

Question 1

8. Aerial Photograph and Ordnance Survey Map

Examine the aerial photograph of Cavan and the 1:50 000 Ordnance Survey map and legend accompanying this paper and answer each of the following questions.

- (i) In what direction was the camera pointed when the aerial photograph was taken?

- (ii) Give a four-figure grid reference for the lake that is located in the right foreground of the aerial photograph.

- (iii) Which of the following regional roads can be seen in the left background of the aerial photograph? Tick (✓) the correct box.

R 212 ☐

R 188 ☐

R 198 ☐

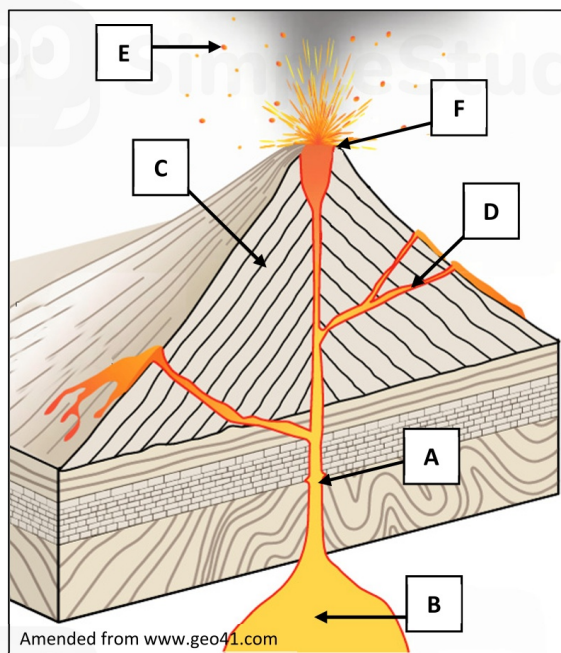
R 165 ☐

- (iv) State the **type** of aerial photography used for the aerial photograph accompanying this paper.

[8m]

Question 2

2. Volcanic Activity



Examine the diagram of an erupting volcano above and answer each of the following questions.

- (i) Match each of the letters **A, B, C, D, E** and **F** with the term that best matches it in the table below.

Term	Letter
Layers of lava and volcanic ash	
Crater	
Secondary vent	
Magma chamber	
Main vent	
Volcanic bomb	

- (ii) Name **two** plutonic features that form when magma cools.

1.	
2.	

[8m]

Question 3

3. Glaciation



Amended from © images by James Balog and the Extreme Ice Survey

The photographs above show the position of the Stein Glacier's snout at **A** in 2006 and at **B** in 2015. Examine the photographs and answer each of the following questions.

- (i) Did the Stein Glacier advance or retreat between 2006 and 2015?

Tick (✓) the correct box.

Advance ☐

Retreat ☐

- (ii) Which **one** of the following processes causes the snout of a glacier to advance?

Tick (✓) the correct box.

Plucking ☐

Melting ☐

Accumulation ☐

Abrasion ☐

- (iii) The snout of the Stein Glacier moved 540 metres between 2006 and 2015.

Calculate the average annual rate of movement of the snout, in metres, between 2006 and 2015.

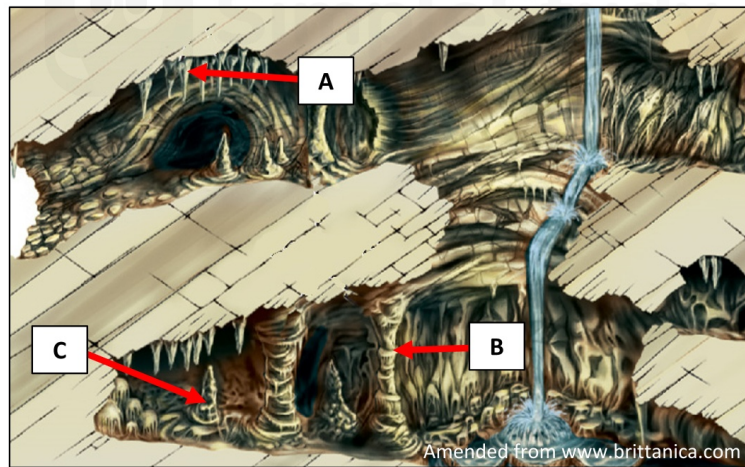
- (iv) Name **two** landforms formed by glacial deposition.

