Candidate Name	Centre Number	Candidate Number
		0

wjec cbac

AS GEOGRAPHY

COMPONENT 1

CHANGING LANDSCAPES

SAMPLE ASSESSMENT MATERIALS

2 hours 15 minutes

eduqas

For examiner's use only	
Q.1	15
Q.2	20
Q.3	15
Q.4	20
Q.5	40
Q.6	35
Q7	10
Total Marks	

ADDITIONAL MATERIALS

In addition to this paper, you will require a calculator.

INSTRUCTIONS TO CANDIDATES

Answer in Section **A**, **either** questions 1 and 2 **or** questions 3 and 4

Answer **all** questions in Section **B** (Tectonic Hazards) and **all** questions in Section C (Challenges in the 21ˢᵗ Century).

Use either black ink or black ball-point pen.

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.

If additional space is required you should use the lined pages at the end 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 blank page is available at the end of each section for you to add any relevant sketch maps and diagrams you may wish to include.
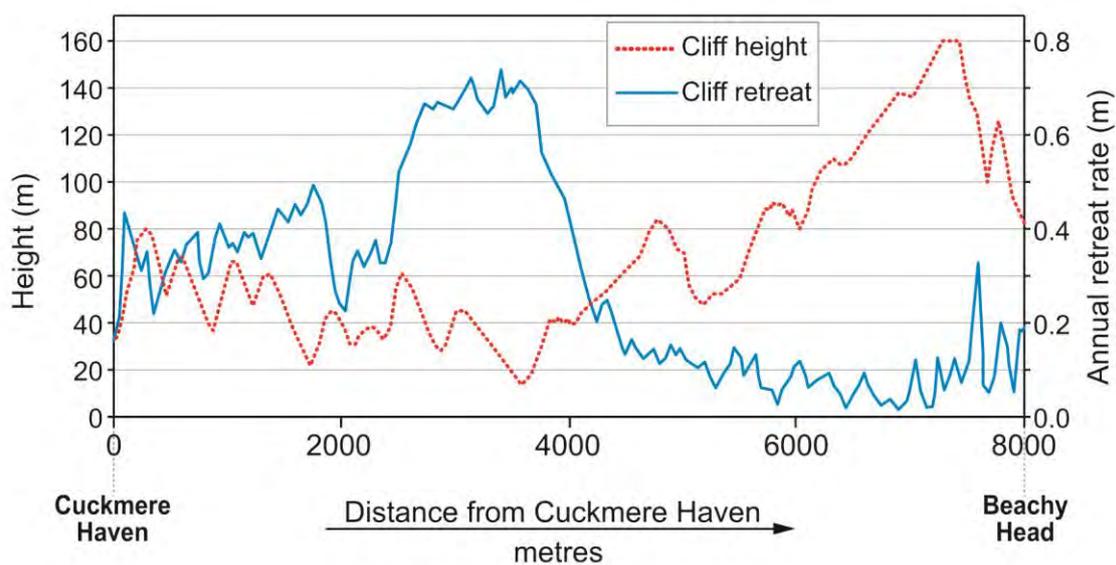
Section A: Coastal Landscapes

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

Where possible, make full use of examples and data to support your answers.

Either: Coastal Landscapes

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

Figure 1: Cliff height and rate of retreat (1875-1995), Cuckmere Haven to Beachy Head, Sussex

