Surname	Centre Number	Candidate Number
Other Names		2

GCE AS/A LEVEL – NEW

2110U10-1

S18-2110U10-1

GEOGRAPHY – AS unit 1
CHANGING LANDSCAPES

TUESDAY, 15 MAY 2018 – AFTERNOON

2 hours

For Examiner's use only		
Question	**Maximum Mark**	**Mark Awarded**
1.	**16**	
2.	**16**	
3.	**16**	
4.	**16**	
5.	**22**	
6.	**24**	
7.	**18**	
Total	**96**	

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ADDITIONAL MATERIALS

A calculator.

Resource folder.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen. Do not use correction fluid.

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

Write your answers in the spaces provided in this booklet.

In Section A, answer **either** questions 1 and 2 **or** questions 3 and 4.

Answer **all** questions in Section B.

If further space is required you should use the continuation pages at the back of this booklet. The question number(s) should be clearly shown.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [ ] at the end of each question or part-question; you are advised to divide your time accordingly.

This paper requires that you make as full use as possible of appropriate examples and reference to data to support your answers. Sketch maps and diagrams should be included where relevant.

A plain page is available at the back of the booklet for you to add any relevant sketch maps and diagrams you may wish to include. The question number(s) should be clearly shown.

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Section A: Changing Landscapes

Answer **either** *questions 1 and 2* **or** *questions 3 and 4 from your chosen landscape.*

Make the fullest possible use of examples and data to support your answers.

Coastal Landscapes

Answer questions 1 and 2 if this is your chosen landscape.

Figure 1: Processes of coastal retreat on the North Norfolk coast, UK

Place	Landslides %	Mudflows %	Wind Erosion %	Water Erosion %
Weybourne	100	0	0	0
Sheringham	72	0	28	0
Overstrand	73	7	0	20
Mundesley	86	0	5	9

Source: north-norfolk.co.uk

1. *(a)* (i) Use **Figure 1** to describe variations in the processes of coastal retreat for different places in North Norfolk. [5]

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(ii) Suggest **one** reason for the variation in the importance of wind erosion. [3]

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(b) Assess the positive impacts of human activity on the coastal landscape at **one or more** locations. [8]

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2. *(a)* (i) Use **Figure 2** in the **Resource Folder** to identify characteristics of both high and low energy coastal environments. [5]

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(ii) Suggest **one** way in which the landform at 900710 (Traeth Mawr) is linked to other landforms as part of the coastal system. [3]

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(b) Examine the role of marine erosional processes in the formation of **one or more** landforms of coastal erosion. [8]

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Glaciated Landscapes

Answer questions 3 and 4 if this is your chosen landscape.

Figure 3: Sedimentary characteristics of four eskers at Hepburn Island, Nunavut, Canada

Sediment type	Size	Esker 1 (%)	Esker 2 (%)	Esker 3 (%)	Esker 4 (%)
gravel	< 60 mm	0	35	46	66
sand	< 2 mm	87	65	47	32
silt	< 0.06 mm	13	0	7	2

Source: enr.gov.nt.ca

3. *(a)* (i) Use **Figure 3** to compare the sedimentary characteristics of the eskers. [5]

(ii) Suggest **one** reason why the sediment in these eskers is less than (<) 60 mm in size. [3]

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(b) Examine the role of ground ice in the formation of **one** periglacial landform. [8]

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4. *(a)* (i) Use **Figure 4** in the **Resource Folder** to identify characteristics of both glacial erosion and deposition. [5]

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(ii) What evidence is there to suggest that Afon Ogwen (633633) is a misfit stream? [3]

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(b) Assess the impacts of **one** glacial process on human activity. [8]

