GCE A LEVEL

1110U30-1

S23-1110U30-1

TUESDAY, 6 JUNE 2023 – MORNING

GEOGRAPHY – A2 unit 3
Global Systems and Global Governance

2 hours

1110U301
01

ADDITIONAL MATERIALS

A WJEC pink 16-page answer booklet.

A calculator.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

Write your answers in the separate answer booklet provided.

Write your name, centre number and candidate number in the spaces at the top of the answer booklet.

Answer questions 1 **and** 2 and **either** 3 **or** 4 in Section A.

Answer questions 5 **and** 6 and **either** 7 **or** 8 in Section B.

Answer **one** question in Section C.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [ ] at the end of each question or part-question; you are advised to divide your time accordingly.

This paper requires that you make as full use as possible of appropriate examples and reference to data to support your answers. Sketch maps and diagrams should be included where relevant.

Section A: Global Systems

Answer questions 1 **and** 2 and **either** 3 **or** 4.

Make the fullest possible use of examples in support of your answers.

Figure 1: Discharge of River Erch at Pencaenewydd on 1st July, 1975–2019

Date	Discharge m^3/s
1975	0.08
1979	0.15
1983	0.21
1987	0.27
1991	0.18
1995	0.12
1999	0.19
2003	0.24
2007	1.52
2011	0.09
2015	0.13
2019	0.68

Source: *https://nrfa.ceh.ac.uk*

1. (a) (i) Use **Figure 1** to calculate the range of the discharge data shown. [1]

(ii) Suggest **one** advantage of using the interquartile range rather than the range to analyse these data. [2]

(b) Describe **one** theory of the formation of precipitation. [4]

Figure 2: Permafrost in the Canadian Arctic

2. (a) Suggest how climate change can impact feedback loops between the water and carbon cycles in areas such as those shown in **Figure 2**. [5]

(b) Describe the relationship between recent increases in the atmospheric carbon store and the energy budget. [5]

Either

3. Assess the effectiveness of recharging aquifers to address the deficit within the water cycle. [18]

Or

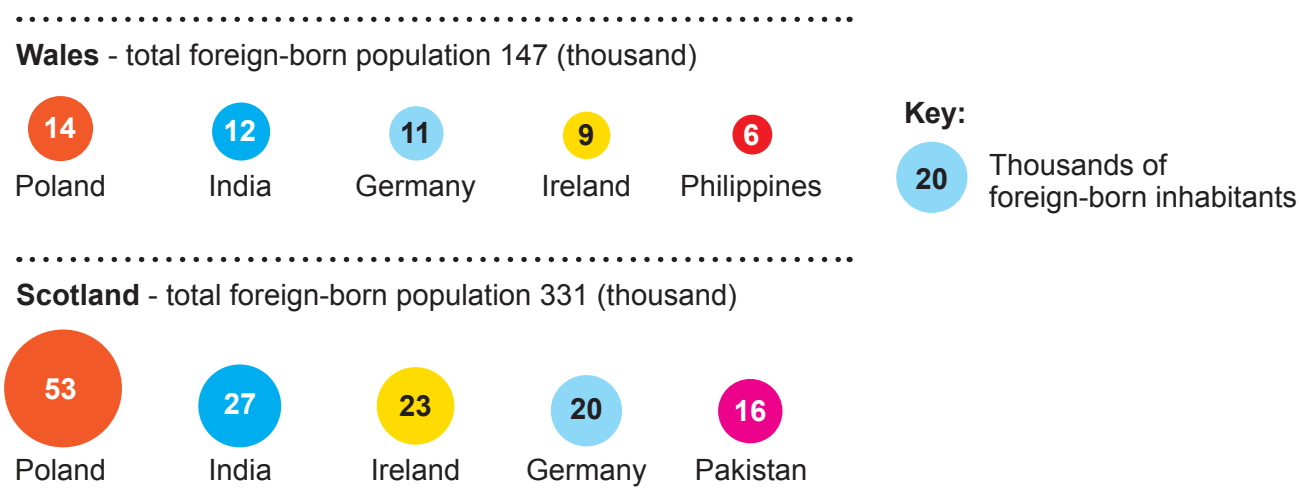
4. Examine reasons for variations in the size of carbon stores in **either** the tropical rainforest **or** temperate grassland biome. [18]

Section B: Global Governance: Change and Challenges

Answer questions 5 **and** 6, and **either** 7 **or** 8.