Source: adapted from www.sussex.ac.uk

1. (a) Use **Figure 1** to describe the relationship between cliff height and the rate of cliff retreat. [5]
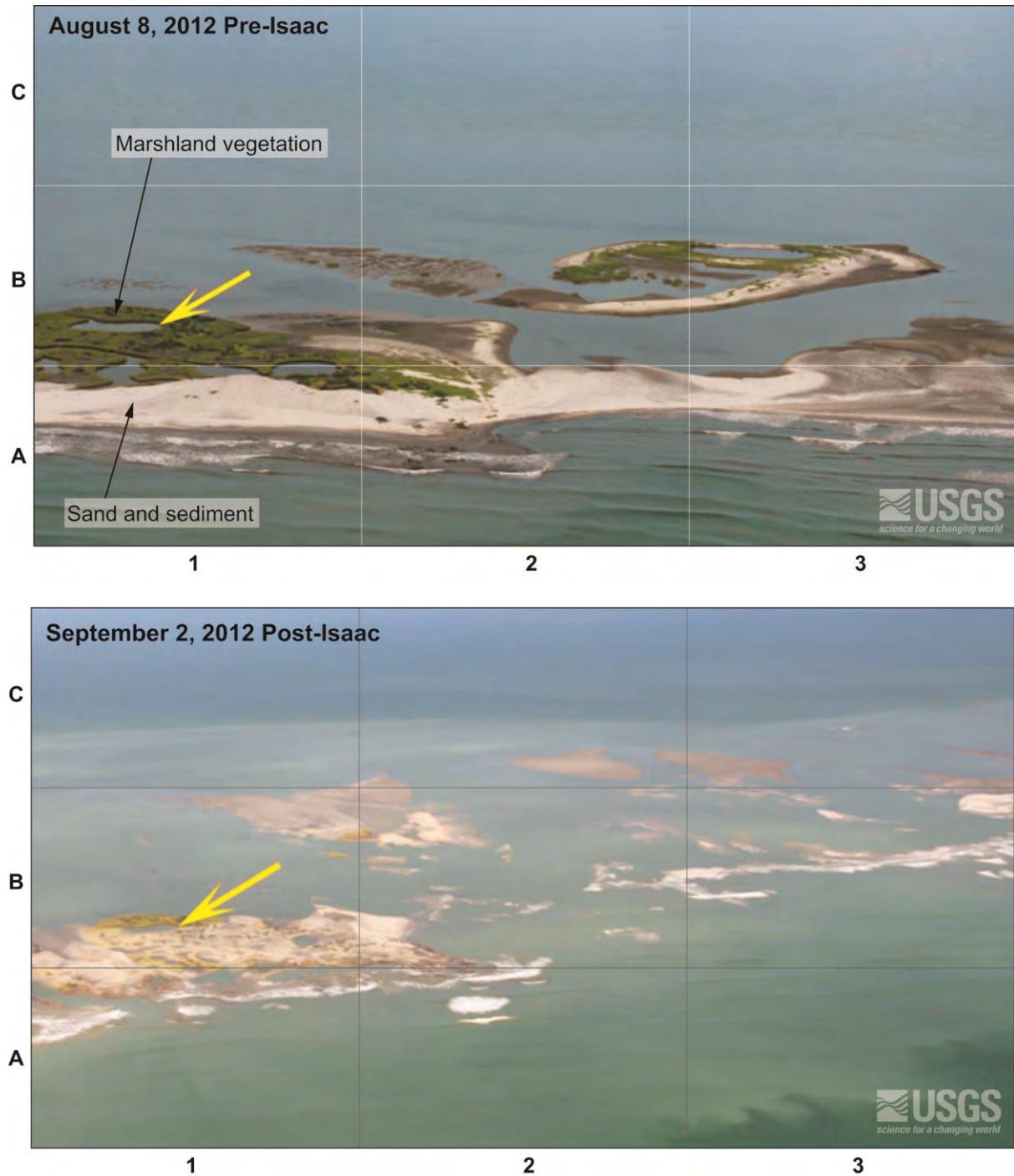
[insert 10 lines]

(b) Assess the importance of biotic processes in the formation of **either** sand dunes **or** coral reefs. [10]

Within your answer to question 1 (b), you are required to demonstrate your ability to develop a sustained line of reasoning which is coherent, relevant, substantiated and logically structured.

[insert 20 lines]

Figure 2: Chandeleur Islands, Louisiana, before and after the passage of Hurricane Isaac (an extreme weather event)

The yellow arrow in each image points to the same feature.

Source: adapted from coastal.er.usgs.gov

2. (a) Use **Figure 2** to compare the coastal landscapes before and after the passage
of Hurricane Isaac. [5]

[insert 10 lines]

 (b) Evaluate the extent to which **one** coastal management strategy has been
successful. [15]

Within your answer to question 2 (b), you are required to demonstrate your ability
to develop a sustained line of reasoning which is coherent, relevant, substantiated
and logically structured.