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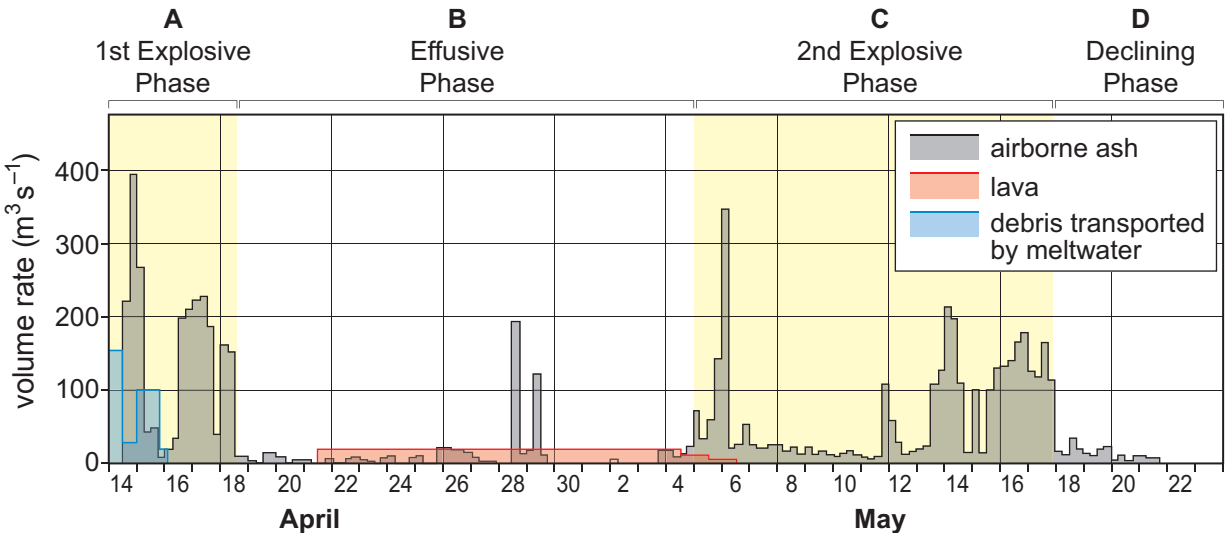
Section B: Tectonic Hazards

Answer **all** *questions.*

Make the fullest possible use of examples and data to support your answers.

On the 14th April 2010, after weeks of reduced activity, Eyjafjallajökull erupted beneath its glacier ice cap causing the melting of large amounts of ice. By mid-morning it was spewing out a substantial stream of steam and ash. By midday the surrounding rivers had risen by 3m and a plume of ash had risen through the air to 6.5 km in the sky.

Figure 5a: Characteristics of the 2010 volcanic eruption at Eyjafjallajökull, Iceland



5. *(a)* (i) Use **Figure 5a** to describe trends shown in airborne ash over time. [5]

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Figure 5b: Highway 1, the road that goes around Iceland, is cut off by a flood

Figure 5c: Farmers team up to rescue cattle from exposure to the toxic volcanic ash

Figure 5d: Basalt and ice deposits hundreds of metres from the river channel

Source: swisseduc.ch

(ii) Using **Figures 5a-5d** suggest how variations in the characteristics of this volcanic eruption resulted in different hazards. [9]

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(b) Explain the formation of volcanoes at diverging plate margins. [8]

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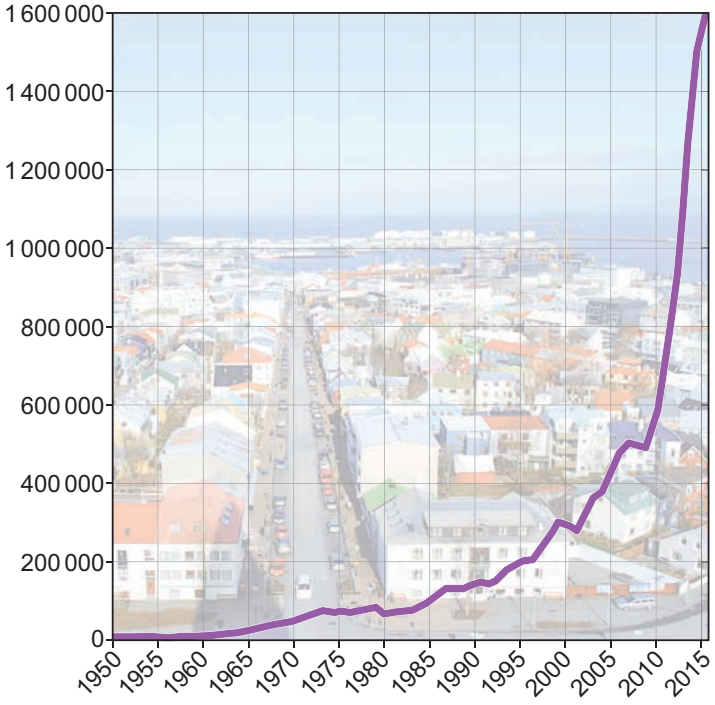
During the eruption of Eyjafjallajökull large volumes of ash in the atmosphere had an impact on air travel. **Figure 6a** shows information concerning the impacts on air transport firms and **Figure 6b** shows the total number of foreign visitors to Iceland since 1950.

