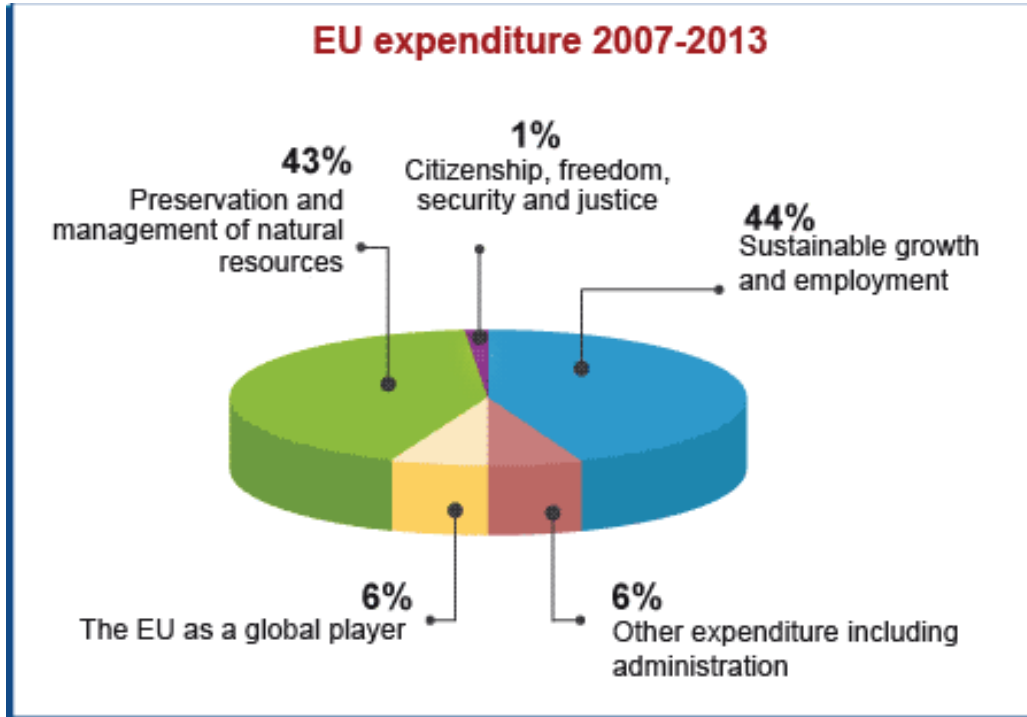
- 1 can access areas 'off the beaten track'
- 2 can fly in all weathers
- 3 cheaper to run than road ambulances
- 4 can reach incidents very quickly

Answer

- A if 1 and 4 only are correct.
- B if 3 and 4 only are correct.
- C if 1, 2 and 4 only are correct.
- D if all are correct.

Questions A29 and A30

The chart shows how the European Union (EU) allocates its expenditure.



A29 Defence is likely to account for

- A less than one percent of spending.
- B a large proportion of the green area.
- C half of the blue area.
- D none of the EU budget.

A30 Today's European Union (EU), with 27 Member States and a population of close to 500 million people, is much safer, more prosperous, stronger and more influential than the original European Economic Community of 50 years ago, with its 6 members and population of less than 200 million.

Now, the EU is the world's largest economic zone. The wider internal market and new economic opportunities have increased Europeans' prosperity and competitiveness.
(EU Commission 2009)

In the above statement, the EU Commission makes the case that

- A the new member states are richer than the original six.
- B some countries have to subsidise others.
- C all EU member states have similar incomes.
- D all members benefit from a larger EU.

END OF SECTION A

Turn over ►

Section B

Stimulus Material

Study the following information and answer **all** the questions in Section B, which are printed in the enclosed question paper/answer book.

Item A

Watchdog revises cost of green energy improvements

Household gas and electricity bills are expected to rocket fourfold to nearly £5000 a year by the end of the decade to meet Government-imposed green targets.

The price which heavy industry will have to pay by 2020 is so high that energy-dependent firms could be wiped out, causing thousands of job losses, said an industry spokesman.



The Government is having a massive rethink on the cost of 'green energy' leading some politicians to question whether the public will be prepared to pay increasingly high bills for the UK to become greener than most countries. Energy watchdog Ofgem* admits that its report underestimated the burden on consumers of hitting green targets.