[insert 30 lines]

Or: Glaciated Landscapes

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

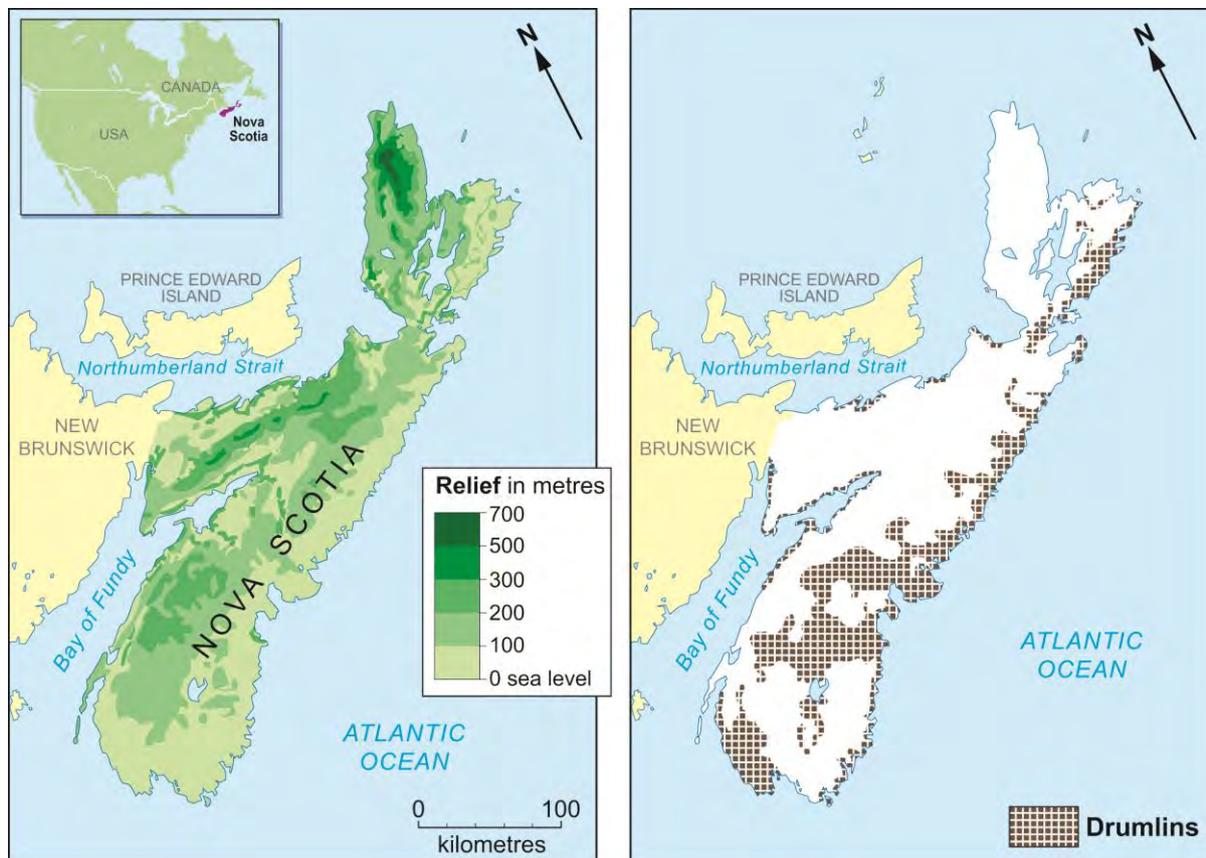**Figure 3: Landscape in Nova Scotia**

Figure 3a: Nova Scotia, relief   **Figure 3b: Nova Scotia, location of drumlins**

Source: adapted from novascotia.ca

3. (a) Use **Figures 3a** and **3b** to describe the relationship between relief and the distribution of drumlins in Nova Scotia.

[5]

[insert 10 lines]

    (b)   Assess the impact of human activity on permafrost at both the local and global scales. [10]

    Within your answer to question 3 (b), you are required to demonstrate your ability to develop a sustained line of reasoning which is coherent, relevant, substantiated and logically structured.

