OXFORD AQA

INTERNATIONAL QUALIFICATIONS

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

Wednesday 3 January 2024 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 ‘Water travels down tree trunks or plants towards the soil.’

This is a definition of which of the following?

[1 mark]

A Channel flow

B Evapotranspiration

C Interception

D Stemflow

0 1 . 2 Which of the following are **all** human factors driving change in the carbon cycle over time?

[1 mark]

A Car exhaust emissions; deforestation; farming practices

B Combustion; decomposition of plant material; volcanic activity

C Deforestation; industrial emissions; rock weathering

D Industrial emissions; photosynthesis; respiration

Do not write outside the box

0 1 . 3 In which of the following is most of the Earth's fresh water stored?

[1 mark]

A Atmosphere ⬭

B Cryosphere ⬭

C Hydrosphere ⬭

D Lithosphere ⬭

0 1 . 4 Which of the following describes respiration?

[1 mark]

A Carbon from burning fossil fuels is transferred to the atmosphere. ⬭

B Carbon from living plants and animals is transferred to the atmosphere. ⬭

C Carbon from volcanoes is transferred to the atmosphere. ⬭

D Plants use light from the sun to produce energy. ⬭

0 1 . 5 Which of the following increases overland flow within a drainage basin system?

[1 mark]

A Forested areas intercepting water ⬭

B Gentle slopes increasing the amount of water storage on the ground ⬭

C Heavy rain exceeding infiltration capacity of the soil ⬭

D Permeable rocks encouraging rapid transfer of water ⬭

5

Turn over ▶

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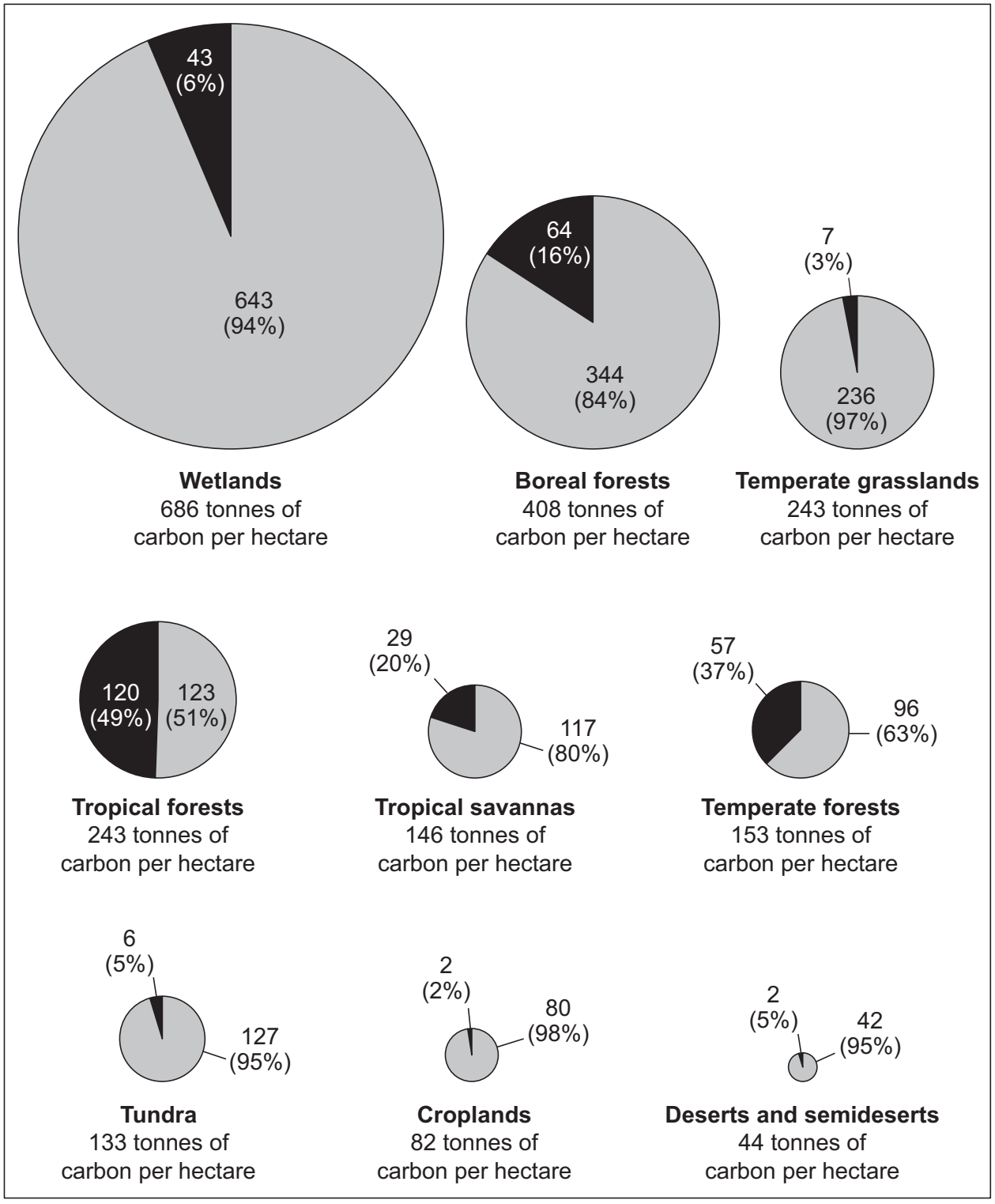
Figure 1 shows stores of carbon in different biomes and land used for agriculture. The values shown are in tonnes of carbon per hectare.

