Centre No.						Paper Reference							Surname	Initial(s)
Candidate No.						6	4	6	1	/	0	1	Signature	

Paper Reference(s)

6461/01

Edexcel GCE

Geography A

Advanced Subsidiary

Unit 1: Physical Environments

Friday 25 May 2007 – Afternoon

Time: 1 hour 15 minutes

Materials required for examination
Nil

Items included with question papers
Nil

Examiner's use only

Team Leader's use only

Question Number	Leave Blank
1	
2	
3	
4	
5	
6	
Total	

Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initials and signature.
Check that you have the correct question paper.
Do not use pencil. Use blue or black ink.
Answer **THREE** questions, choosing **ONE** from **each of sections** A, B and C.
Write your answers in the spaces provided in this question paper.
For each section, indicate which question you are answering by marking the box at the start of the question (☒). If you change your mind, put a line through the box (~~☒~~) and then indicate your new question with a cross (☒).

Information for Candidates

The marks for individual questions and the parts of questions are shown in round brackets: e.g. **(2)**.
There are 6 questions in this question paper. All questions carry 20 marks.
The total mark for this paper is 60.
There are 28 pages in this question paper. Any blank pages are indicated.

Advice to Candidates

You will be assessed on your ability to organise and present information, ideas, descriptions and arguments clearly and logically, taking account of your use of grammar, punctuation and spelling.
In all parts, credit will be given for the use of diagrams and sketch maps where they are appropriate.

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SECTION A

Answer **EITHER** Question 1 **OR** Question 2.

If you answer Question 1 put a cross in this box ☒.

1. (a) Study Figure 1 which shows the pattern of tectonic plates and landforms in eastern Africa and the Middle East.

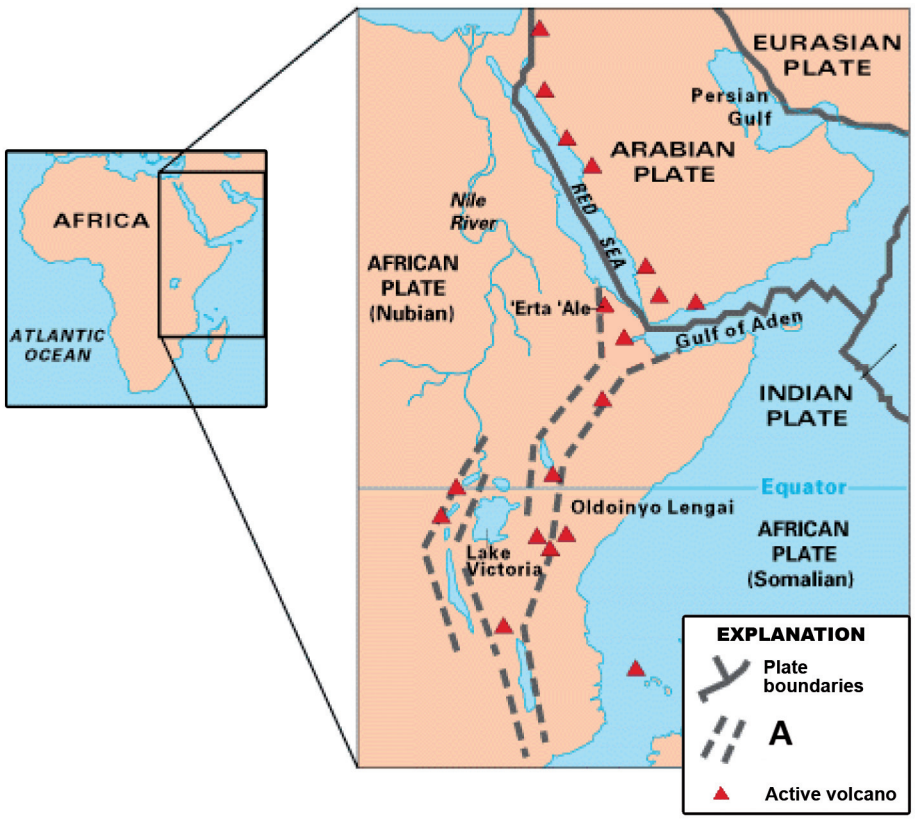

Figure 1

(Source: http://pubs.usgs.gov/publications/graphics/Fig18.gif)

(i) Identify tectonic landform **A**.

