OXFORD

INTERNATIONAL
AQA EXAMINATIONS

Please write clearly in block capitals.

Centre number | | | | | | Candidate number | | | | |

Surname _____

Forename(s) _____

Candidate signature _____

I declare this is my own work.

INTERNATIONAL A-LEVEL

GEOGRAPHY

Paper 3 Physical Geography 2

Friday 16 June 2023 07:00 GMT Time allowed: 1 hour 30 minutes

Materials

For this paper you must have:
- a ruler with millimetre measurements
- a calculator, which you are expected to use where appropriate.

Instructions
- Use black ink or black ball-point pen.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- All working must be shown.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information
- The marks for questions are shown in brackets.
- The maximum mark for this paper is 80.
- You may use a bilingual dictionary for this exam.
- You may **not** use an English dictionary.

For Examiner's Use	
Question	Mark
1	
2	
3	
4	
5	
6	
7	
8	
TOTAL	

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Section A – Water, Carbon and Life on Earth

Answer **all** questions in the spaces provided.

You must answer **all** questions in **Section A**.

Only **one** answer per question is allowed.

For each question completely fill in the circle alongside the appropriate answer.

CORRECT METHOD 

WRONG METHODS 

If you want to change your answer you must cross out your original answer as shown. 

If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown. 

0 1 . 1 Which of the following is an example of a positive feedback loop in the carbon cycle?

[1 mark]

A Growing food crops leading to absorption of carbon dioxide, which is released on consumption. ⬭

B Increasing public transport in order to reduce carbon dioxide emissions, which reduces global warming. ⬭

C Reducing deforestation so trees can act as a carbon sink as they photosynthesise, which increases tree growth. ⬭

D Wildfires increase carbon dioxide emissions enhancing global warming, which increases wildfire incidence. ⬭

0 1 . 2 Which of the following major global stores of carbon are found on the deep ocean floor?

[1 mark]

A Atmosphere, biosphere and hydrosphere ⬭

B Atmosphere, hydrosphere and lithosphere ⬭

C Biosphere, cryosphere and lithosphere ⬭

D Biosphere, hydrosphere and lithosphere ⬭

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0 1 . 3 Which of the following would be impacts of intense precipitation on drainage basin stores and transfers?

[1 mark]

A Evapotranspiration and the atmospheric store would increase. ⬭

B Groundwater stores would decrease and overland flow would increase. ⬭

C Runoff would increase, increasing river and lake stores. ⬭

D Soil water stores would increase, reducing runoff. ⬭

0 1 . 4 Carbon exchange between photosynthesis and respiration in a plant is an example of:

[1 mark]

A enhanced greenhouse effect. ⬭

B mass balance. ⬭

C negative feedback loop. ⬭

D positive feedback loop. ⬭

0 1 . 5 Which of the following is an example of carbon sequestration?

[1 mark]