Officials now privately admit that a report they issued severely underestimates the cost of cutting carbon emissions by building a new energy infrastructure for the UK. An earlier report suggested that gas and electricity prices could double to £2000 a year by 2020 to meet the £233.5 billion cost of going green by investing in nuclear energy and wind power.

Ofgem's worries about those figures are backed up by new research that calculates £548 of the average household bill of almost £5000 in 2020 would be to pay for the investments in nuclear and renewable energy. This does not take into account payments to keep energy prices low for poorer people, grants for lagging and insulation and additional government taxes to help combat climate change.



Although householders will be badly hit, the damage to industrial energy users will be even more dramatic. These companies, ranging from steel and chemical plants to industrial gas companies, are dependent on reasonable energy prices that can, in some cases, account for 70% of their entire costs.

Jeremy Nicholson, spokesman for the Energy Intensive Users' Group, said: "The Government's own figures show that the price of electricity will go up by up to 70% and the price of gas by a further 50%. We are not against cleaning up the environment, far from it. If every country faces these costs then so be it, but the UK has decided to be greener than any other country. We are already highly efficient and cannot cut our costs further. If we find ourselves faced with these sorts of increases, there will not be any heavy industry left in this country. The huge costs involved will make us totally uncompetitive. Industry will be wiped out and with that, thousands of jobs will go."

* The Office of Gas and Electricity Markets

Item B

What will happen if emissions of Carbon Dioxide (CO₂) are not reduced.....

.....IN THE UK?

Even across a relatively small area like the UK, climate change is expected to cause marked regional differences in temperature and rainfall by the end of the 2050s. Government reports show changes have already occurred:

- Central England temperatures have increased by 1 °C since the 1970s
- Total summer rainfall has decreased in most parts of the UK
- Sea-surface temperature around the UK has risen by about 0.7 °C over the past three decades
- The UK has experienced nine of the 10 warmest years on record since 1990
- Sea levels around the UK have risen 10 cm since 1900.



Item C

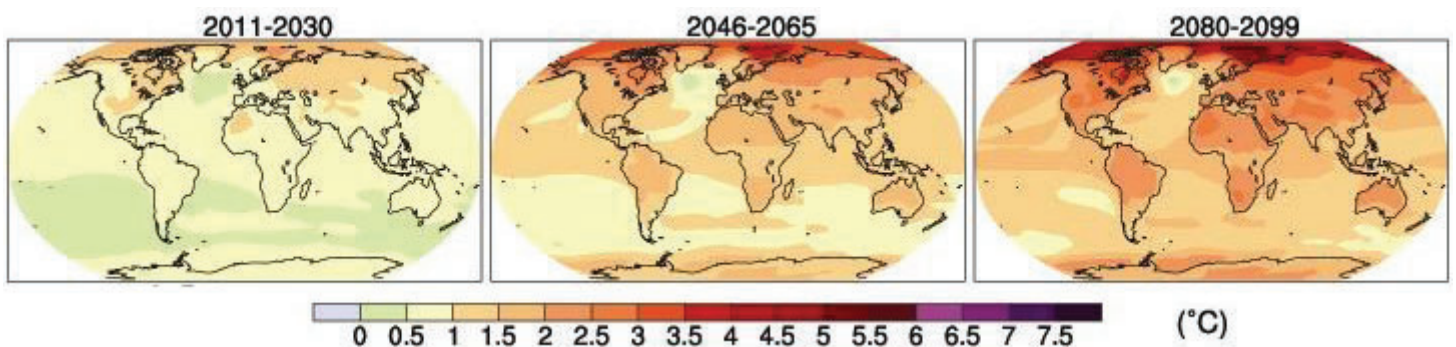
What will happen if emissions of Carbon Dioxide (CO₂) are not reduced.....

.....AROUND THE WORLD?

If emissions continue to grow at present rates, CO₂ concentration in the atmosphere is likely to reach twice pre-industrial levels by around 2050. Unless we limit emissions, global temperature could rise as much as 7 °C by the end of the century and push many of the world's great ecosystems (such as coral reefs and rainforests) into irreversible decline.

Even if global temperatures rise by only 2 °C, it would mean that 20–30% of species face extinction and health problems. We can expect to see serious effects on our environment and to our food and water supplies.

Predicted global temperature increases



Turn over ►

Section C

Answer **one** question, **either** Question 5 **or** Question 6.
Write your answers in the spaces provided on pages 8 to 19 of the answer booklet.
There are a total of 30 marks for either question.