Figure 6a: Costs of disruption to European Airlines

Airlines	Cost to the firm (millions of euros)
Aer Lingus	–7
Air France-KLM	–368
British Airways	–368
Easyjet	–338
Finnair	–83
Iberia	–525
Lufthansa	–670
Ryanair	–791
SAS	–229

Source: core.ac.uk

Figure 6b: Total foreign visitors to Iceland (1950 to 2016)



Source: Icelandic Tourist Board

6. *(a)* (i) State the mode of the costs to firms shown in **Figure 6a**. [1]

Mode: .....

(ii) Calculate the mean of the costs to firms shown in **Figure 6a**. Show your working. [2]

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(iii) Use **Figures 6a and 6b** to suggest how the economic impacts of this eruption varied. [6]

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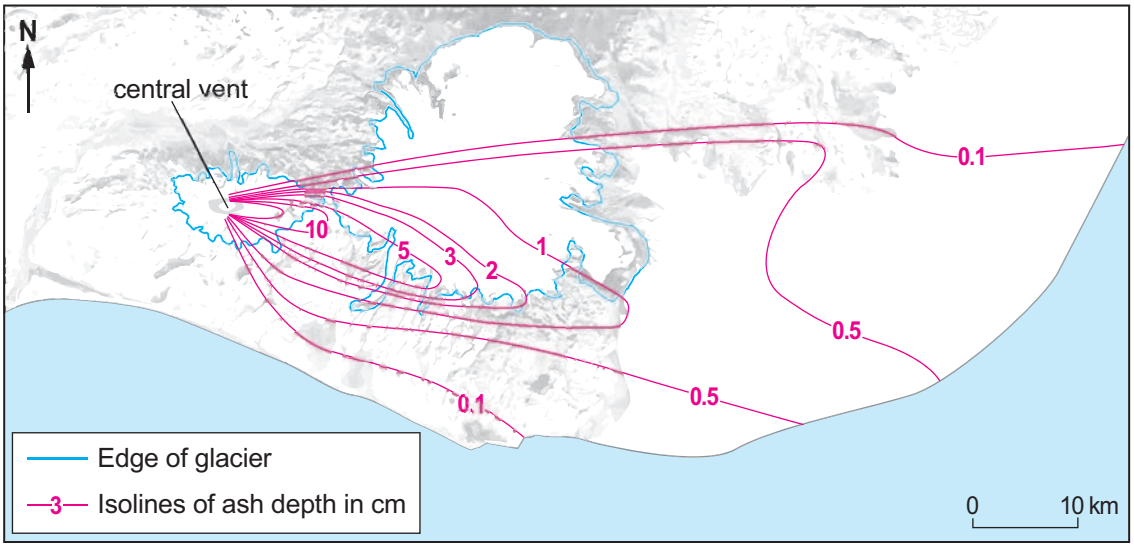
Figure 6c: Depth of ash fallout (cm) around Eyjafjallajökull 14th-16th April 2010



Source: researchgate.net

(b) Use **Figure 6c** to describe the pattern of ash fallout around the central vent of Eyjafjallajökull. [5]

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(c) Assess the importance of distance from the source of a tectonic hazard in determining the level of impact on people. [10]

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7. *(a)* Outline **two** social impacts of a named earthquake event. [10]

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(b) Examine the success of **one** short-term response used to manage the impacts of earthquakes. [8]

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