1.	
2.	

[8m]

Question 4

5. Karst Landscapes



Examine the diagram above which shows an underground area in a karst landscape and answer each of the following questions.

- (i) Name the underground features labelled **A**, **B** and **C** on the diagram above.

Letter	Underground Feature
A	
B	
C	

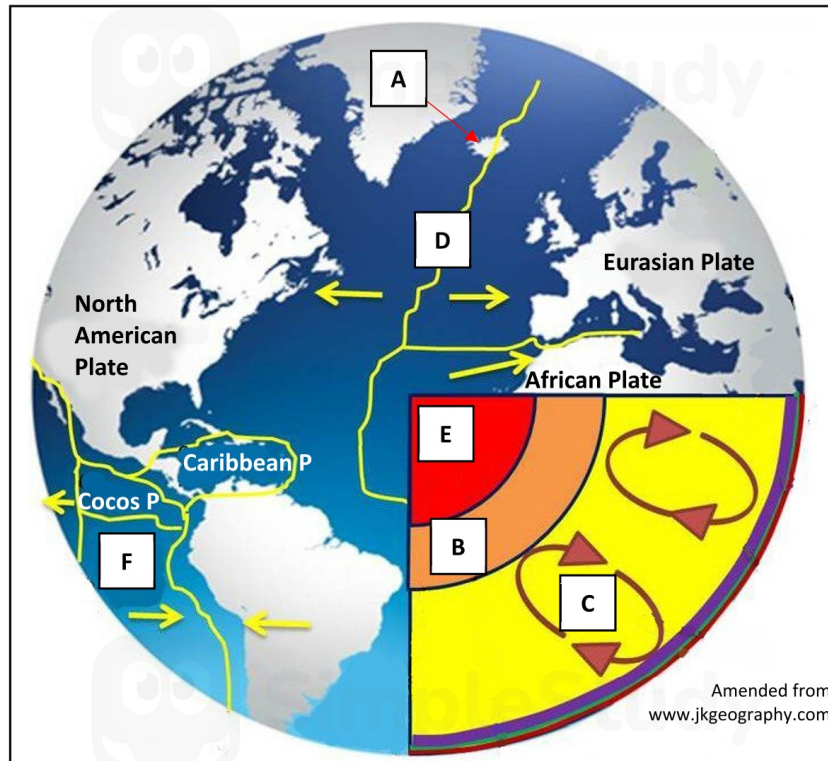
- (ii) State whether each of the following statements is true or false by ticking (✓) the correct box.

	True	False
Percolation is the downward movement of water through rock or soil.	☐	☐
A river of resurgence is one that disappears underground.	☐	☐

[8m]

Question 5

5. Plate Tectonics



Examine the diagram of the earth above and answer each of the following questions.

- (i) Match each of the letters **A, B, C, D, E** and **F** with the term that best matches it in the table below.

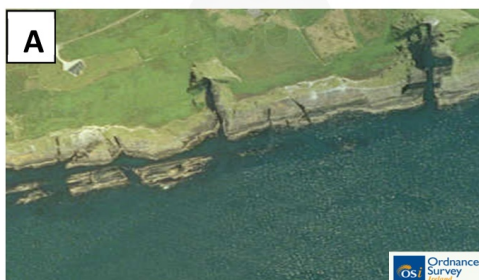
Term	Letter
Convection currents	
Inner core	
Outer core	
Nazca plate	
Volcanic island	
Divergent plate boundary	

- (ii) What is the name for the solid layer of rock around the earth which consists of the upper mantle and the crust?

[8m]

Question 6

2. The Physical Environment



Examine the photographs above and answer each of the following questions.

- (i) Match each of the photographs **A**, **B**, **C** and **D** with the feature that best matches it in the table below.
- (ii) Indicate, by ticking the correct box, whether each of the features in the table below, is most associated with processes of erosion or processes of deposition.

Q.2(i) Letter	Feature	Q.2(ii)	
		Processes of Erosion (✓)	Processes of Deposition (✓)
	Delta		
	Geo		
	Pyramidal peak		
	Drumlin		

[8m]

Question 7

2. Weathering



Examine the photographs above and answer each of the following questions.