Either

- 5 Look at the items below and then answer the following questions.

Item D



Item E



Item F



Item G



- 5 (a) Identify **four** reasons why Physical Education should be taught to all children in UK secondary schools. (4 marks)

- 5 (b) 'According to statistics, the number of children **not** participating in sports is continually rising across the EU. Computers and video games are considered as the principal reason why young people drop sports completely.'

Explain what could be done by the Government in the UK to encourage more young people to participate in sporting activities. (8 marks)

- 5 (c) Britain's 'golden decade of sport' has begun. It started in 2010 with the Golf Ryder Cup in Wales. In 2012, the Olympic Games will be held in London. In 2014, Scotland will host the Commonwealth Games in Glasgow and the Golf Ryder Cup at Gleneagles. The Rugby World Cup follows in 2015 with the Cricket World Cup in 2019.

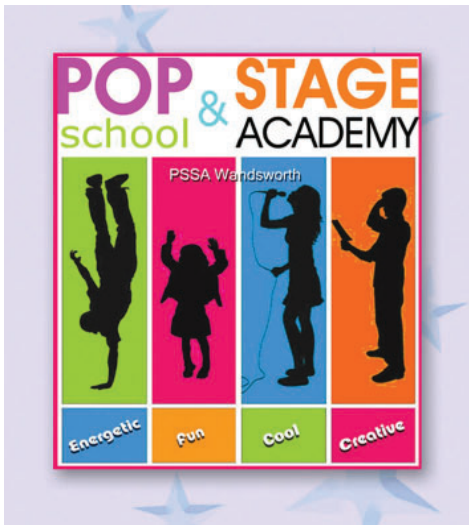
Discuss the advantages **and** disadvantages to Britain of hosting such important global sporting events.

In your answer you may wish to consider: facilities, tourism and security, as well as ideas of your own. (18 marks)

Or

- 6 Look at the items below and then answer the following questions.

Item H



Item I



Item J



Item K



- 6 (a) Identify **four** factors that might make people choose **not** to go to the cinema. (4 marks)

- 6 (b) 'UK cinema attendance began a steady decline in the 1970s. However, recent figures show a marked increase from 84 million in 1988 to 164 million in 2008.'

Explain the reasons behind such a significant increase in UK cinema attendance figures. (8 marks)

- 6 (c) 'It is estimated that two-thirds of people aged 15–25 attend the cinema these days, while fewer than one in ten attend the theatre, ballet, opera or contemporary dance performances.'

Explain why so few people in this age group attend these 'live' performances **and** suggest what could be done to increase their interest and attendance.

In your answer you may wish to consider: cost, expectations and education, as well as ideas of your own. (18 marks)

END OF QUESTIONS

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There are no questions printed on this page

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Section A

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 A10: Image of box, © Thinkstock 2011
 A15/16: Extract from *What I Believe* (1925), © The Bertrand Russell Peace Foundation Ltd, imprinted by Taylor & Francis, 1995
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 A27/28: Image from the Association of Air Ambulances
 A29/30: EU expenditure chart, © European Union, 1995-2011

Section B

- Item A: Adapted from an article by TOM MCGHIE, *The Mail on Sunday*, © Associated Newspapers Ltd., January 2010
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 Image of Loft Insulation, DORLING KINDERSLEY © Getty Images
- Items B and C: © Crown copyright • www.metoffice.gov.uk
 Image of Coal-fired Power Station: JEREMY WALKER © Getty Images
 Image of Global Temperature Increases: Climate Change 2007, The Physical Science Basis. Working Group 1
 Contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Fig 10.8. Cambridge University Press

Section C

- Item D: PE Group, ALISTAIR BERG © Getty Images
 Item E: Girl playing videogames, © Science Faction/Superstock
 Item F: Royal Mail Stamps, Rugby World Cup 2003, AFP/Getty Images
 Item G: Jessica Ennis, IAAF World Athletics Championship 2009, © Getty Images
 Item H: The Pop School and Stage Academy, www.pssa.co.uk
 Item I: Rock Challenge 2008, Courtesy of NICK SCOTT Photography
 Item J: Camarthen 3D Apollo Cinema
 Item K: Islington Youth Theatre, Photo by NED GLASIER. © Islington Community Theatre 2009

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