OCR
Oxford Cambridge and RSA

AS Level Geography

H081/02 Geographical debates

Friday 19 May 2017 – Afternoon

Time allowed: 1 hour 30 minutes

You must have:
- the Resource Booklet (inserted)
- the OCR 12-page Answer Booklet (OCR12 sent with general stationery)

You may use:
- a ruler (cm/mm)
- a scientific and graphical calculator

INSTRUCTIONS
- The Resource Booklet will be found inside this document.
- Use black ink. You may use an HB pencil for graphs and diagrams.
- Section A: Choose **one** topic and answer **all** parts of the question in the topic.
- Section B – Synoptic questions: Choose **one** topic and answer **all** parts of the question in the topic. You must use your knowledge and understanding from across the course of study to answer these questions.
- Section C: Choose **one** topic and answer **one** question in the topic.
- Write your answer to each question in the Answer Booklet.
- Do **not** write in the barcodes.

INFORMATION
- The total mark for this paper is **68**.
- The marks for each question are shown in brackets **[ ]**.
- Quality of extended responses will be assessed in questions marked with an asterisk (*****).
- This document consists of **12** pages.

Section A

Choose **one** topic and answer **all** parts of the question in the topic.

Topic 2.1 Climate Change

1 **(a)** Explain how solar output influences climate change.

[4]

(b) Suggest how additional greenhouse gases entering the atmosphere enhance the natural greenhouse effect.

[6]

(c) Study **Table 1**, which shows annual methane gas emissions from human activities 1860–2010.

Year	1860	1880	1900	1920	1940	1960	1980	2000	2010
Methane gas emissions[1]	79	98	95	137	162	221	319	389	442

[1] *Methane gas emissions in teragrams (Tg) 1 teragram = 1 billion kilograms*

Table 1 Annual methane gas emissions from human activities 1860–2010

(i) Using the methane gas emissions data above, calculate the median and mean values. You must show your working. Give your answer correct to 1 decimal place for the value of the mean.

[4]

(ii) Using evidence from the table above, analyse reasons for changes in methane gas emitted from human activities.

[6]

(d) 'Dealing with the human causes of climate change relies on international agreements.' How far do you agree with this statement?

[12]

Topic 2.2 Disease Dilemmas

2 **(a)** Explain how contagious and non-contagious diseases spread.

[4]

(b) Suggest why outbreaks of some diseases are influenced by climatic seasons.

[6]

(c) Study **Table 2**, which shows the % of infants (< 5 years) vaccinated against hepatitis B[1] in selected countries in 2014.

Country	Belgium	Chad	Equatorial Guinea	Malaysia	Mexico	Nigeria	Pakistan	USA	Zambia
% infants vaccinated	98	46	24	96	84	66	73	90	86

[1] *hepatitis B is an infectious disease which affects the liver.*

Table 2 Percentage of infants (< 5 years) vaccinated against hepatitis B in selected countries in 2014

(i) Using the vaccination data above, calculate the median and mean values. You must show your working. Give your answer correct to 1 decimal place for the value of the mean.

[4]

(ii) Using evidence from the table above, analyse reasons for contrasts in the % of infants vaccinated.

[6]

(d) 'The spread of a communicable disease is mainly due to environmental factors.' To what extent do you agree with this statement?

[12]

Topic 2.3 Exploring Oceans

3 **(a)** Explain the pattern of circulation in the North Atlantic.

[4]

(b) Suggest why ocean acidification has impacts for people.

[6]

(c) Study **Table 3**, which shows the number of observed oil spills in the Baltic Sea for selected years 1990–2015.

Year	1990	1995	2000	2003	2005	2008	2010	2012	2015
Number of observed oil spills	415	650	480	280	220	202	150	145	130

Table 3 Number of observed oil spills in the Baltic Sea for selected years 1990–2015

(i) Using the oil spill data above, calculate the median and mean values. You must show your working. Give your answer correct to 1 decimal place for the value of the mean.

[4]

(ii) Using evidence from the table above, analyse reasons for changes in the number of oil spills observed.

[6]

(d) To what extent can ocean resources be managed by governments?

[12]

Topic 2.4 Future of Food

4 **(a)** Explain the differences between intensive and extensive methods of food production.

[4]

(b) Suggest why systems of land ownership impact on food security.

