

Section A

Choose **one** topic. Answer **all** parts of the question for the topic.

Topic 2.1 Climate Change

- 1 (a) Explain how **two** human activities have increased emissions of different greenhouse gases since the pre-industrial era. [4]
- (b) Examine how the historical background of the global warming debate has evolved over time. [6]
- (c) Study **Fig. 1** which shows projected global temperature increase by 2100.
- (i) Identify evidence from **Fig. 1** that indicates that there is uncertainty regarding the amount of future warming. [4]
- (ii) Using evidence from **Fig. 1**, analyse reasons for the uncertainty that exists in terms of future warming scenarios. [6]
- (d) 'Carbon credits and carbon trading provide the most effective methods for reducing carbon emissions on a global scale.' To what extent do you agree? [12]

Topic 2.2 Disease Dilemmas

- 2 (a) Explain **two** factors that influence the global distribution of tuberculosis. [4]
- (b) Examine how climate change provides conditions for emerging infectious diseases to spread. [6]
- (c) Study **Fig. 2** which shows estimated prevalence of malaria infection during pregnancy in sub-Saharan Africa, 2018.
- (i) Identify evidence that **Fig. 2** lacks accuracy in representing incidence of malaria in sub-Saharan Africa. [4]
- (ii) Using evidence from **Fig. 2**, analyse reasons for variation in prevalence of malaria infection in sub-Saharan Africa. [6]
- (d) To what extent do you agree that NGOs play the most important role in dealing with a disease outbreak? [12]

Topic 2.3 Exploring Oceans

- 3 (a) Explain **two** factors that cause horizontal variation of salinity in the world's oceans. [4]
- (b) Examine how climate change is altering sea level. [6]
- (c) Study **Fig. 3** which shows extent of Arctic sea ice in 1980 and 2019.
- (i) Identify evidence from **Fig. 3** that indicates changes in the extent of Arctic sea ice. [4]
- (ii) Using evidence from **Fig. 3**, analyse reasons for the changes in extent of Arctic sea ice identified in (c)(i). [6]
- (d) 'Off-shore oil exploitation poses greater threats to people than to the environment.' To what extent do you agree? [12]

Topic 2.4 Future of Food

- 4 (a) Explain **two** political factors that might cause inequality in food security. [4]
- (b) Examine how the food security of an indigenous group living in an extreme environment can be threatened. [6]
- (c) Study **Fig. 4** which shows production of three types of vegetable in selected European countries, 2017.
- (i) Identify evidence from **Fig. 4** that indicates differences in vegetable production. [4]
- (ii) Using evidence from **Fig. 4**, analyse reasons for the differences in vegetable production identified in (c)(i). [6]
- (d) 'Human factors are the main cause of increased risk to food security.' Discuss this statement in the context of a **case study** of **one** dryland area. [12]

Topic 2.5 Hazardous Earth

- 5 (a) Explain **two** ways in which the basic structure of the Earth has a role in the theory of plate tectonics. [4]
- (b) Examine how movements of the Earth's crust form mid-oceanic ridges. [6]
- (c) Study **Fig. 5** which shows the VEI (Volcanic Explosive Index).
- (i) Identify evidence from **Fig. 5** that indicates how the VEI measures volcanic activity. [4]
- (ii) Using evidence from **Fig. 5**, analyse reasons for variations in VEI measurements. [6]
- (d) To what extent does the capacity of people to cope with tectonic hazards change over time? [12]

Section B

Choose **one** topic. Answer **all** the parts of the question for 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 recent changes in atmospheric carbon dioxide concentrations may affect **one** landscape system you have studied. [8]
- (b) Examine how a changing climate could have a role in driving economic change in places. [8]

Topic 2.2 Disease Dilemmas

- 7 (a) With reference to **Fig. 7**, suggest how outbreaks of communicable disease might be influenced by shifting flows of people. [8]
- (b) Examine how prevalence of disease decreases over time through government investment in services. [8]

Topic 2.3 Exploring Oceans

- 8 (a) With reference to **Fig. 8**, suggest how latitudinal variation in average surface temperatures of the world's oceans may influence place identity. [8]
- (b) Examine how acidification of oceans might contribute to economic change in places. [8]

Topic 2.4 Future of Food

- 9 (a) With reference to **Fig. 9**, suggest how changes in the global number of undernourished people may be linked to changes in social inequality. [8]
- (b) Examine how shocks to the food system caused by tectonic hazards can affect place identity. [8]

Topic 2.5 Hazardous Earth

- 10 (a) With reference to **Fig. 10**, suggest how the ground shaking and displacement experienced during an earthquake event may affect **one** landscape system you have studied. [8]
- (b) Examine how earthquake activity could have a role in driving economic change in places. [8]

Section C

Choose **one** topic. Answer **one** question from the topic.

Topic 2.1 Climate Change

11* Examine the view that carbon capture and storage is the most effective mitigation strategy for reducing risks of climate change. [20]

Or

12* 'Rising sea levels offer the most significant evidence for global climate change since the late-nineteenth century.'
How far do you agree with this statement? [20]

Topic 2.2 Disease Dilemmas

13* Evaluate the success of strategies to mitigate against non-communicable diseases. [20]

Or

14* Evaluate the global impact of **one** pharmaceutical transnational corporation in disease eradication. [20]

Topic 2.3 Exploring Oceans

15* With reference to **one** renewable biological resource within oceans, discuss the view that its management has been of limited success. [20]

Or

16* 'Oceans present hazardous obstacles to human activities.'
To what extent do you agree? [20]

Topic 2.4 Future of Food

17* 'Attempts to increase food production have only beneficial impacts on people and the physical environment.'
To what extent do you agree? [20]

Or

18* 'Small-scale bottom up approaches are the most effective way to improve food security.'
To what extent do you agree? [20]

Topic 2.5 Hazardous Earth

19* To what extent have risks from tectonic hazards changed over time? [20]

Or

20* 'Volcanic eruptions at convergent (destructive) plate boundaries are more hazardous than volcanic eruptions elsewhere.'
How far do you agree with this statement? [20]

END OF QUESTION PAPER

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