Figure 1



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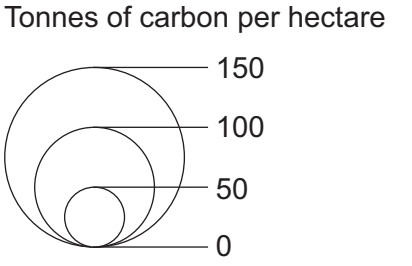
Key

Plant and animal life carbon storage (tonnes of carbon per hectare)

Soil carbon storage (tonnes of carbon per hectare)



0 2 Analyse the information in **Figure 1**.

[6 marks]

Extra space

6

Turn over ▶

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0 3 Explain how land use change can affect the water cycle.

[9 marks]

Extra space

Do not write outside the box

9

0 4 ‘Human activity in tropical rainforests can cause environmental change, affecting the carbon cycle.’

Evaluate the extent to which you agree with this statement.

Use **one or more** examples you have studied to support your answer.

[20 marks]

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Extra space

Do not write outside the box

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 defines biomass?

[1 mark]

A The total carbon in living organisms per unit area ⬭

B The total energy of living organisms per unit area ⬭

C The total number of living organisms per unit area ⬭

D The total weight of living organisms per unit area ⬭

0 5 . 2 Which of the following are **both** potential impacts of declining biodiversity on human life?

[1 mark]

A A more varied diet **and** better health ⬭

B Enhanced well-being **and** poorer access to new medicines ⬭

C Fewer opportunities for medical advances **and** increased food insecurity ⬭

D Less protection from floods **and** better access to clean water ⬭

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0 5 . 3 Which of these would **both** provide ideal conditions for coral reef development?

[1 mark]

A Acidic water **and** sunlight ⬭

B Acidic water **and** unpolluted water ⬭

C Alkaline water **and** unpolluted water ⬭

D Alkaline water **and** water temperatures over 35 °C ⬭

0 5 . 4 When does a sub-climax community exist?

[1 mark]

A When vegetation succession is paused from reaching climatic climax ⬭

B When vegetation succession is permanently influenced from reaching climatic climax ⬭

C When vegetation succession is stable and uninterrupted ⬭

D When vegetation succession occurs only on surfaces with no previous vegetation ⬭

0 5 . 5 Which of the following is a definition of a trophic level?

[1 mark]

A A single route of energy from one plant or animal to another ⬭

B All of the food chains within an ecosystem ⬭

C Energy transferred from a plant to an animal through consumption ⬭

D The position of animals or plants within the structure of an ecosystem ⬭

5

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Figure 2a shows the projected habitat change in selected areas between 2020 and 2050.

Figure 2b shows a map of projected habitat change by country between 2020 and 2050.