[6]

(c) Study **Table 4**, which shows cereal production for selected countries, 2014.

Country	Belgium	Brazil	Chad	India	Mexico	Poland	Somalia	Uganda	USA
Cereal produced[1]	9539	4641	941	2981	3582	4268	730	2019	7637

[1] *cereal production in kilograms per hectare*

Table 4 Cereal production for selected countries, 2014

(i) Using the cereal production data above, calculate the mean and median values. You must show your working. Give your answer correct to 1 decimal place for the value of the mean.

[4]

(ii) Using evidence from the table above, analyse reasons for contrasts in cereal production.

[6]

(d) 'The level of economic development is the key influence on food security of places.' How far do you agree with this statement?

[12]

Topic 2.5 Hazardous Earth

5 **(a)** Explain the differences between explosive and effusive eruptions.

[4]

(b) Suggest why flooding can result from earthquake activity.

[6]

(c) Study **Table 5**, which shows the distribution of very small ash particles from the vent of the Eyjafjallajökull volcano, Iceland 2010.

Distance from vent (km)	1	2	5	10	21	30	56	58	60
% of very small ash particles	11	15	17	19	26	29	45	51	70

Table 5 Distribution of very small ash particles from the vent of the Eyjafjallajökull volcano, Iceland 2010

(i) Using the % of very small ash particles data above, calculate the median and mean values. You must show your working. Give your answer correct to 1 decimal place for the value of the mean.

[4]

(ii) Using evidence from the table above, analyse reasons for changes in the % of very small ash particles observed.

[6]

(d) Discuss the extent to which risks posed by tectonic hazards have reduced over time.

[12]

Section B – Synoptic questions

Choose **one** topic and answer **all** parts of the question in the topic. You must use your knowledge and understanding from across the course of study to answer these questions.

Topic 2.1 Climate Change

6 **(a)** With reference to **Fig. 1**, suggest how climate change can impact on the natural characteristics of places.

[8]

(b) Examine how climate change can influence flows of energy and materials through landscape systems.

[8]

Topic 2.2 Disease Dilemmas

7 **(a)** With reference to **Fig. 2**, suggest how social inequality can influence risks from disease in places.

[8]

(b) Examine how physical factors influencing landscape systems can increase the spread of disease.

[8]

Topic 2.3 Exploring Oceans

8 **(a)** With reference to **Fig. 3**, suggest how geology can influence both landscape systems and ocean basins.

[8]

(b) Examine how changes to the extent of sea ice might affect place profiles.

[8]

Topic 2.4 Future of Food

9 **(a)** With reference to **Fig. 4**, suggest how food production methods can impact on human characteristics of places.

[8]

(b) Examine how physical factors affecting landscape systems can influence food production.

[8]

Topic 2.5 Hazardous Earth

10 **(a)** With reference to **Fig. 5**, suggest how tectonic hazards can influence the informal representation of a place.

[8]

(b) Examine how volcanic and earthquake activity can influence landscape systems.

[8]

Section C

Choose **one** topic and answer **one** question in the topic.

Topic 2.1 Climate Change

11* **'**The impacts of climate change will increase global poverty and inequality.'
How far do you agree with this statement?

[20]

Or

12* 'Current levels of anthropogenic greenhouse gas (GHG) emissions are largely from EDCs.'
How far do you agree?

[20]

Topic 2.2 Disease Dilemmas

13* Examine the link between levels of economic development and the prevalence of noncommunicable diseases.

[20]

Or

14* Assess the effectiveness of strategies to deal with disease risk and eradication.

[20]

Topic 2.3 Exploring Oceans

15* Examine the extent to which globalisation has affected the use of oceans.

[20]

Or

16* Assess the effectiveness of stakeholders in the use and management of one renewable biological resource.

[20]

Topic 2.4 Future of Food

17* Examine the extent to which food security can impact on the physical environment.

[20]

Or

18* 'Increased risks to food security from desertification are due to human activities.'
To what extent do you agree with this statement?

[20]

Topic 2.5 Hazardous Earth

19* Assess how effectively hazards from volcanic eruptions are managed in countries with contrasting levels of economic development.

[20]

Or

20* Assess the extent to which impacts from earthquake activity vary across countries with contrasting levels of economic development.

[20]

END OF QUESTION PAPER

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