OCR
Oxford Cambridge and RSA

AS Level Geography

H081/02 Geographical debates

Thursday 24 May 2018 – Morning

Time allowed: 1 hour 30 minutes

7006727418

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 or 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 answers in the Answer Booklet. The question number(s) must be clearly shown.
- 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 **8** pages.

Section A

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

Topic 2.1 Climate Change

1 **(a)** Explain two methods used to reconstruct past climates.

[4]

(b) Suggest how changes in atmospheric factors influence the global mean energy balance.

[6]

(c) Study **Fig. 1**, which shows carbon dioxide emissions in 2013 (metric tons per capita) for a number of countries, and one stage of the standard deviation calculation.

(i) Using the data from **Fig. 1** and the formula provided, calculate the standard deviation value. You must show your working. Give your answer correct to 1 decimal place.

[4]

(ii) Using evidence from **Fig. 1**, analyse reasons for differences in carbon dioxide emissions between countries.

[6]

(d) 'The media is as influential in the climate change debate as scientific evidence.' How far do you agree with this statement?

[12]

Topic 2.2 Disease Dilemmas

2 **(a)** Explain two ways physical barriers negatively affect disease mitigation.

[4]

(b) Suggest how rising standards of living influence a country's epidemiological transition.

[6]

(c) Study **Fig. 2**, which shows neonatal mortality rates per 1000 live births in 2013 for a number of countries, and one stage of the standard deviation calculation.

(i) Using the data from **Fig. 2** and the formula provided, calculate the standard deviation value. You must show your working. Give your answer correct to 1 decimal place.

[4]

(ii) Using evidence from **Fig. 2**, analyse reasons for differences in neonatal mortality rates between countries.

[6]

(d) 'Disease vectors are influenced more by physical factors than by human factors.' How far do you agree with this statement?

[12]

Topic 2.3 Exploring Oceans

3 **(a)** Explain two ways ocean ecosystems are influenced by changes in temperature.

[4]

(b) Suggest how pollution can impact marine organisms.

[6]

(c) Study **Fig. 3**, which shows the amount of cargo imported via oceans (in millions TEUs) in 2014 for a number of countries, and one stage of the standard deviation calculation.

(i) Using the data from **Fig. 3** and the formula provided, calculate the standard deviation value. You must show your working. Give your answer correct to 1 decimal place.

[4]

(ii) Using evidence from **Fig. 3**, analyse reasons for differences in the amount of cargo imported via oceans between countries.

[6]

(d) 'Treating the oceans as 'global commons' has been detrimental to them.' How far do you agree with this statement?

[12]

Topic 2.4 Future of Food

4 **(a)** Explain two ways globalisation of the food industry has created opportunities.

[4]

(b) Suggest why the pattern of food security within a country is dynamic.

[6]

(c) Study **Fig. 4**, which shows the Global Food Security Index score in 2016 for a number of countries, and one stage of the standard deviation calculation.

(i) Using the data from **Fig. 4** and the formula provided, calculate the standard deviation value. You must show your working. Give your answer correct to 1 decimal place.

[4]

(ii) Using evidence from **Fig. 4,** analyse reasons for differences in the Global Food Security Index score between countries.

[6]

(d) 'Food security is most likely to be affected by human factors.' How far do you agree with this statement?

[12]

Topic 2.5 Hazardous Earth

5 **(a)** Explain two pieces of evidence that support the theory of continental drift.

[4]

(b) Suggest how volcanic hazards are affected by types of volcanic eruption.

[6]

(c) Study **Fig. 5**, which shows the number of deaths from volcanoes in thousands from 1900 – 2014 for a number of countries, and one stage of the standard deviation calculation.

(i) Using the data from **Fig. 5** and the formula provided, calculate the standard deviation value. You must show your working. Give your answer correct to 1 decimal place.

[4]

(ii) Using evidence from **Fig. 5**, analyse reasons for differences in the number of deaths from volcanoes between countries.

[6]

(d) 'Volcanic hazards are easier to manage than earthquake hazards.' How far do you agree with this statement?

[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. 6**, suggest how the impact of climate change on landscape systems might vary globally.

[8]

(b) Examine how climate change could influence the informal representation of place.

[8]

Topic 2.2 Disease Dilemmas

7 **(a)** With reference to **Fig. 7**, suggest how the healthcare mitigation strategies of organisations might impact social inequality in places.

[8]

(b) Examine how patterns of disease and landscape systems can both be influenced by climatic factors.