A Burning fossil fuels to release carbon dioxide. ⬭

B Felling trees selectively to reduce carbon losses. ⬭

C Releasing carbon when seashells decompose. ⬭

D Sea creatures capturing and storing carbon in the oceans. ⬭

5

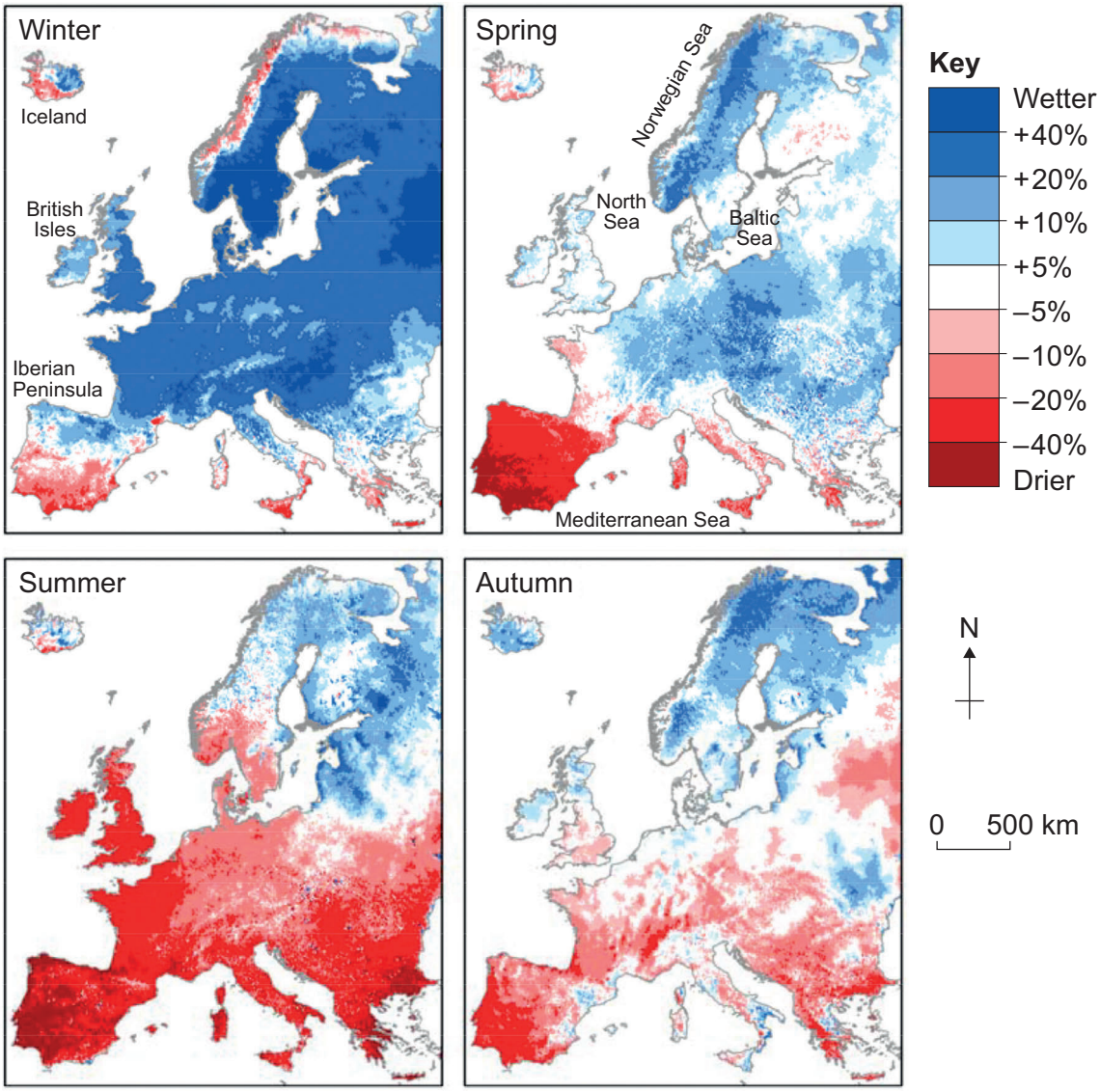
Turn over for the next question

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Figure 1 shows the predicted percentage change in seasonal precipitation for Europe.

It compares predictions for 2071–2100 with actual data for 1961–1990.

Figure 1



Do not write outside the box

0 2 Analyse the predicted changes shown in **Figure 1**.

[6 marks]

Extra space

6

Turn over for the next question

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0 3 Assess the extent to which wildfires cause changes in the carbon cycle.

[9 marks]

Extra space

Do not write outside the box

9

0 4 ‘Changes in water stores have more severe consequences to life on Earth than changes in carbon stores.’

With reference to examples you have studied, to what extent do you agree with this statement?

[20 marks]

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Extra space

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20

END OF SECTION A

Turn over for Section B

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Section B – Ecosystems Under Stress

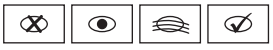
Answer **all** questions in the spaces provided.

You must answer **all** questions in **Section B**.

Only **one** answer per question is allowed.

For each question completely fill in the circle alongside the appropriate answer.

CORRECT METHOD 

WRONG METHODS 

If you want to change your answer you must cross out your original answer as shown. 

If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown. 

0 5 . 1 Which of the following statements are **both** true of tropical rainforests?

[1 mark]

A Annual precipitation totals are between 1000 mm and 1800 mm **and** they are on the eastern side of continents. ⬭

B The average annual temperature is below 25º C **and** there is a large range in temperature each day. ⬭

C There are few seasonal changes in temperature **and** rainfall is usually over 1800 mm. ⬭

D They are mainly located on the Tropic of Cancer **and** the Tropic of Capricorn. ⬭

0 5 . 2 Which of the following statements are **both** ecosystem conservation strategies?

[1 mark]

A A global charity using a panda as its logo **and** creating an urban rooftop garden. ⬭

B Cutting down the rainforest for a new road **and** providing hydroelectric power for new dwellings. ⬭

C Protecting orangutans from deforestation **and** guarding white rhinos. ⬭

D Renovating historic buildings **and** providing a tunnel for turtles under a road. ⬭

Do not write outside the box

0 5 . 3 Which of the following statements are **both** true of savanna grasslands?

[1 mark]

