

Surname	Centre Number	Candidate Number
Other Names		2



GCE A level

1215/01

**GEOLOGY - GL5
THEMATIC UNIT 1
QUATERNARY GEOLOGY**

P.M. FRIDAY, 10 June 2011

ONE of TWO units to be completed in 2 hours

			Examiner only
Section A	1.	15	
Section B	2.	25	
	3.		
	4.		
Total		40	

1215
01/0001

ADDITIONAL MATERIALS

In addition to this and one other examination paper, you may require a calculator.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **question 1** in Section A (15 marks) and **one** question from Section B (25 marks).

INFORMATION FOR CANDIDATES

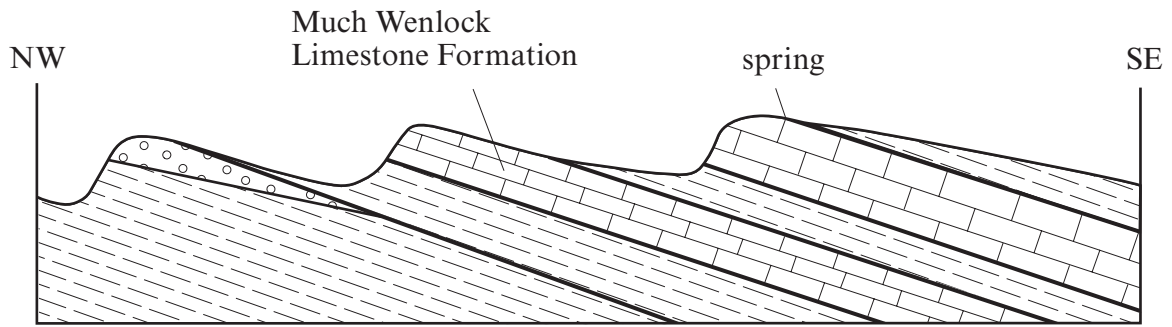
The number of marks is given in brackets at the end of each question or part-question.

You are reminded of the necessity for good English and orderly presentation in your answers.




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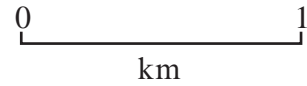
SECTION A

1. **Figure 1a** is a cross-section through a landscape underlain by Palaeozoic rocks in the Wenlock Edge area of Shropshire.



Key

-  conglomerate
-  limestone
-  shale



(vertical scale exaggerated)

Figure 1a

(a) Using **Figure 1a**:

(i) Describe the topography (relief) of the Wenlock Edge area. [1]

.....

(ii) Explain the relationship between the geological structure and topography (relief) in the Wenlock Edge area. [2]

.....

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.....

(iii) Explain the presence of the spring at the location shown on **Figure 1a**. [2]

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Figure 1b is a field sketch drawn by a student at a quarry in the Much Wenlock Limestone Formation. **Figure 1c** is a photograph of a specimen taken from **Unit A** on **Figure 1b**.

