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

Tuesday 3 January 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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ANSWER IN THE SPACES PROVIDED

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Section A – Water, Carbon and Life on Earth

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

You must answer **all** of **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 **all** represent natural stores in the water cycle?

[1 mark]

A Clouds; glaciers; evapotranspiration. ⬭

B Photosynthesis; soil; vegetation. ⬭

C Precipitation; interception; vegetation. ⬭

D Soil; vegetation; clouds. ⬭

0 1 . 2 Which of the following **all** represent natural stores in the carbon cycle?

[1 mark]

A Atmosphere; leaching; interception. ⬭

B Biomass; vegetation; petrol. ⬭

C Soil; ocean; biomass. ⬭

D Vegetation; decomposition; photosynthesis. ⬭

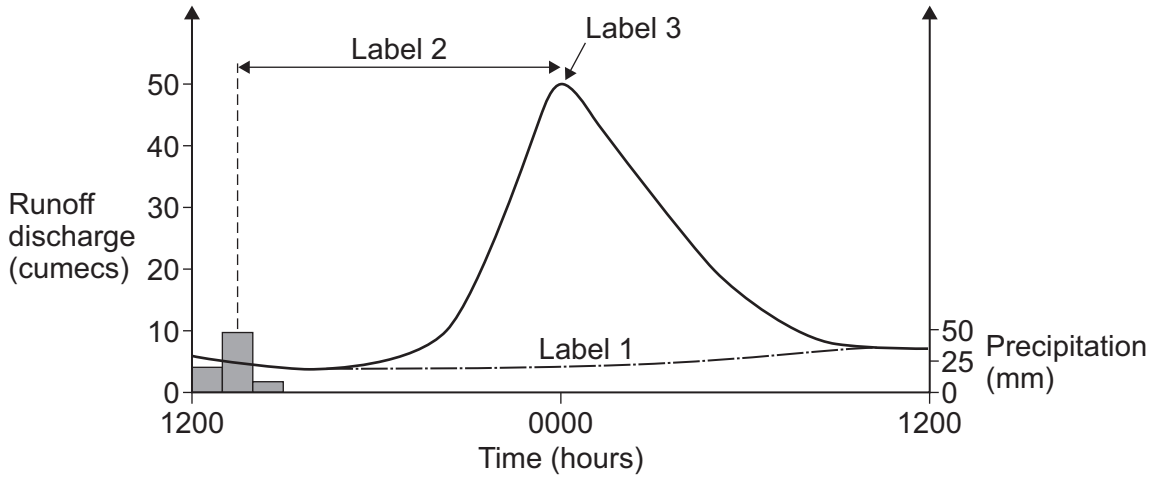
Question 1 continues on the next page

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0 1 . 3 Use the phrases in the table to match the labels on the flood hydrograph in **Figure 1**.

[1 mark]

Figure 1 – Flood Hydrograph



	Label 1	Label 2	Label 3	
A	Base Flow	Lag Time	Peak Flow	⬭
B	Base Flow	Peak Flow	Lag Time	⬭
C	Peak Flow	Lag Time	Base Flow	⬭
D	Rising Limb	Falling Limb	Peak Flow	⬭

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0 1 . 4 Which statement describes photosynthesis?

[1 mark]

A It allows plants to intercept rainfall, and fungi to decompose plant and animal matter. ⬭

B It allows the energy of the sun to warm up the plant so that chlorophyll can be converted into food energy. ⬭

C It provides carbon dioxide and this energy creates food. ⬭

D It uses the light from the sun to create food energy for plants and animals. ⬭

0 1 . 5 Which of the following **all** represent entirely natural contributors of atmospheric carbon dioxide?

[1 mark]

A Melting of the permafrost; deforestation; respiration. ⬭

B Rice farming; weathering of limestone; deforestation. ⬭

C Volcanic eruptions; power station emissions; vehicle exhaust fumes. ⬭

D Volcanic eruptions; respiration; lightning fires. ⬭

5

Turn over for the next question

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Figure 2a shows groundwater levels below London in 1900.

Figure 2b shows how the level of groundwater has changed 100 years later.

All figures are given in metres.