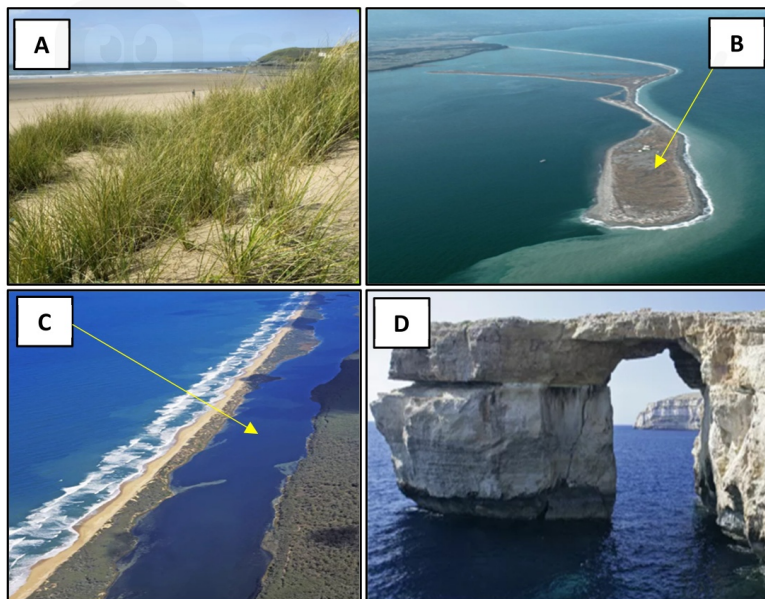
- (i) Match each of the photographs **A**, **B**, **C** and **D** with the process that best matches it in the table below.
- (ii) Indicate, by ticking (✓) the correct box, whether each of the processes in the table below is most associated with chemical or physical/mechanical weathering.

Q.2 (i)		Q.2 (ii)	
Letter	Process	Chemical (✓)	Physical/Mechanical (✓)
	Carbonation		
	Freeze-thaw action		
	Exfoliation		
	Hydrolysis		

[8m]

Question 8

3. Coastal Landscape



Amended from www.dkfindout.com

Examine the photographs above and answer each of the following questions.

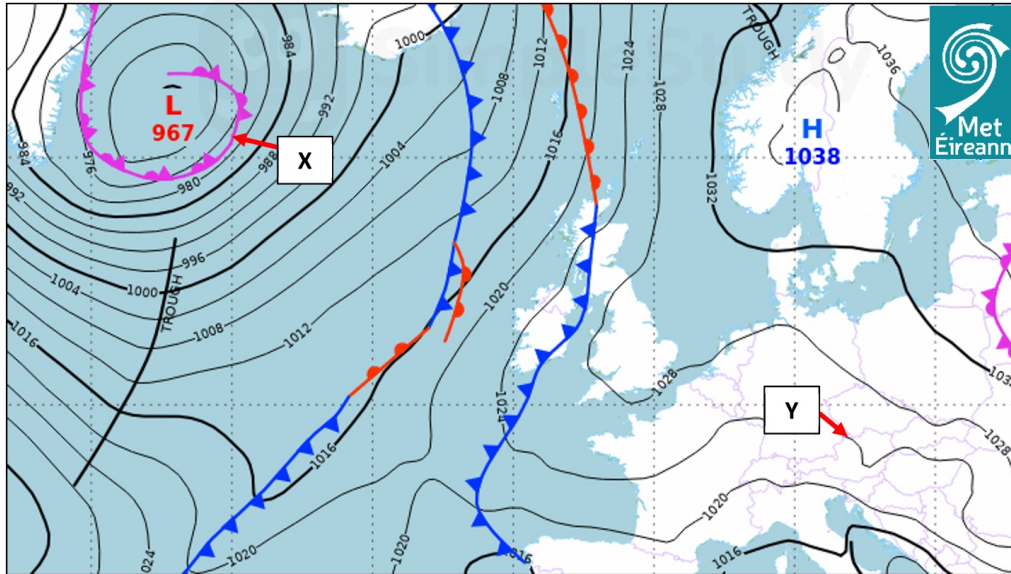
- (i) Match each of the photographs **A**, **B**, **C** and **D** with the feature that best matches it in the table below.
- (ii) Indicate, by ticking the correct box, whether each of the features in the table below, is most associated with processes of erosion or the process of deposition.