[insert 20 lines]

Figure 4: Seasonal Melting Index for the Greenland ice sheet, 1979-2012
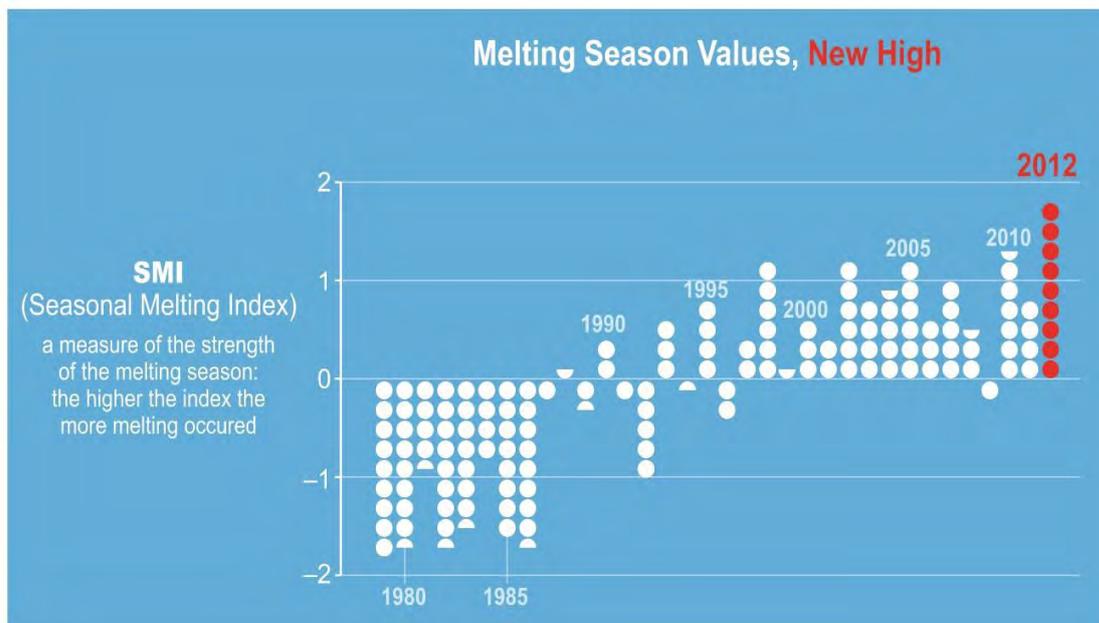
Number of years in the sample = 34

Source: adapted from www.polarseeds.org

4. (a) Suggest how **Figure 4** indicates a permanent decline in the mass of the Greenland ice sheet.   [5]

[insert 10 lines]

   (b) Evaluate the extent to which erosional processes are the main factor in the formation of the characteristic features of glacial troughs.   [15]

        Within your answer to question 4 (b), you are required to demonstrate your ability to develop a sustained line of reasoning which is coherent, relevant, substantiated and logically structured.

[insert 30 lines]

Section B: Tectonic Hazards
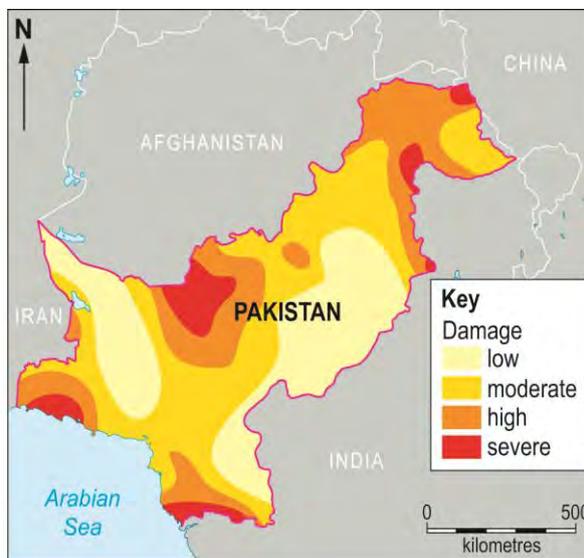
*Answer **all** questions.*

Where possible, make full use of examples and data to support your answers.