Figure 2a

Groundwater levels in 1900

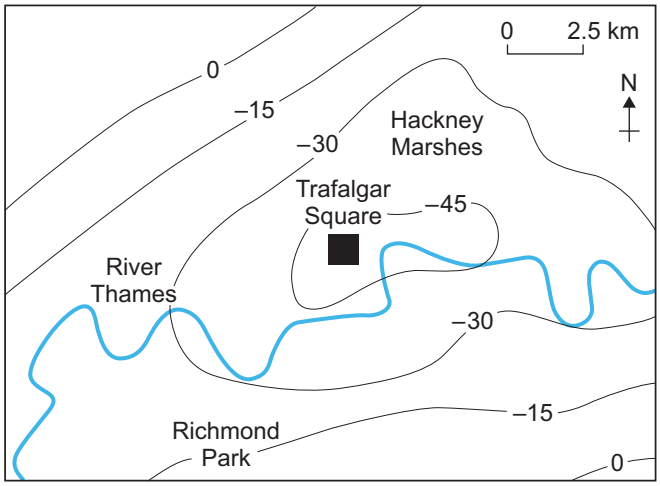
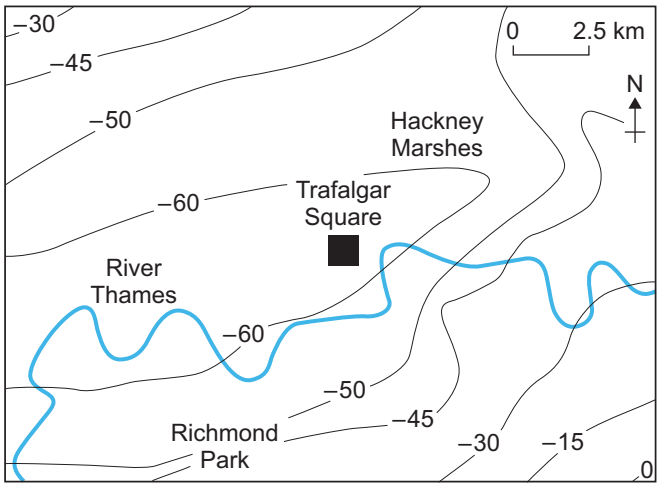


Figure 2b

Groundwater levels in 2000



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

[6 marks]

Extra space

6

Turn over for the next question

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0 3 To what extent has human activity affected the carbon cycle in an area of tropical rainforest you have studied?

[9 marks]

Extra space

9

Do not write outside the box

0 4 ‘Natural variations have a greater effect on the water cycle than human impacts.’

To what extent do you agree with this view?

[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** of **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 the concept of a biome?

[1 mark]

A A large-scale ecosystem unit. ⬭

B A small-scale ecosystem unit. ⬭

C The habitat of plants and animals. ⬭

D The interaction of plants and animals with their environment. ⬭

0 5 . 2 Which of the following describes net primary production in an ecosystem?

[1 mark]

A The amount of energy fixed by plants through photosynthesis minus the energy used in respiration. ⬭

B The amount of living material each year. ⬭

C The energy created by green plants through the process of photosynthesis. ⬭

D The weight of living material in a plant. ⬭

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0 5 . 3 Which of the following **all** increase litter and soil mineral storage in the mineral nutrient recycling process?

[1 mark]

A Deposits from precipitation; weathering; runoff. ⬭

B Leaching; waste from animals; absorption. ⬭

C Leaf fall; weathering; dead animals. ⬭

D Leaf fall; weathering; leaching. ⬭

0 5 . 4 Which of the following describes the distribution of the tropical rainforest?

[1 mark]

A Between the Tropic of Cancer and the Tropic of Capricorn. ⬭

B In the continents of Europe, Africa and Asia. ⬭

C Located at the equator. ⬭

D On the east side of each of the continents. ⬭

0 5 . 5 A plagioclimax is defined as:

[1 mark]

A a pioneering community that forms in a sand dune succession. ⬭

B a term that explains all the different seral stages in a succession. ⬭

C the vegetation succession that results from a fully developed natural ecosystem. ⬭

