

Surname	Centre Number	Candidate Number
Other Names		2



**GCE A level**

1215/01



S16-1215-01

**GEOLOGY – GL5  
Thematic Unit 1  
Quaternary Geology**

P.M. FRIDAY, 10 June 2016

ONE of TWO units to be completed in 2 hours

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
<b>Section A</b> 1.	15	
<b>Section B</b> 2.	25	
3.		
4.		
<b>Total</b>	40	

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**ADDITIONAL MATERIALS**

In addition to this and one other examination paper, you will need 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.

SECTION A

1. **Figure 1a** is a map showing the distribution of glacial cwms/corries (areas of previous ice accumulation) in part of the Brecon Beacons. **Figure 1b** is a map of southern Wales showing the location of the area shown in **Figure 1a**.

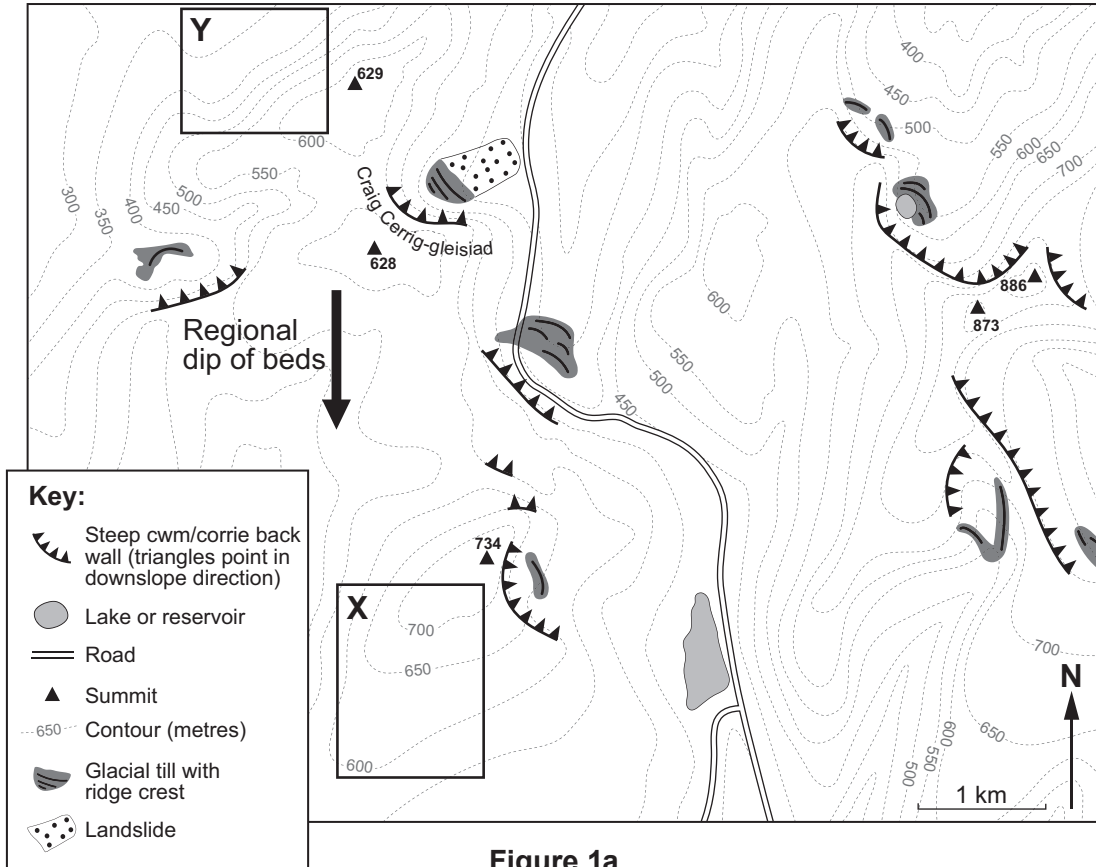


