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Surname	Other names
Centre Number	Candidate Number
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Edexcel GCE	
General Studies	
Advanced Subsidiary	
Unit 1: Challenges for Society	
Tuesday 18 May 2010 – Morning Time: 1 hour 30 minutes	Paper Reference 6GS01/01
You must have: Insert (enclosed) Calculator	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.
- 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 with your spelling, punctuation, grammar and clarity of expression.*

Advice

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

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SECTION A

Answer ALL questions.

You should aim to spend no more than 20 minutes on this section.

Choose an answer A, B, C or D, and put a cross in the box ☒.

**If you change your mind, put a line through the box ~~☒~~
and then mark your new answer with a cross ☒.**

Use the information below to help you answer questions 1 to 4.

Organ research being hindered by red tape

British scientists involved in research to grow replacement organs for human transplant have moved their work to the USA. The research on genetically modified pigs, carried out by a private company called Atazoa and led by the fertility expert Professor Robert Winston, stalled after government restrictions barred the work. If the work is successful, the pigs, which have hearts and kidneys almost identical in size and shape to human ones, could provide healthy new organs for thousands of Britons on the NHS organ waiting list.

“One of the biggest problems in Britain is the regulatory framework so it has been very difficult to get this sort of work going,” Professor Winston said. The scientists faced a delay of 13 months in obtaining a Home Office licence to inject six pigs with a test gene. They were then told that they were not permitted to return the pigs to agricultural land to breed them. The team has now decided to pursue the work in Missouri, USA.

Source: adapted from Ian Sample, Science Correspondent, *The Guardian*, 11 September 2007

1 The sentence “British scientists involved in research to grow replacement organs for human transplant have moved their work to the USA” contains

- A** only facts
- B** only opinions
- C** a mixture of facts and opinions
- D** no facts or opinions

(Total for Question 1 = 1 mark)



2 The argument, as it appears in the passage, that "One of the biggest problems in Britain is the regulatory framework so it has been very difficult to get this sort of work going" is best described as

- A an argument by analogy
- B an argument by deduction
- C an argument from cause
- D an argument from authority

(Total for Question 2 = 1 mark)

3 Which one of the following is the **least** likely reason for government restrictions on animal research in this case?

- A Concern about the high cost of animal research
- B Concern about the use of animal organs in human transplants
- C Concern about the welfare of animals
- D Concern about the long-term impact of GM organisms

(Total for Question 3 = 1 mark)

4 Which one of these conclusions is justified by the evidence in the passage?

- A Human donors for organ transplant are no longer needed
- B The NHS will not fund transplants from animals to humans
- C There are not enough human organ donors
- D Pigs are the only mammals suitable for providing organs for human transplant

(Total for Question 4 = 1 mark)

5 Which one of these is **not** a source of funding for cancer research in the UK?

- A Private companies
- B Central government
- C Charities
- D Local councils

(Total for Question 5 = 1 mark)



6 Many councils now collect biodegradable household waste separately because biodegradable waste

- A must be buried in landfill sites separately from other waste
- B will not decompose properly if buried with other waste
- C can be composted instead of being buried
- D is a health hazard if not collected quickly

(Total for Question 6 = 1 mark)

7 Which one of these statements best describes the relationship between climate change and global warming?

- A Climate change causes global warming
- B Global warming causes climate change
- C There is no link between global warming and climate change
- D Global warming and climate change mean the same thing

(Total for Question 7 = 1 mark)

8 A principle of Utilitarianism is that

- A all people should be treated in the same way in all circumstances
- B moral judgements should be based on the consequences of actions
- C people should never inflict pain or distress on others
- D there should be a fixed set of rules about what is wrong or right

(Total for Question 8 = 1 mark)

9 Which one of these statements suggests that the UK is **not** a secular society?

- A Religious groups can register as charities
- B There are 26 Church of England Bishops in the House of Lords
- C The Church of England is one of the largest landowners in the UK
- D Marriages can be conducted and registered in a church

(Total for Question 9 = 1 mark)



10 The European Convention on Human Rights and the UK Human Rights Act guarantee the right to

- A join a trade union
- B attend a university
- C receive free medical care
- D work for a minimum wage