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(1)

(ii) Describe the movement of the two parts of the African Plate.

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(1)

(iii) Name the type of plate margin formed by this movement.

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(1)

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(iv) Explain how this movement leads to the occurrence of active volcanoes.

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(4)

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(b) (i) Describe the global distribution of fold mountains.

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(3)

(ii) Explain how fold mountains are formed.

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(4)

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(c) Explain the formation of batholiths and comment on their impact on the physical landscape. You may use a diagram to help your answer.

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(6)

(Total 20 marks)

Q1

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If you answer Question 2 put a cross in this box ☒.

2. (a) Study Figure 2 which shows the relationship between the rate of chemical weathering of limestone and the concentration of carbon dioxide (CO_2) in rainwater at different temperatures.

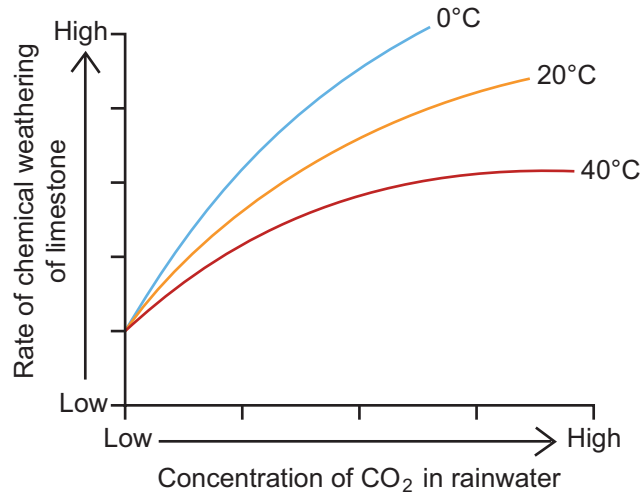

Figure 2

(i) Describe the relationship between the rate of chemical weathering and the concentration of carbon dioxide (CO_2) in rainwater.

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(3)

(ii) Outline the process by which rainwater chemically weathers limestone.

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(2)

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(iii) Identify two landforms produced by chemical weathering of limestone.

1 .....

2 .....

(2)

(b) (i) Describe the global distribution of basic (shield) volcanoes.

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(3)

(ii) Explain how basic (shield) volcanoes are formed.

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(4)

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(c) With reference to a named example, describe and explain the formation of the landforms found at a **destructive** plate margin. You may use a diagram to help your answer.

Named example ....

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(6)

Q2

(Total 20 marks)

TOTAL FOR SECTION A: 20 MARKS

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SECTION B

Answer **EITHER** Question 3 **OR** Question 4.

If you answer Question 3 put a cross in this box ☒.

3. (a) Study Figure 3 which shows the annual regime of the River Nile at Aswan, before and after the construction of the High Dam.