Make the fullest possible use of examples in support of your answers.

Figure 3: Top five countries of birth of foreign-born inhabitants in Wales and Scotland, 2011



Source: www.theguardian.com

5. (a) Use **Figure 3** to compare the countries of birth of foreign-born inhabitants in Wales and Scotland. [3]

(b) Describe the causes of **one** international refugee movement. [5]

6. (a) Explain why the concept of the Global Commons is applicable to the management of the Earth's oceans. [5]

(b) Outline **one** consequence for poor landlocked countries of unequal access to ocean resources. [4]

Either

7. Examine the relative importance of different causes of rural-urban migration in developing countries. [18]

Or

8. Examine the success of strategies to achieve effective governance of the Earth's oceans. [18]

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Section C: 21st Century Challenges

Answer **either** question 9 **or** question 10.

In your answer to either question 9 **or** 10, you should use the resources in Figures 4, 5 and 6 and apply your knowledge and understanding from across the whole specification.

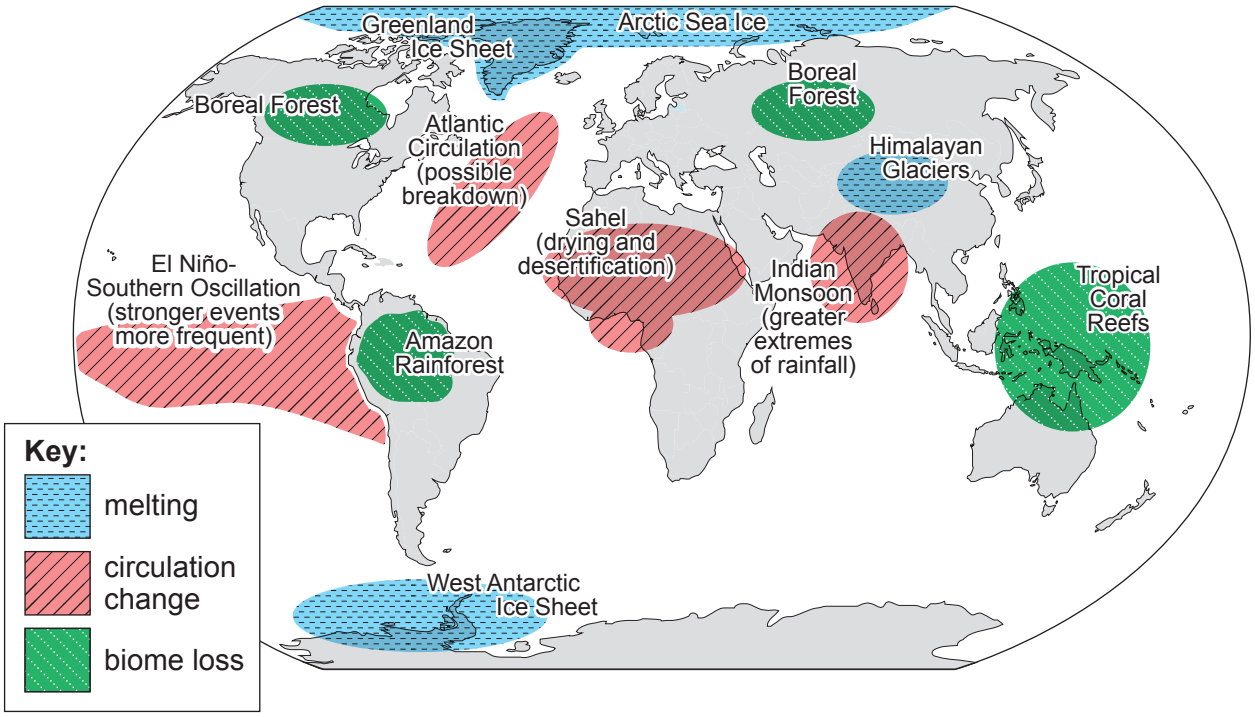
Either

9. Discuss the view that the causes of changes to the Earth's natural systems are mainly physical. [26]

Or

10. Discuss the view that resilience to changes in the Earth's natural systems varies from place to place. [26]

Figure 4: Tipping elements in the Earth's natural systems



Source: *https://files.secure.website/wscfus/8154141/uploads/Tipping_update_hans_schellnhuber.png*