(Total for Question 10 = 1 mark)

11 Fox hunting with hounds was banned in the UK because

- A the fox population had fallen dramatically
- B it was an inefficient way of controlling the fox population
- C it caused foxes to suffer unnecessarily
- D it was cheaper to shoot foxes

(Total for Question 11 = 1 mark)

12 The "rule of law" means that

- A people are always prosecuted if they commit an offence
- B everyone has to receive the same punishment for the same offence
- C only laws passed by parliament are valid
- D the laws of a state apply to all its citizens equally

(Total for Question 12 = 1 mark)

13 Which one of these offences is **most** likely to be dealt with by issuing an ASBO?

- A Carrying a knife
- B Driving without insurance
- C Organising an illegal rave
- D Possession of cannabis

(Total for Question 13 = 1 mark)



14 Which one of these is **not** a **purpose** of penalties imposed by courts?

- A Deterrence
- B Rehabilitation
- C Retribution
- D Imprisonment

(Total for Question 14 = 1 mark)

Use the information below to help you answer questions 15 to 20.

Fall in MMR Vaccinations Linked to Rise in Measles Cases

In 1987, a year before the introduction of the MMR vaccine, there were 86,000 cases of measles amongst children in the UK, including 16 fatal cases. A study of 12 autistic children in 1998 led to an article in a medical journal proposing the hypothesis that there was a link between the MMR vaccine and autism.

- 5 This has not been supported by any evidence from numerous large-scale studies, yet concerns remain in the minds of some parents. The number of measles cases is now on the rise at an alarming rate. From just 56 reported cases in 1998, the number soared to 990 in 2007 and 1348 in 2008, with a disproportionately large number of 600 cases in London alone. During the
- 10 same period the percentage of children vaccinated fell from 92% to less than 80%, compared to the figure of 95% needed to achieve herd immunity. If the level of vaccinations continues to fall we can expect further large rises in the number of measles cases.

15 The sentence "The number of measles cases is now on the rise at an alarming rate" contains

- A only facts
- B only opinions
- C a mixture of facts and opinions
- D no facts or opinions

(Total for Question 15 = 1 mark)

16 To the nearest 1% what is the increase in measles cases between 2007 and 2008?

- A 27%
- B 36%
- C 63%
- D 73%

(Total for Question 16 = 1 mark)



17 The number of measles cases in London is described as “disproportionately large” (line 9). What additional information would be needed to confirm this?

- A The number of measles cases which occurred outside London
- B The number of people who live in London
- C The percentage of measles cases which occurred outside London
- D The percentage of people who live in London

(Total for Question 17 = 1 mark)

18 The “...link between the MMR vaccine and autism...”(line 4) is described as an hypothesis because the original research

- A was based on a small sample
- B was carried out by doctors not scientists
- C did not provide evidence to support any causal link
- D did not include a control group

(Total for Question 18 = 1 mark)

19 The argument that “If the level of vaccinations continues to fall we can expect further large rises in the number of measles cases” is best described as

- A an argument by induction
- B an argument by deduction
- C an argument from authority
- D an argument by analogy

(Total for Question 19 = 1 mark)

20 “Herd immunity”(line 11) means that

- A in any large group there is a limit on the number of people who can catch a disease, because some will already be immune
- B it is more difficult for a disease to spread, because a carrier of the disease is less likely to come into contact with another unvaccinated person
- C the organism causing the disease changes as it passes from person to person, until it is no longer infectious
- D people who live in crowded places, such as cities, are more likely to catch the disease than people who live in the countryside

(Total for Question 20 = 1 mark)

TOTAL FOR SECTION A = 20 MARKS



N 3 5 8 6 8 A 0 7 2 0

SECTION B

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 21 to 29.

21 Using the information in the bar chart, estimate the percentage of electricity which is generated using fossil fuels.

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(Total for Question 21 = 1 mark)

22 Give one advantage and one disadvantage of presenting information in the form of a bar chart.

Advantage

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Disadvantage

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(Total for Question 22 = 2 marks)



23 (a) Identify three different renewable energy sources mentioned in the passage.