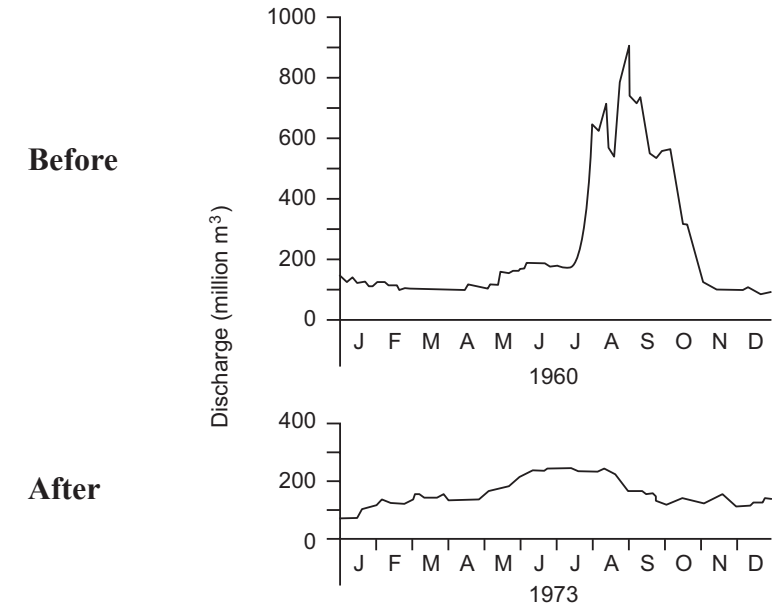

Figure 3

(Source: P. Beaumont, G.H. Blake, and J.M. Wagstaff, *The Middle East; a geographical study*, David Fulton, 1988)

(i) State:

1. The maximum discharge in 1960

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(1)

2. The discharge at the start of December 1973.

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(1)

Leave blank

(ii) Compare the two regimes.

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(3)

(iii) Suggest reasons for the shape of the 1973 regime.

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(3)

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(b) (i) Define the term **percolation**.

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(2)

(ii) Suggest reasons why rates of percolation vary:

1. from place to place

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2. from time to time.

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(4)

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(c) Describe the appearance, and explain the formation, of braided channels. You may use a diagram to help your answer.

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(6)

(Total 20 marks)

Q3

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If you answer Question 4 put a cross in this box ☒.

4. (a) Study Figure 4 which shows changes made to the River Sowe, Coventry, in 1997/8.

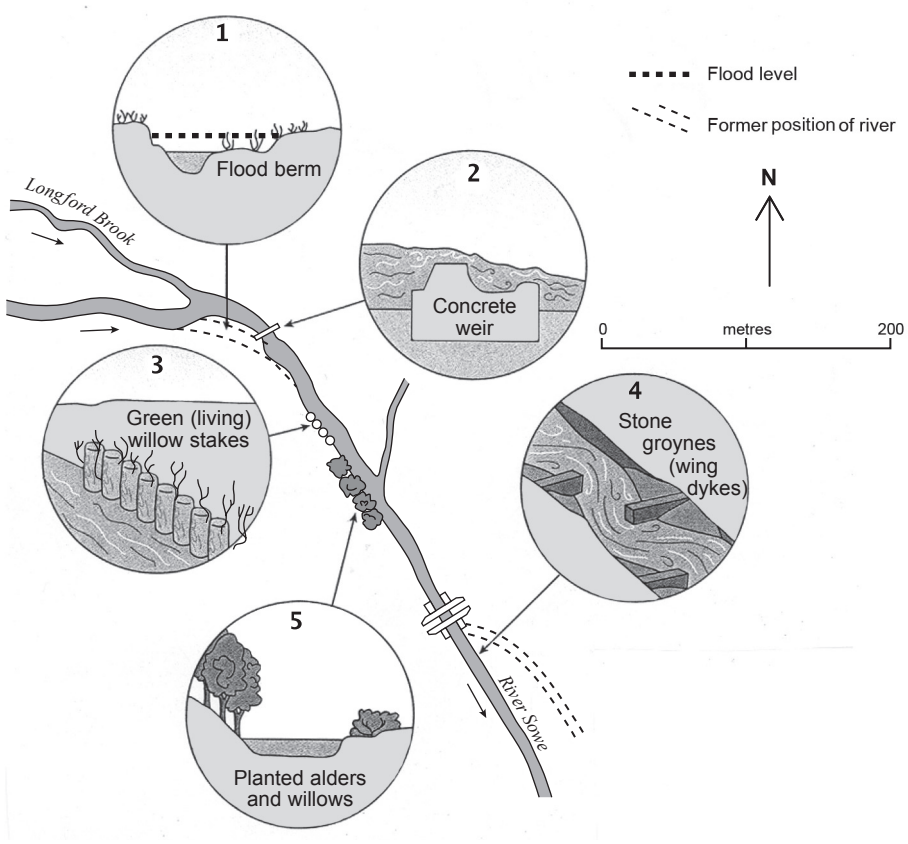

Figure 4

(i) Describe how the position of the river channel has changed.