D the vegetation succession that results from human influence. ⬭

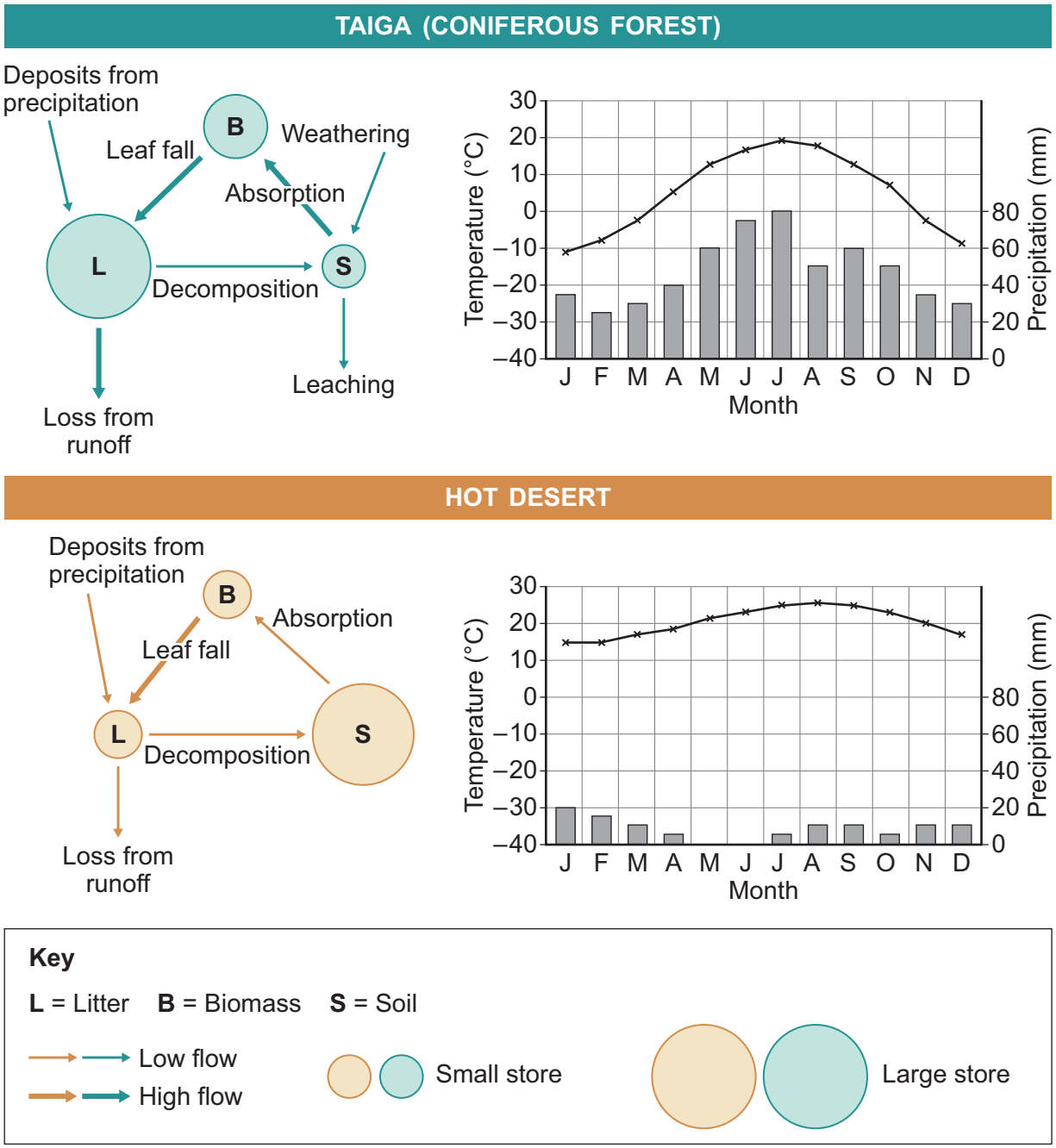
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Figure 3 shows nutrient cycle diagrams and climate graphs for a taiga and hot desert biome.

Figure 3



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0 6 Study the nutrient cycle diagrams and climate graphs for a taiga (coniferous forest) and hot desert biome (**Figure 3**).

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

[6 marks]

Extra space

6

Turn over for the next question

Do not write outside the box

0 7 ‘Human activity threatens the flora and fauna of savanna grasslands more than in tropical rainforests.’

Assess the extent to which you agree with this view.

[9 marks]

Extra space

9

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0 8 Critically evaluate the factors causing the world's coral reefs to be an ecosystem under stress.

[20 marks]

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Extra space

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END OF QUESTIONS

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