Figure 1a

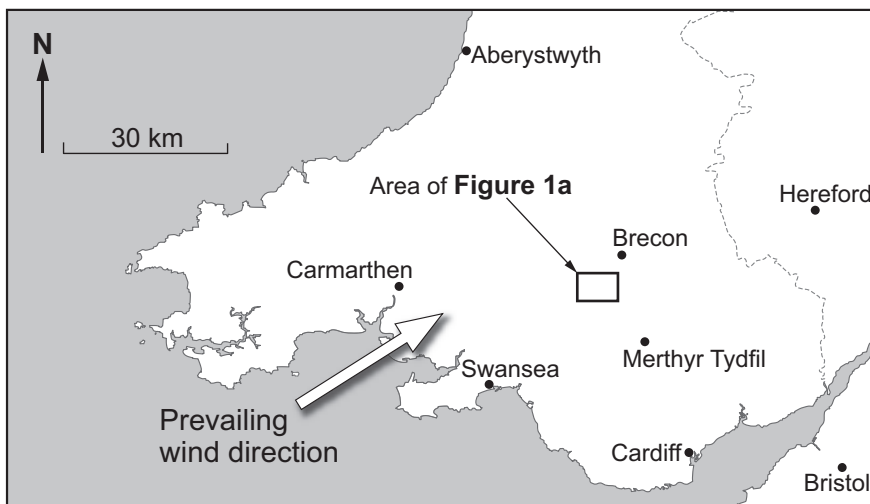


Figure 1b

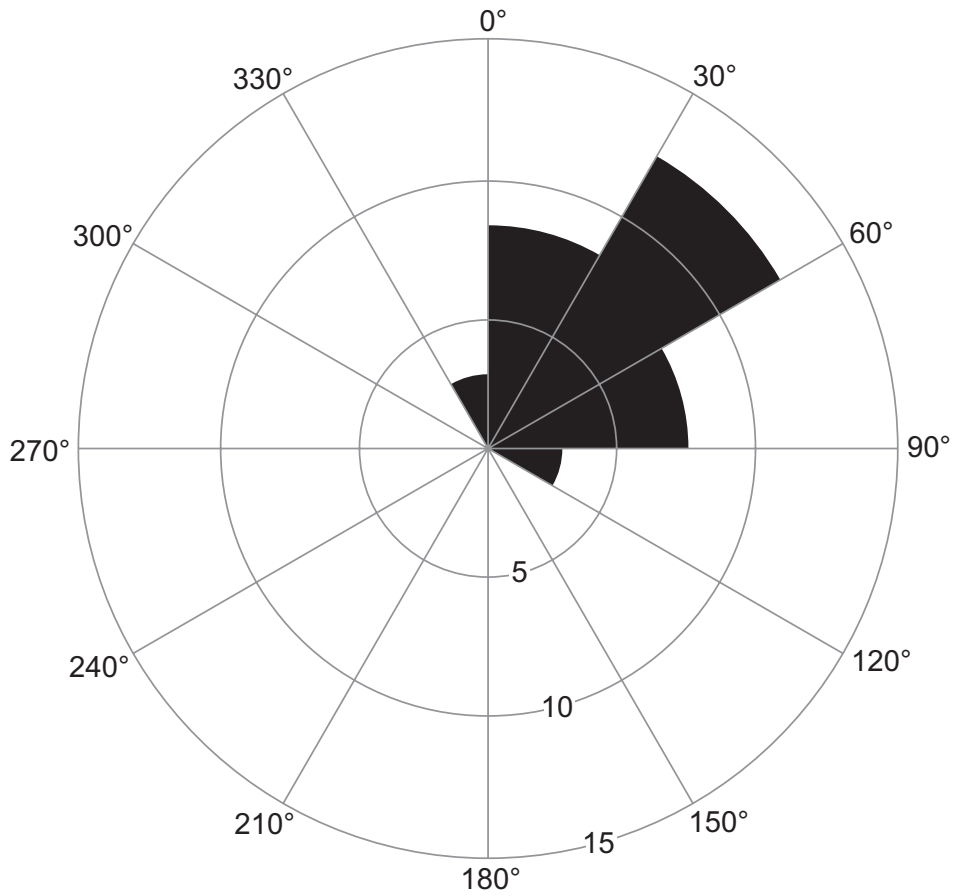
Use **Figure 1a**.

(a) (i) Describe the difference between the slope angles in box **X** and box **Y**. [1]

.....  
(ii) Explain how the topography of these slopes is influenced by the regional dip of the beds. [2]

.....  
.....

**Figure 1c** is a rose diagram showing the direction that the steep back walls of the glacial cwms/corries in the Brecon Beacons are facing.



**Figure 1c**

(b) Use **Figures 1a, 1b** and **1c**.

(i) Describe the orientation of the cwm/corrie back walls in the Brecon Beacons. [2]

.....

.....

(ii) Suggest why the back walls of cwms/corries in the Brecon Beacons have these orientations. [3]

.....

.....

.....

Figure 1d is a map of the landforms at Craig Cerrig-gleisiad in Figure 1a.