Figure 5a: Location map of Pakistan   **Figure 5b: Earthquake risk map of Pakistan**
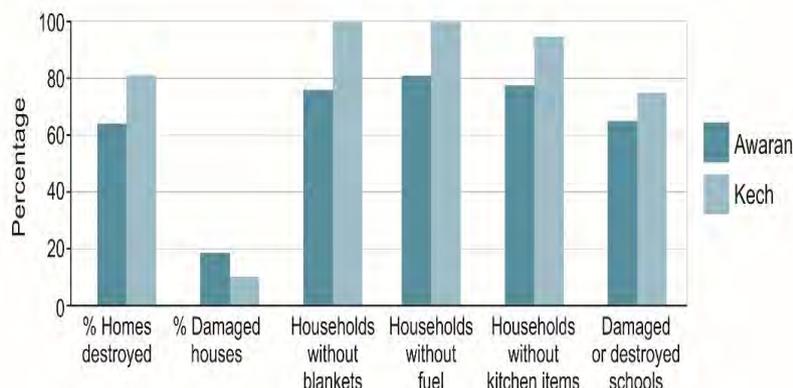

Source: adapted from www.saarc-sadkn.org

5. (a) (i)   Use **Figures 5a and 5b** to describe the distribution of severe earthquake risk areas in Pakistan. [6]

[insert 12 lines]

Figure 5c: Impacts of the 2013 earthquake in the Awaran and Kech areas of Balochistan

(ii) Use **Figure 5c** to compare the impacts of the 2013 earthquake on buildings in Awaran and Kech. [4]

[insert 8 lines]

Figure 5d: Chi-squared calculation for number of injured in four districts of Awaran and Kech

The null hypothesis (H0) is that there is no significant difference in the number of injured between the four districts

The alternative hypothesis (H1) is that there is a significant difference in the number of injured between the four districts

	O	E	(O-E)	$(O-E)^2$	$(O-E)^2$/E
Council/District	**Number of injured**				
Dandar/Kech	9	90.25	81.25	6601.56	73.15
Awaran/Awaran	233	90.25	142.75	20377.56	225.79
Gishkor/Awaran	52	90.25	38.25	1463.06	
Teertaj/Awaran	67	90.25	23.25	540.56	
X^2 **(chi-squared value)** Σ					

(b) (i) Calculate the chi-squared value by completing the missing figures in the column headed $(O-E)^2$/E in Figure 5d. Show workings in your answer. [2]

[insert 4 lines]

(ii) Using the degrees of freedom in the table below, interpret the result of the chi-squared test calculated in 5 (b) (i). [2]

Significance (confidence) level		
Degrees of freedom	95%	99%
3	7.82	11.34
4	9.49	13.28

[insert 4 lines]

Figure 5e: Food security in earthquake affected areas

District	Population	Percentage of households		
		No food stock	Enough food to last up to 1 week	Enough food to last more than one week
Awaran	480,000	42	50	8
Jhal Jao	377,000	60	0	40
Mashkai	100,000	38	61	1
Hoshab	110,868	92	8	0

Source: adapted from www.saarc-sadkn.org

(iii) Use **Figure 5e** to select and justify one graphical and one cartographical technique that could be used to interpret variations in food security in earthquake affected areas. [6]

[insert 12 lines]

(iv) Use **Figures 5 a – e** and your own knowledge to analyse the appropriateness of possible **short-term** responses that could mitigate the effects of earthquakes in Balochistan. [12]

[insert 24 lines]

(c)   Explain why earthquakes produce landslides and tsunamis. [8]

[insert 16 lines]

6. (a) To what extent is magnitude the most important factor in the level of impact of
        tectonic hazards?   [15]

        *Within your answer to question 6 (a), you are required to demonstrate your ability to
        develop a sustained line of reasoning which is coherent, relevant, substantiated and
        logically structured.*

        [insert 30 lines]

   (b) Analyse the impacts of similar volcanic events on contrasting locations.
                                                                                   [20]

        *Within your answer to question 6 (b), you are required to demonstrate your ability to
        develop a sustained line of reasoning which is coherent, relevant, substantiated and
        logically structured.*

        [insert 40 lines]

Section C: Challenges in the 21ˢᵗ Century

7.   To what extent are economic factors the most significant driver of change in central urban places?   [10]

*In your answer to question 7, you should use the photographs in **Figures 6a, 6b and 6c**, and apply your knowledge and understanding of the connections between different aspects of this area across the whole specification.*

You should develop a sustained line of reasoning which is coherent, relevant, substantiated and logically structured.

Figure 6a: Central Christchurch, New Zealand in 2010

Source http://eres.scix.net

Figure 6b: Cashel Mall in 2011 immediately after the 6.3 magnitude earthquake

Source http://memia.com

Figure 6c: Subsequent development of the Container Mall on the former site of Cashel Mall

Source: https://s-media-cache-ak0.pinimg.com

[insert 20 lines]