Figure 5: News report following flooding in Pakistan, June 2022

Pakistan floods: UK And Other Countries' Emissions to blame

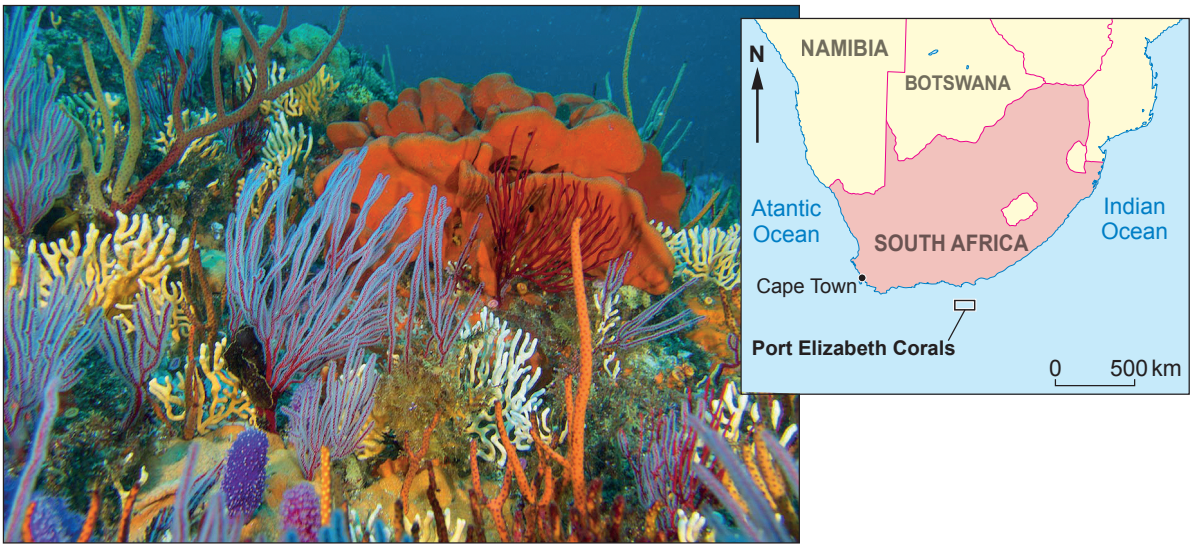
Devastating floods have swept across Pakistan causing more than 1,000 deaths and affecting around 33 million people. The country's government has blamed climate change and called for richer nations to help, immediately, as they are responsible for the global crisis.

Pakistan is particularly vulnerable to climate change because most of the people live along the Indus River, which comes from the Himalayas. It often floods during the monsoon season, and these overflows have been worsening with the climate crisis in recent years.

The country is determined for wealthier nations to pay for the crisis because, according to Pakistan's planning minister Ahsan Iqbal, its "carbon footprint is the lowest in the world". He pointed out that areas which used to receive rainfall are now becoming dry, while the areas which used to have mild rain now flood. One official from the badly hit city of Larkana said "We've never seen such rains in one year.....now we need to think about how we build for the future. How do we even start?"

Source: *https://www.huffingtonpost.co.uk/entry/pakistan-flooding-uk-emissions-to-blame-climate-change_uk*

Figure 6: Port Elizabeth Corals, Marine Protected Area (MPA), South Africa



- Established in 2019, this 270 km^2 protected area is important for a variety of marine species, including Kingklip. This fish is one of South Africa's most valuable but overexploited commercial species.
- The MPA protects an important habitat for corals, including the giant mushroom coral.
- Kingklip populations and the coral ecosystems on which they depend are reliant on the permanent closure of this area to destructive fishing practices.
- Ecotourism is becoming increasingly popular in this area.

Source: *https://www.marineprotectedareas.org.za/port-elizabeth-corals-mpa*

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