Q.3(i) Letter	Feature	Q.3(ii)	
		Processes of Erosion (✓)	Process of Deposition (✓)
	Lagoon		
	Sand dunes		
	Sea arch		
	Sand spit		

[8m]

Question 9

10. Weather



Examine the weather chart above from Met Éireann and answer each of the following questions.

- (i) Which of the following types of front is labelled **X** on the weather chart above?
Tick (✓) the correct box.

Warm front ☐
Cold front ☐
Occluded front ☐

- (ii) What is the barometric pressure (in hectopascals/millibars) at **Y** on the weather chart?

- (iii) Indicate whether the following statement is true or false by ticking (✓) the correct box.
Winds over the area marked **X** are stronger than the winds over the area marked **Y**.

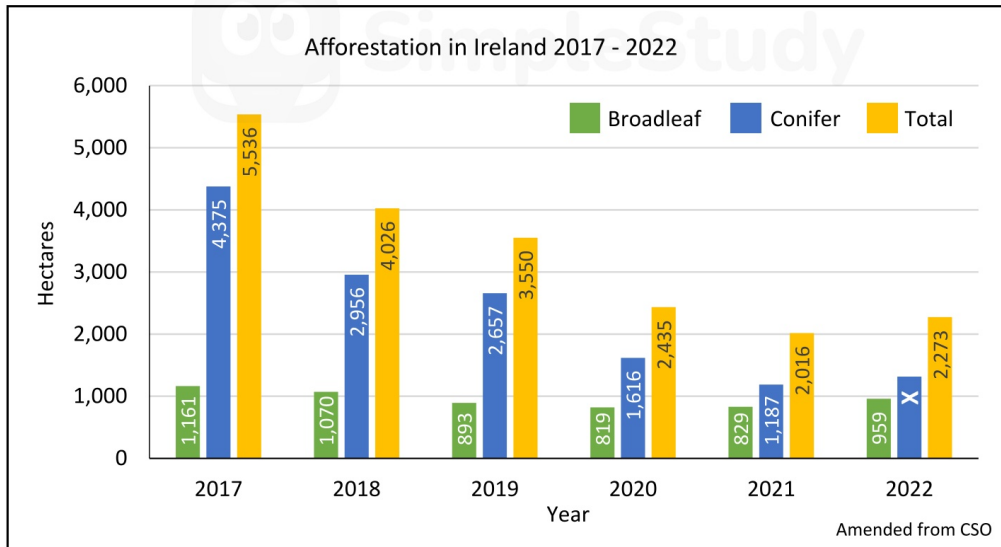
True ☐
False ☐

- (iv) What is the term used to describe the wind that blows most frequently over an area?

[8m]

Question 10

11. Statistical Interpretation



Examine the bar chart above showing statistics on afforestation in Ireland 2017 - 2022 and answer each of the following questions.

- (i) How many hectares of broadleaf trees were afforested in Ireland in 2018?

- (ii) Which year had a total afforestation of 2,435 hectares?

- (iii) Calculate X, the number of hectares planted with conifers in 2022.

- (iv) Explain briefly **one** environmental benefit of increased afforestation.

[8m]

Question 11

1A. Ordnance Survey Map

Examine the 1:50 000 Ordnance Survey map and legend accompanying this paper.

Draw a sketch map of the area shown to half scale.

On it, correctly show and label each of the following:

- The coastline
- The 18 hole golf course, north of Bantry town
- The entire area of Lough Bofinna
- The entire area of land above 400 metres at Mullaghmesha.

Question 12

1B. Human Interaction with Surface Processes

Human activity impacts on surface processes.

Examine this statement with reference to **one** of the following:

- The impact of flood control measures on river processes
- The impact of coastal defence measures on coastal processes
- The impact of human activities on mass movement processes.

[30m]

Question 13

1C. Destructive Plate Boundaries

Discuss the impacts of destructive plate boundaries, with reference to an example(s) you have studied.

[30m]

Question 14

4A. Map Skills

Draw an outline map of **Ireland**.

On it, show and name each of the following:

- The outline of **one** named region
- The outline of a named feature of relief (upland or lowland) within that region
- **One** named urban centre in that region
- **One** named river in that region.

[20m]

Question 15

4B. Dynamics of Regions – Transport

Examine the importance of transport to the economic development of any **two** contrasting **European** regions (not in Ireland), that you have studied.