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(2)

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(ii) Suggest how river processes (such as erosion and deposition) have been affected by the installation of:

1. stone groynes (wing dykes)

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(4)

2. green (living) willow stakes.

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(2)

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(b) (i) State the formula used to calculate river discharge.

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(2)

(ii) Explain why river discharge usually increases with distance downstream.

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(c) With reference to a located example, describe and explain the causes of river flooding. You may use a map/diagram to help your answer.

Located example ....

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(6)

(Total 20 marks)

Q4

TOTAL FOR SECTION B: 20 MARKS

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SECTION C

Answer **EITHER** Question 5 **OR** Question 6.

If you answer Question 5 put a cross in this box ☒.

5. (a) Study Figure 5 which shows changes to Kuta Beach, Bali, following the construction of the Denpasar Airfield.

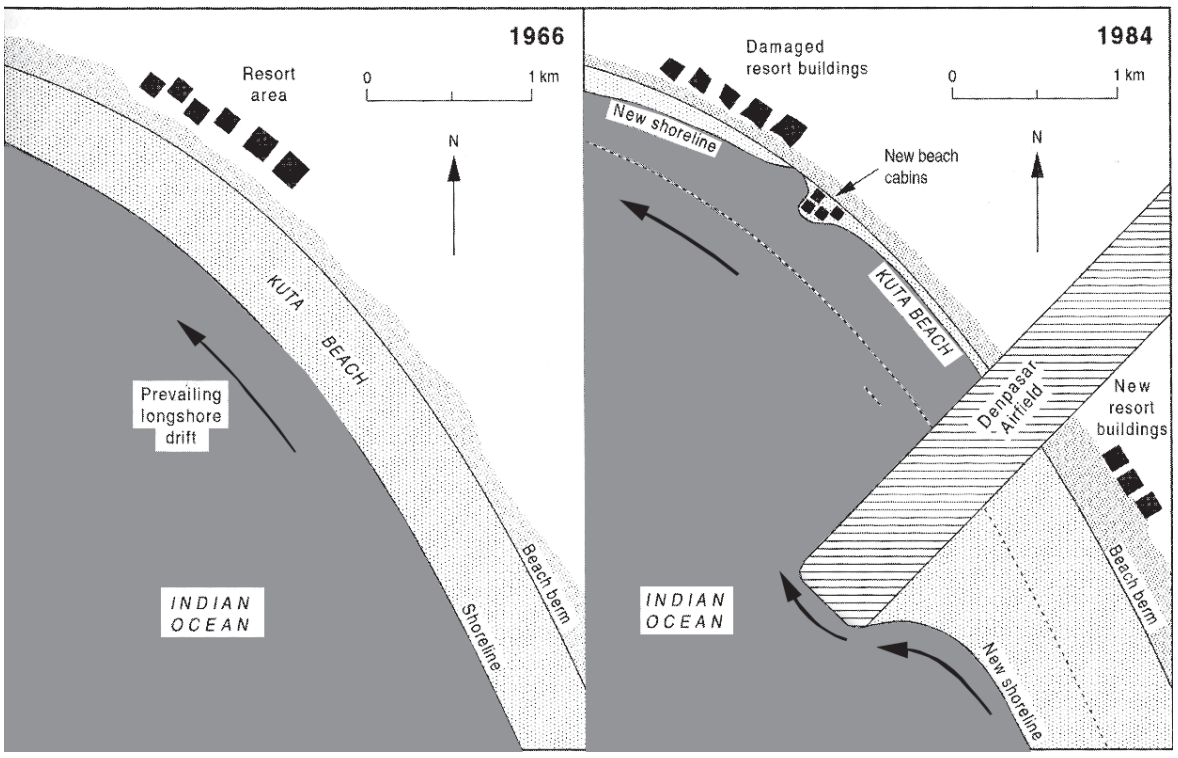

Figure 5

(Source: P.D. Nunn, *Oceanic Islands*, Blackwell, 1994)

(i) In which direction is the airfield orientated?

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(1)

(ii) Describe the changes to the beach that have occurred between 1966 and 1984.

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(3)

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(iii) Suggest reasons for these changes.

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(4)

(b) (i) State three characteristics of a **destructive** wave.

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2 .....

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(3)