Examiner only

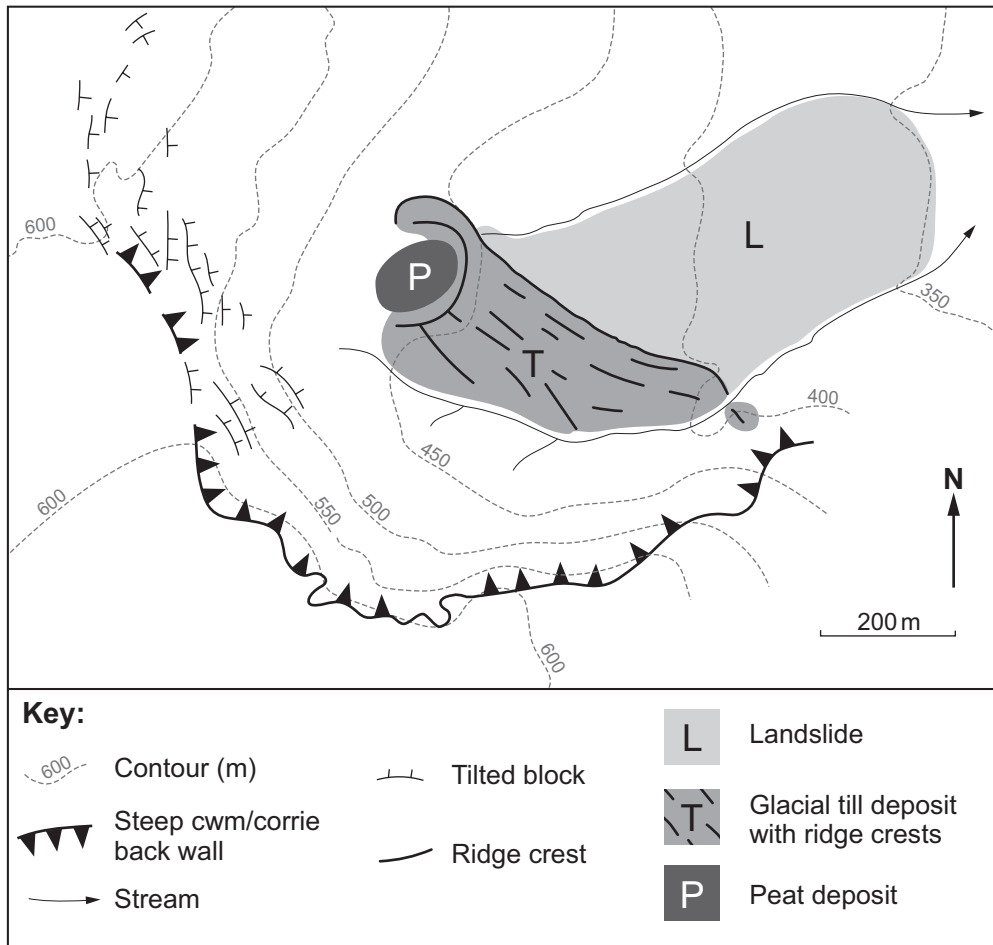


Figure 1d

(c) Use Figure 1d.

(i) Suggest an origin for the ridges shown in the glacial till deposit T. [2]

.....

.....

(ii) Explain the formation of the peat deposit in the area marked P. [2]

.....

.....

(iii) "The landslide (L) may have formed during periglacial conditions." Evaluate this interpretation. [3]

.....

.....

.....

.....

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**SECTION B**

Answer **one** question only.

Write your answer in the remaining pages of this booklet.

2. “The geological structure and lithology of an area controls the drainage patterns of water both above and below the surface.”

Evaluate this statement.

[25]

3. (a) Explain the changes that occur in sea level in response to changes in the amount of continental ice.

- (b) Evaluate the use of radiocarbon ( $^{14}\text{C}$ ) dating in establishing a timescale for sea level changes.

[25]

4. (a) Explain how the link between process and product in **one** named modern sedimentary environment can enable the reconstruction of earlier environments.

- (b) Evaluate the use of the Hjulström graph in interpreting lithologies in modern and ancient sedimentary environments.

[25]

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**END OF PAPER**

**Acknowledgements**

*Carr, S.J. et al (eds) (2007) Quaternary of the Brecon Beacons Field Guide, Quaternary Research Association*



**GCE A level**

1215/01-A



S16-1215-01A

**GEOLOGY – GL5**

P.M. FRIDAY, 10 June 2016

### **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.

Both units should be given to candidates at the beginning of the examination and they should be advised to spend approximately 1 hour on each.

Candidates should be reminded that their name, centre number and candidate number should be written in the spaces on the front cover of both units. At the end of the examination they should place one unit inside the other.