[8]

Topic 2.3 Exploring Oceans

8 **(a)** With reference to **Fig. 8**, suggest how oceans are used in determining place profiles.

[8]

(b) Examine how oceans and landscape systems can both be influenced by climate change.

[8]

Topic 2.4 Future of Food

9 **(a)** With reference to **Fig. 9** suggest how food security might be affected by migration to cities.

[8]

(b) Examine how food security can be negatively affected by landscape systems.

[8]

Topic 2.5 Hazardous Earth

10 **(a)** With reference to **Fig. 10**, suggest how tectonically active areas are important in influencing the representation of place.

[8]

(b) Examine how responses to tectonic hazards might be influenced by landscape systems.

[8]

Section C

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

Topic 2.1 Climate Change

11* 'There is strong evidence that the world has warmed since the late-nineteenth century'. To what extent is this true?

[20]

Or

12* Discuss the view that the most effective responses to climate change require more than international directives.

[20]

Topic 2.2 Disease Dilemmas

13* Evaluate the success of mitigation and response strategies for a named noncommunicable disease.

[20]

Or

14* Discuss the view that global mobility makes it more difficult to respond to disease diffusion.

[20]

Topic 2.3 Exploring Oceans

15* To what extent could impacts of climate change on high latitude oceans provide opportunities as well as threats?

[20]

Or

16* Assess the extent to which oceans have become locations of conflict.

[20]

Topic 2.4 Future of Food

17* To what extent are shocks to the food system the result of natural rather than human factors?

[20]

Or

18* 'International co-operation is essential to guarantee future food security for all nations'. Discuss.

[20]

Topic 2.5 Hazardous Earth

19* To what extent are impacts of tectonic activity related to a country's level of development?

[20]

Or

20* Assess the extent to which people's ability to cope with tectonic hazards has changed over time.

[20]

END OF QUESTION PAPER

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Resource Booklet

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Time allowed: 1 hour 30 minutes

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INFORMATION FOR CANDIDATES

- The questions tell you which resources you need to use.
- This document consists of **8** pages.

CONTENTS OF RESOURCE BOOKLET

INSTRUCTIONS TO EXAMS OFFICER/INVIGILATOR

- Do not send this Resource Booklet for marking, it should be retained in the centre or recycled. Please contact OCR copyright should you wish to re-use this document.

Fig. 1 – Table showing carbon dioxide emissions in 2013 (metric tons per capita) and one stage of the standard deviation calculation

Country	CO_2 emissions (metric tons per capita)	$(x - \bar{x})^2$
Argentina	4.5	6.0025
Brazil	2.5	19.8025
Italy	5.7	1.5625
Russia	12.5	30.8025
Saudi Arabia	17.9	119.9025
Sudan	0.3	44.2225
United Kingdom	7.1	0.0225
United States of America	16.4	89.3025
Vietnam	1.7	27.5625
Zimbabwe	0.9	36.6025

$$\textit{Standard Deviation Formula} = \sqrt{\frac{\sum(x - \bar{x})^2}{n}}$$

Fig. 2 – Table showing neonatal mortality* rates per 1000 live births in 2013 and one stage of the standard deviation calculation

Country	Neonatal mortality* rate	$(x - \bar{x})^2$
Afghanistan	36.8	201.0724
Brazil	10.3	151.7824
Chile	5.2	303.4564
Democratic Republic of the Congo	31.2	73.6164
India	29.5	47.3344
Mozambique	28.4	33.4084
Pakistan	47.4	614.0484
Sudan	30.9	68.5584
United Kingdom	2.7	396.8064
United States of America	3.8	354.1924

**Number of deaths during the first 28 days of life per 1000 live births*

$$\textit{Standard Deviation Formula} = \sqrt{\frac{\sum(x - \bar{x})^2}{n}}$$

Fig. 3 – Table showing amount of cargo imported via oceans (millions TEUs*) in 2014 and one stage of the standard deviation calculation

Country	Amount of cargo imported via oceans (millions TEUs)	$(x - \bar{x})^2$
Australia	2.5	13.8384
China	14.7	71.9104
Germany	3	10.3684
India	2.4	14.5924
Indonesia	3.2	9.1204
Japan	6.6	0.1444
South Korea	5.1	1.2544
United Kingdom	2.6	13.1044
United States of America	19.6	179.0244
Vietnam	2.5	13.8384

**TEU = Twenty-foot Equivalent Unit – a standard shipping container*

$$\textit{Standard Deviation Formula} = \sqrt{\frac{\sum(x - \bar{x})^2}{n}}$$

Fig. 4 – Table showing Global Food Security Index Score in 2016 and one stage of the standard deviation calculation