[30m]

Question 16

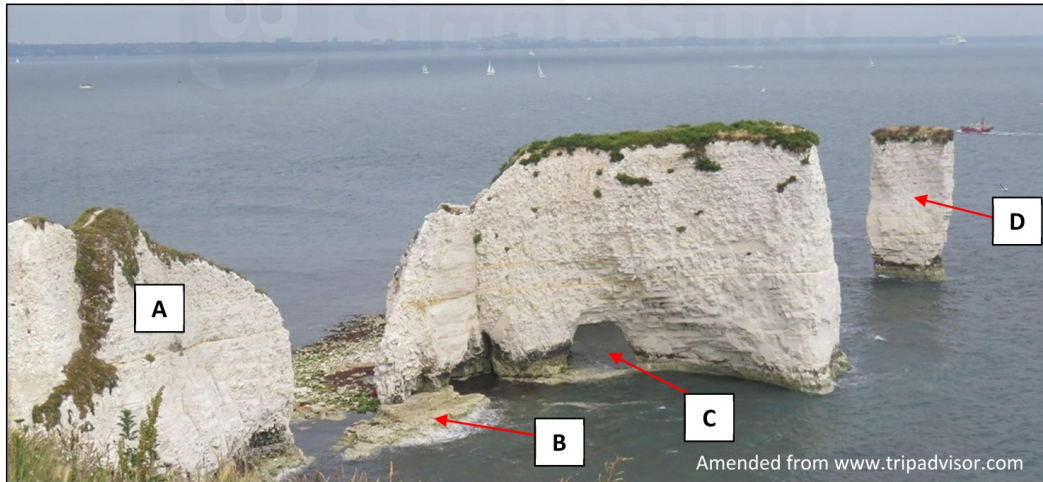
4C. Concept of a Region

Examine how culture **or** climate can be used to define regions, with reference to an example(s) that you have studied.

[30m]

Question 17

2A. Coastal Landforms



Examine the photograph above and answer each of the following questions.

- (i) Name each of the landforms formed by coastal processes labelled **A**, **B**, **C** and **D**.
- (ii) Name **two** specific processes of coastal erosion.
- (iii) Explain briefly what is meant by *constructive waves*.
- (iv) Explain briefly what is meant by *wave refraction*.

[20m]

Question 18

2B. Landscape Development

Examine how different rock types produce distinctive landscapes, with reference to examples that you have studied.

[30m]

Question 19

2C. Human Interaction with Surface Processes

Human activity impacts on surface processes.

Examine this statement with reference to **one** of the following:

- The impact of flood control measures on river processes
- The impact of coastal defence measures on coastal processes
- The impact of human activities on mass movement processes.

[30m]

6A. Tourism in Ireland

Irish Tourist Attractions 2022

Top Ranked Tourist Attractions		Share of Tourists by Category	
Tourist Attraction	Total Visitors	Category	% Share
Phoenix Park Visitor Centre	2,013,211	Historic site	36
Kilkenny Castle Parklands	1,418,171	Museum, gallery	17
Dublin Zoo	1,242,556	Visitor/heritage centre	X
Cliffs of Moher Visitor Experience	1,136,868	Brand experience	10
Guinness Storehouse	1,110,000	Natural attraction	7
Castletown House Parklands	958,921	Visitor garden	7
The Book of Kells	835,065	Zoo, aquarium, open farm	6
National Gallery of Ireland	789,315	Heritage/leisure/theme park	3

Amended from www.failteireland.ie

Examine the table above showing Ireland's leading tourist attractions in 2022 and answer each of the following questions.

- Name the **two** most popular tourist attractions.
- What tourist attraction had a total of 835,065 visitors?
- Which category had a 17% share of tourists?
- Calculate **X**, the percentage share of tourists that visited a visitor/heritage centre.
- The majority of attractions in the table are on the east coast of Ireland. Explain briefly **one** reason why more tourists visited attractions on the east coast than other parts of the country.
- Explain briefly **one** possible negative impact of tourism.

[20m]

Question 21

6B. Population Dynamics

Account for population distribution throughout a **Continental / Sub-Continental** region (not in Europe) that you have studied.

[30m]

Question 22

6C. Socio-Economic Regions

Discuss how economic activity in core regions differs from economic activity in peripheral regions, using examples you have studied.

[30m]