(2)

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(b) Name one renewable energy source **not** mentioned in the passage.

(1)

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(Total for Question 23 = 3 marks)



24 Use the information in paragraph 3 to calculate the total electrical power produced in the UK.

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(Total for Question 24 = 3 marks)

25 Write out an argument from analogy which appears in paragraph 3.

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(Total for Question 25 = 1 mark)



26 (a) What is meant by “carbon offsetting”?

(2)

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(b) Give an example of carbon offsetting **not** mentioned in the passage.

(1)

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(Total for Question 26 = 3 marks)

27 Why might a pumped storage scheme which uses electricity to pump water uphill be useful when used together with many renewable energy sources?

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(Total for Question 27 = 2 marks)



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TURN OVER FOR QUESTION 31



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Edexcel GCE

General Studies

Advanced Subsidiary

Unit 1: Challenges for Society

Tuesday 18 May 2010 – Morning

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Paper Reference

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the question paper.**

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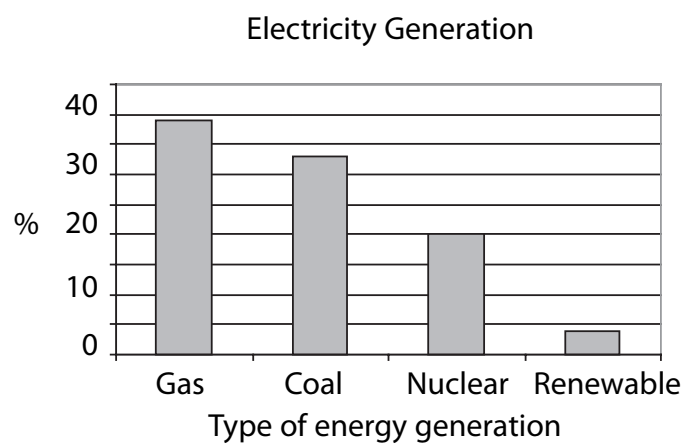
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Source material

Source 1

Swimming with the Tide

A major challenge faces us if we are to meet Britain's commitment to reduce carbon emissions by 15% by 2020, and by a staggering 60% by 2050. As the chart shows, the majority of our electricity comes from burning coal and gas with just a paltry 4% from renewables, and we can only reduce our carbon emissions if we replace existing power stations with renewable energy sources.



Existing renewable options have their problems. Wind power is intermittent, and arguments persist about whether the carbon emissions saved over the lifetime of a wind turbine exceed the amount of carbon emitted during the manufacture of the turbine. The technology for wave power is still at an early stage of development and also cannot give a guaranteed supply of energy when it is needed. Hydroelectric and pumped storage schemes are limited to a few mountainous areas of Wales and Scotland and are dependent on rainfall which may decrease as global temperatures rise.

However, none of these problems apply to a scheme which could supply 5% of our electricity. A tidal barrage across the river Severn would act like a large dam. When the tide was high water would pass through the barrage. When the tide receded, water would flow out through turbines, producing electricity in known quantities and at known times. The cost would be enormous, possibly in excess of £15 billion, making the scheme by far the largest civil engineering project since the Channel Tunnel. But, like the tunnel, it is hoped that the project would lead to economic regeneration in local communities as well as generating 7000 MW, the same amount of electricity as 4 large conventional power stations. While the cost and time needed to build a barrage would both be high, it is estimated that the barrage would generate enough electricity during its first 6 months of operation to compensate for the carbon emitted during construction. This would be carbon offsetting on a grand scale.

As you would expect, the Severn barrage attracts much opposition from environmentalists. They argue that a barrage would destroy mudflats in the Severn estuary which provide a habitat for an estimated 80,000 birds and various other wildlife. It may be possible to modify the barrage scheme to reduce the environmental impact, but this would probably be at the cost of reducing the gain in renewable energy.

It's simple. These NIMBY environmentalists need to wake up and smell the coffee. They will not have a back yard to worry about unless we start to take our commitments to reducing carbon emissions seriously. The sooner the barrage is built the better.