Country	Global Food Security Index Score	$(x - \bar{x})^2$
Argentina	68.3	151.7824
Bangladesh	36.8	367.8724
Haiti	29.4	706.4964
Indonesia	50.6	28.9444
Qatar	77.5	463.1104
Sudan	34.7	452.8384
Tanzania	36.9	364.0464
United Kingdom	81.9	671.8464
United States of America	86.6	937.5844
Vietnam	57.1	1.2544

$$\textit{Standard Deviation Formula} = \sqrt{\frac{\sum(x - \bar{x})^2}{n}}$$

Fig. 5 – Table showing number of deaths from volcanoes in thousands from 1900 – 2014 and one stage of the standard deviation calculation

Country	Deaths from volcanoes (in thousands)	$(x - \bar{x})^2$
Chile	0.01	2.709316
Costa Rica	0.09	2.452356
Democratic Republic of the Congo	0.4	1.577536
Indonesia	8.3	44.142736
Japan	0.3	1.838736
Mexico	3.5	3.400336
New Zealand	0.2	2.119936
Papua New Guinea	2.9	1.547536
Philippines	0.8	0.732736
United States of America	0.06	2.547216

$$\textit{Standard Deviation Formula} = \sqrt{\frac{\sum (x - \bar{x})^2}{n}}$$

Fig. 6 – World map showing global surface temperature variation in 2016 from the average for 1981 – 2010

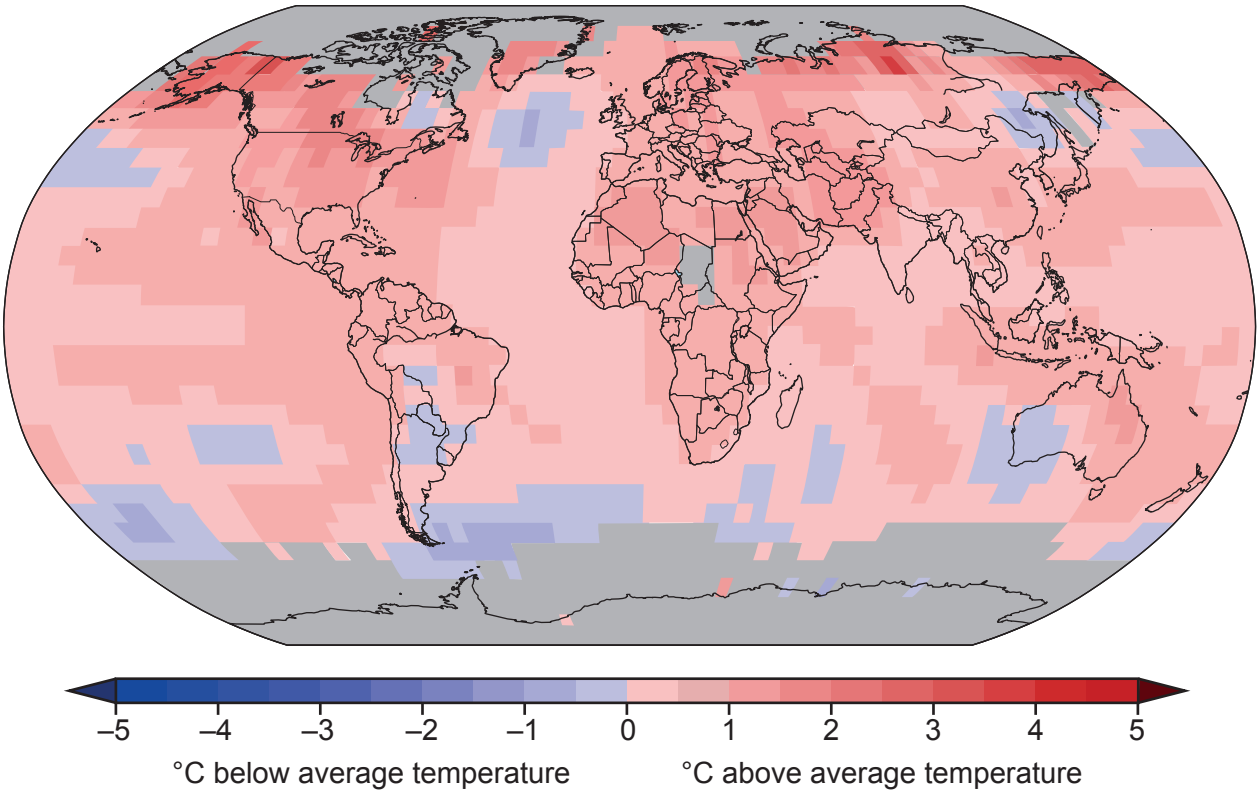

Fig. 7 – Extract from a newspaper linking Federal funding through Obamacare to vaccination and disease

No Funding for Vaccinations?

