

ADVANCED SUBSIDIARY GCE
GEOGRAPHY A

2680

The Physical Environment

MONDAY 14 JANUARY 2008

Morning

Time: 1 hour 15 minutes

Candidates answer on the question paper.

Additional materials (enclosed): An Insert



Candidate Forename

Candidate Surname

Centre Number

Candidate Number

INSTRUCTIONS TO CANDIDATES

- Write your name in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Do **not** write outside the box bordering each page.
- Write your answer to each question in the space provided.

INFORMATION FOR CANDIDATES

- The number of marks for each question is given in brackets [] at the end of each question or part question.
- The Insert contains maps and diagrams for use with questions.
- The total number of marks for this paper is **100**.
- You will be awarded marks for the quality of written communication where an answer requires a piece of extended writing.
- Even where not specifically asked for, credit will be given for sketch maps and diagrams, provided they illustrate your answer.

FOR EXAMINER'S USE	
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TOTAL	

This document consists of **10** printed pages, **2** blank pages and an Insert.

Hydrological Systems

1 (a) Study Fig. 1, which shows the flows and stores in the drainage basin hydrological cycle.

(i) Name the stores labelled A and B and the flows labelled C and D.

Store A

Store B

Flow C

Flow D[4]

(ii) State and explain **two** ways in which physical factors could affect flows below the surface in the hydrological cycle shown.

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(b) Study Fig. 2, which shows a storm hydrograph for a river in a rural area.

(i) How long is the lag time of the hydrograph?

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(ii) Describe the shape of this storm hydrograph.

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Ecosystems

2 (a) Study Fig. 3, which shows the components of a nutrient cycle in an ecosystem.

(i) Identify **two** flows of nutrients within the system and **two** outputs of nutrients from the system.

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(ii) What is meant by the term 'biomass'?

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(iii) Explain why biomass is the largest store in a deciduous woodland ecosystem.

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(b) Describe and explain **one** way in which human activity can modify the flow of nutrients in an ecosystem.

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Atmospheric Systems

3 (a) Study Fig. 4, which shows the variation in typical midnight temperatures across a city near the equator.

(i) Describe the variation in temperature shown.

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(ii) State and explain **two** possible reasons for the variation in temperature shown.

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(b) Study Fig. 5, which shows the air masses affecting the British Isles.

(i) What is meant by the term 'air mass'?

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(ii) Identify the two air masses labelled 2 and 5.

Air Mass 2
Air Mass 5[2]

Lithosphere

4 (a) Study Fig. 6, which shows the distribution of earthquakes at different depths around the Pacific Rim.

(i) Name **two** areas where shallow focus earthquakes dominate.

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(ii) Explain how tectonic processes are responsible for earthquake activity found at location X.

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(b) Study Fig. 7, which shows a granite tor in southwest England.

(i) Name and explain one possible weathering process acting on the rock outcrop.

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