(ii) Suggest how destructive waves are likely to influence the characteristics of beaches.

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(3)

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(c) With reference to a located example, describe and explain the changes in vegetation associated with plant succession in a coastal ecosystem. You may use a diagram to help your answer.

Located example .....

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(6)

Q5

(Total 20 marks)

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If you answer Question 6 put a cross in this box ☒.

6. (a) Study Figure 6 which shows relative sea-level changes over time at selected locations on the east coast of England.

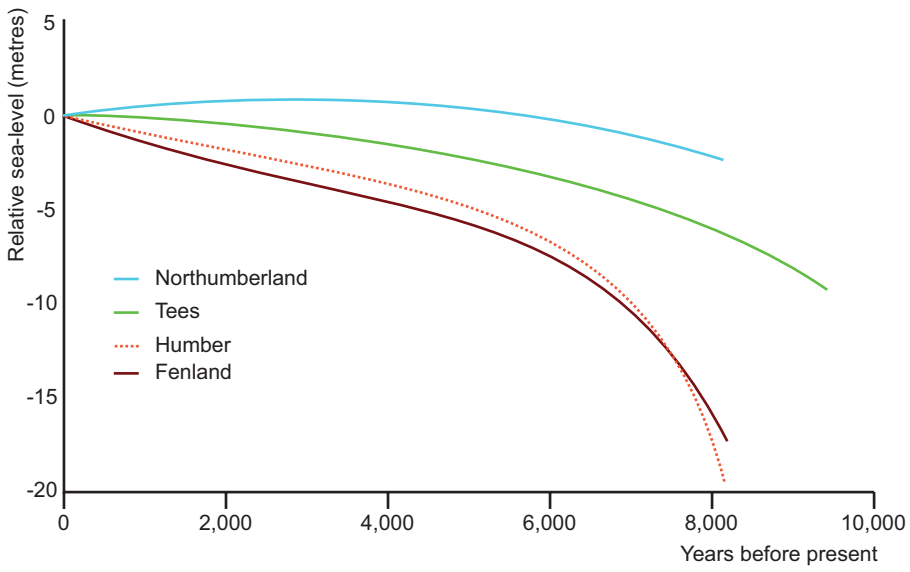

Figure 6

(Source: Ben Horton, *Climate and sea-level change*, Geography Review, PhilipAllan Updates, Vol.18 No.4, March 2005)

(i) Describe the changes in relative sea-level at Humber.

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(3)

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(ii) Suggest reasons for these changes.

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(4)

(iii) Which is the only location to have experienced a period during which relative sea-level fell?

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(1)

(iv) Suggest a reason for this fall.

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(2)

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(b) Outline two ways in which coastal ecosystems may be modified by human activity.

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(c) Describe the appearance, and explain the formation, of a tombolo. You may use a diagram to help your answer.

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Q6

(Total 20 marks)

TOTAL FOR SECTION C: 20 MARKS

TOTAL FOR PAPER: 60 MARKS

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