Health experts warn funding for vaccines may stop if Obamacare ends. Up to one million residents of Illinois stand to lose their health coverage. Concern is not just over the repeal of that section of the Affordable Care Act, say leaders of the Chicago Department of Public Health. They are also worried that the loss of funding will lead to a reduction in vaccination programmes and the ability to deal with outbreaks of disease. The city has spent $12.8 million since 2012 on vaccinating thousands of Chicago residents and educating people on the threat of disease spreading. Without this money from the White House, experts believe that there will not be enough to help the people of the city.

25 January 2017

Fig. 8 – Website extract for the Great Ocean Road

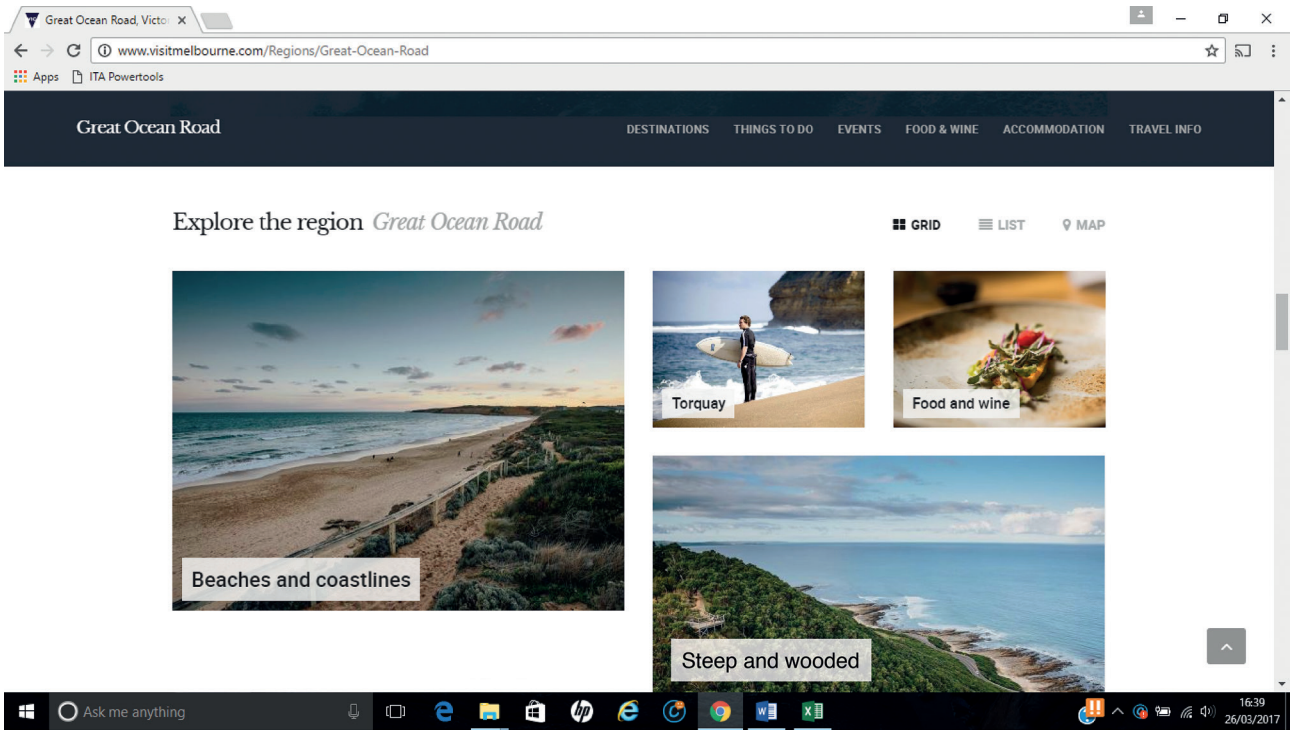

Fig. 9 – Infographic about Global Food Security

Fig. 10 – A photograph showing the active Mount Agung, a volcano in Bali, Indonesia, with fertile land and coastal settlements in the foreground.