Figure 2a

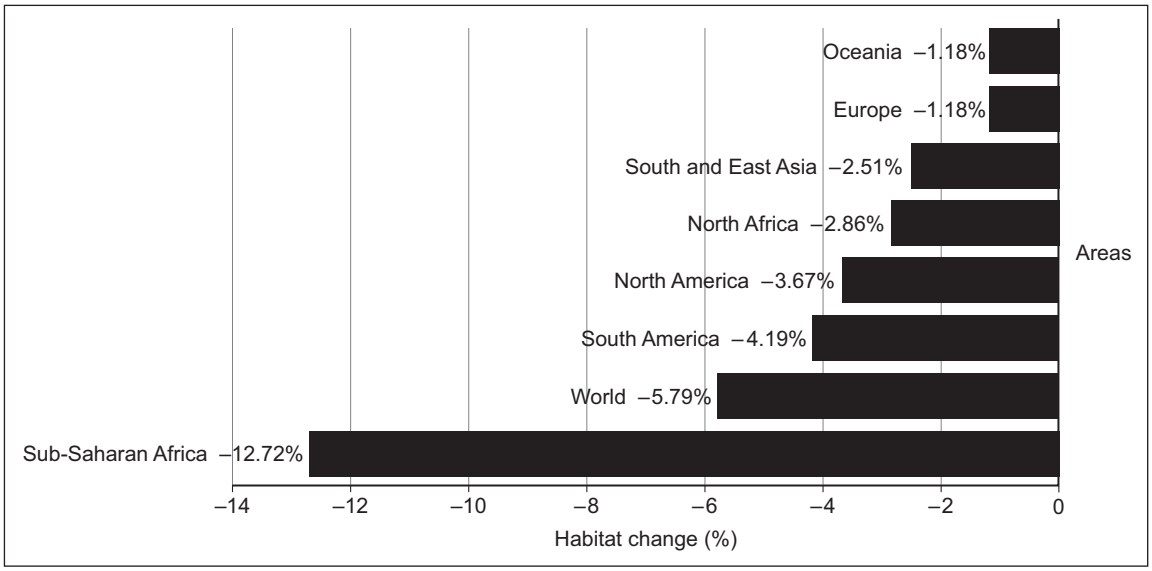
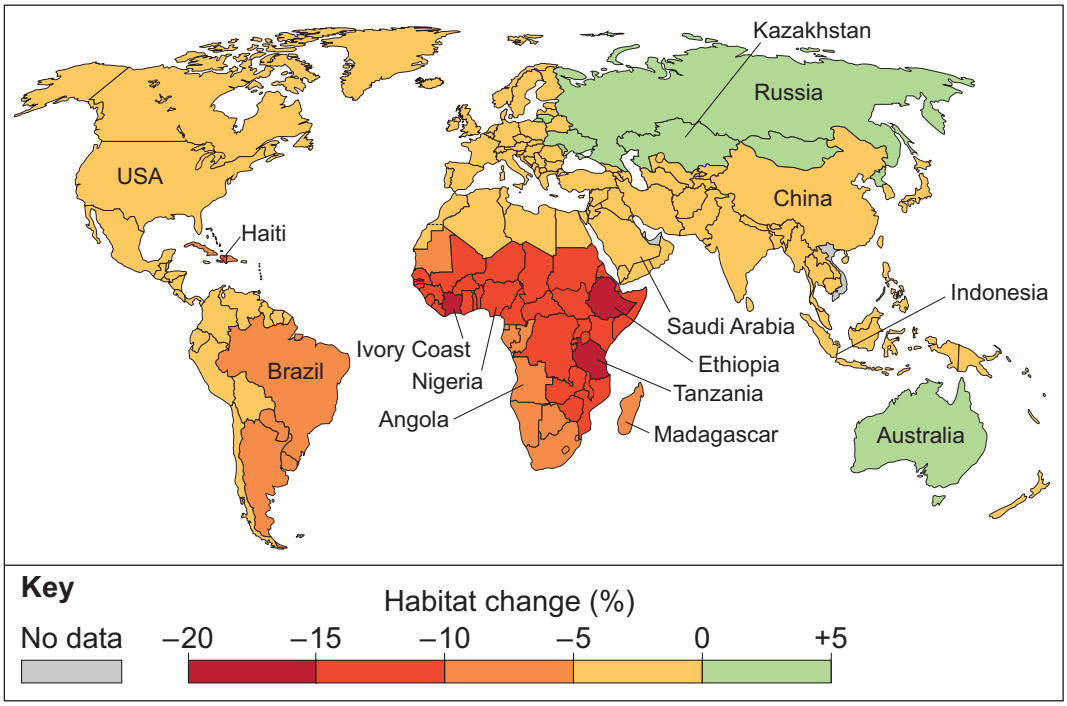


Figure 2b



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0 6 Analyse the information shown in **Figure 2a** and **Figure 2b**.

[6 marks]

Extra space

6

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0 7 Assess the challenges and opportunities presented by the sustainable development of an ecosystem at a local scale.

Use a case study to support your answer.

[9 marks]

Extra space

Do not write outside the box

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0 8 ‘Human exploitation has a greater impact on the savanna grassland biome than climate change does.’

To what extent do you agree with this statement?

Use **one or more** examples you have studied to support your answer.

[20 marks]

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Extra space

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END OF QUESTIONS

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ANSWER IN THE SPACES PROVIDED

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