A A deep, weathered, infertile soil **and** the highest biodiversity on Earth. ⬭

B A soil with a thin humus layer **and** herbivores that migrate annually. ⬭

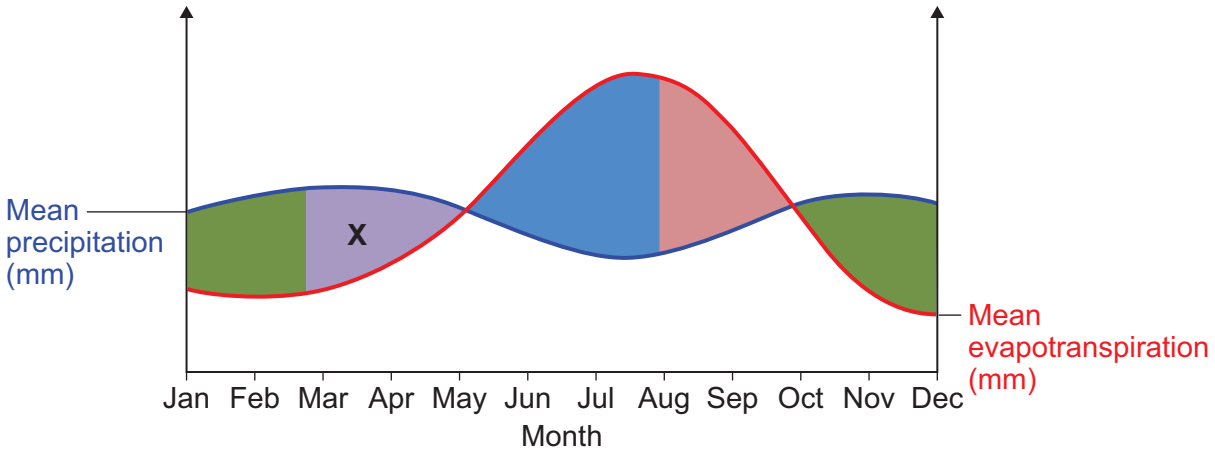
C A tree canopy with three layers **and** impermeable layers in the soil. ⬭

D The seasonal migration of animals due to temperature changes **and** located around the Tropics. ⬭

0 5 . 4 Which of the following represents X in **Figure 2**?

Figure 2

Soil moisture budget diagram



[1 mark]

A Soil moisture deficit ⬭

B Soil moisture recharge ⬭

C Soil moisture surplus ⬭

D Soil moisture utilisation ⬭

Question 5 continues on the next page

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0 5 . 5 Which of the following are **all** stores in mineral nutrient cycling?

[1 mark]

A Atmosphere; soil; photosynthesis ⬭

B Condensation; soil; animals ⬭

C Plants; atmosphere; animals ⬭

D Soil; leaf litter; biomass ⬭

5

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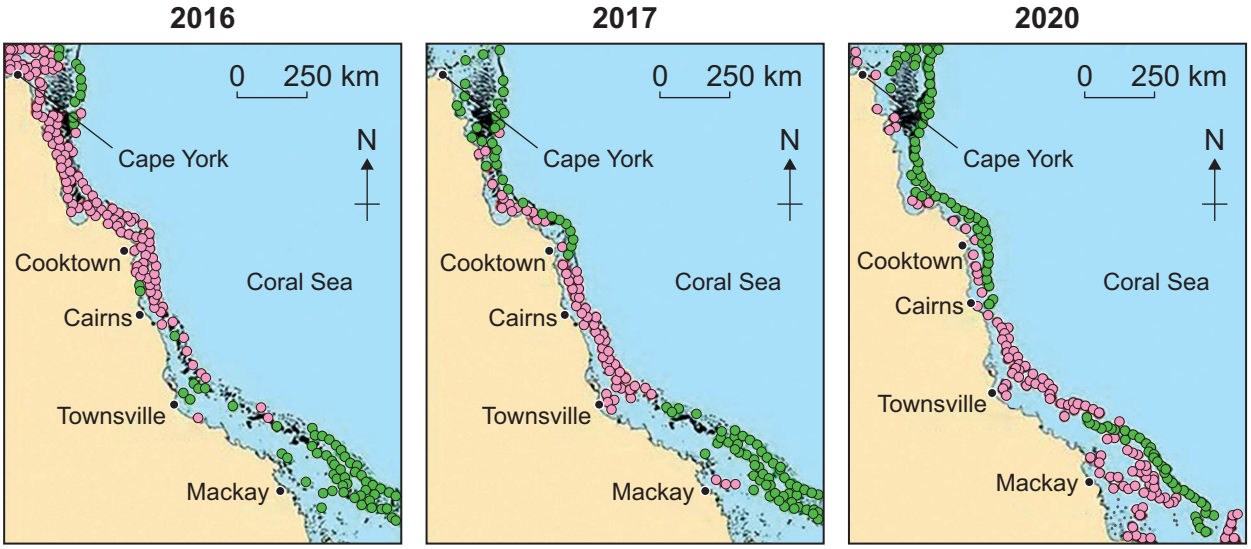
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ANSWER IN THE SPACES PROVIDED

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Figure 3 shows changes in the bleaching of coral on the Great Barrier Reef of Australia for three different years.

Figure 3



0 6 Analyse the data shown in **Figure 3**.

[6 marks]

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Extra space

6

Turn over for the next question

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0 7 ‘Tourism is the human activity with the greatest impact on the health and survival of coral reefs.’

To what extent do you agree with this statement?

[9 marks]

Extra space

Do not write outside the box

9

0 8 ‘The economic character of a community is the most important factor in how successfully people respond to ecological change.’

Evaluate this statement with reference to a **specified region** you have studied.

[20 marks]

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END OF QUESTIONS

20

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