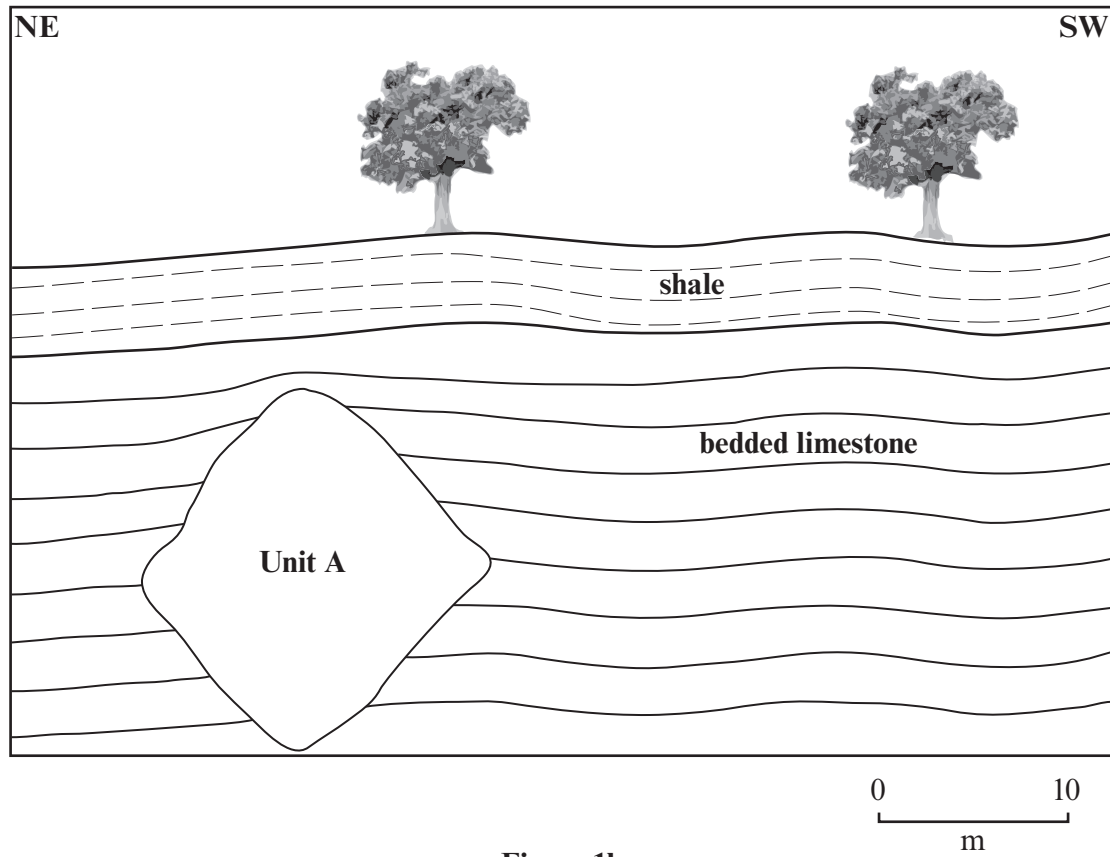


Figure 1b

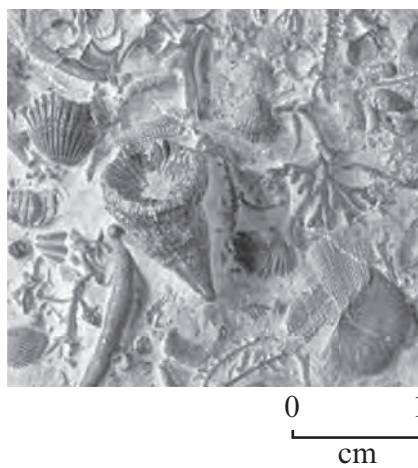


Figure 1c

(www.esc.cam.ac.uk)

(b) The study of modern environments enables geologists to interpret the ancient sedimentary rock record. Using **Figures 1b** and **1c**:

(i) Describe the size and shape of **Unit A**. [2]

.....
.....

(ii) Suggest, giving reasons, the environment in which **Unit A** was deposited. [2]

.....
.....
.....

(iii) Describe the processes that led to the formation of the sediments in **Unit A**. [3]

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(c) Using **Figures 1a, 1b** and **1c**:

The student interpreted the sequence of rocks in **Figure 1a** as having been deposited in “a progressively deeper marine environment”. Evaluate this interpretation. [3]

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Total 15 marks

SECTION B

Answer one question only.

Write your answer in the remaining pages of this booklet.

2. Evaluate the statement:
“The glacial and interglacial deposits and landforms in Britain provide an incomplete record of climatic fluctuations and varying sedimentary environments for the Quaternary.” [25]
3. (a) Describe the evidence for sea level change during the Quaternary.
(b) *“Sea level change in the Quaternary is linked to continental ice sheets.”* Evaluate this statement. [25]
4. (a) Describe turbidity currents and how they are caused.
(b) Evaluate the use of the sediments and sedimentary structures in interpreting the physical processes that lead to the formation of turbidites. [25]



GCE A level

1215/01-A

GEOLOGY GL5

P.M. FRIDAY, 10 June 2011

REMINDER

A copy of this reminder should be given to all candidates before the examination begins and should be available to all invigilators.

INSTRUCTIONS TO CANDIDATES

You are required to complete **two** units during this 2 hour examination.

You will be given both units at the beginning of the examination and are advised to spend approximately 1 hour on each.

Please ensure that you write your name, centre number and candidate number in the spaces on the front cover of both units. At the end of the examination you should place one unit inside the other.

INFORMATION FOR INVIGILATORS

Candidates are required to complete **two** units during this 2 hour examination.

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