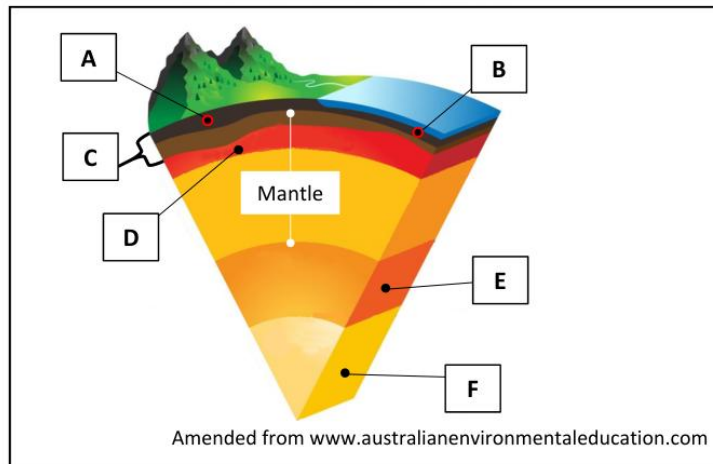


PART ONE – SHORT-ANSWER QUESTIONS – 80 MARKS

Attempt any **TEN** questions.

All questions carry equal marks.

THESE QUESTIONS ARE TO BE ANSWERED IN THE SPACES PROVIDED

1. Structure of the Earth

Examine the diagram above which shows different layers of the earth and answer each of the following questions.

- (i) Match each of the layers of the earth labelled **A** to **F** on the diagram above with the term that best matches it in the table below.

Layer of the Earth	Letter
Asthenosphere	
Inner core	
Oceanic crust	
Lithosphere	
Continental crust	
Outer core	

- (ii) State whether the following statement is true or false by ticking (✓) the correct box.
Endogenic forces are those forces that act inside the earth.

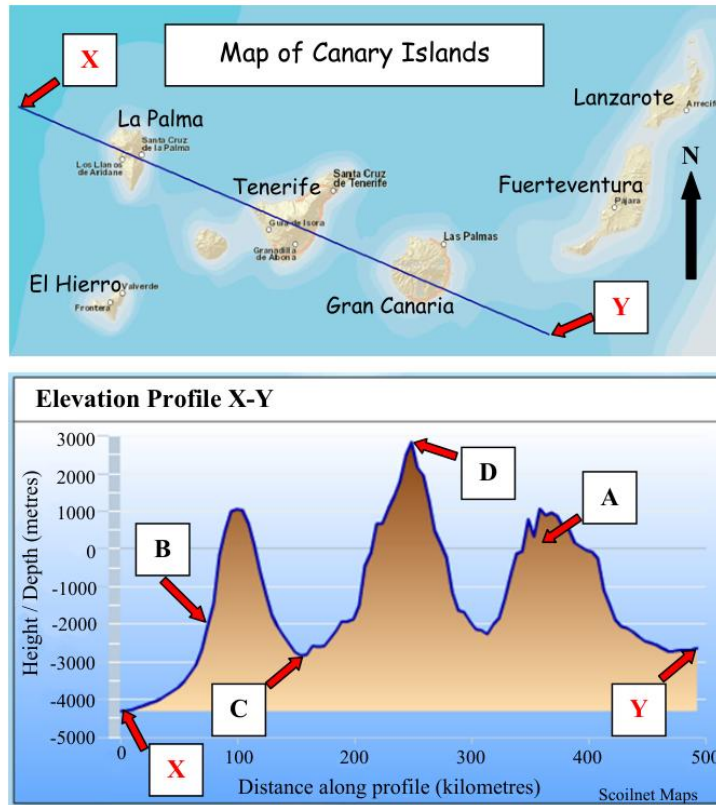
True ☐

False ☐

[8m]

9. Map Skills

The line X-Y on the map of the Canary Islands below indicates the line of a cross-section. An elevation profile of the line X-Y is also shown.



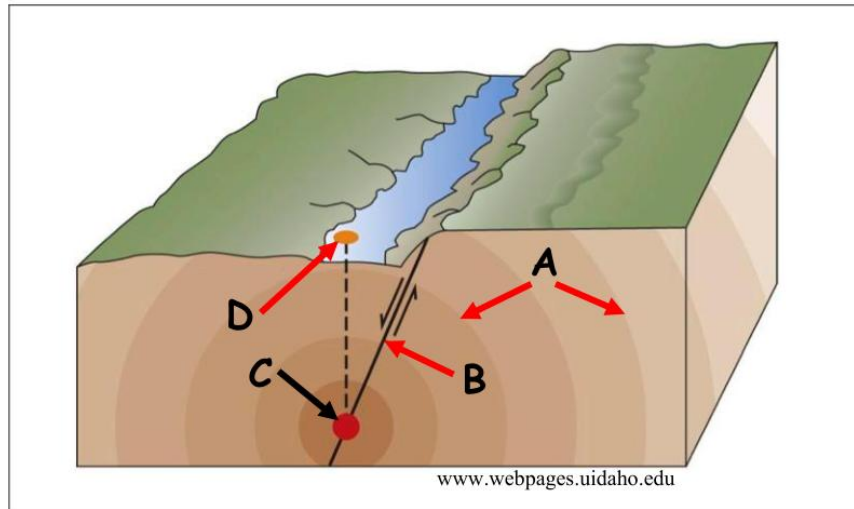
Examine the map of the Canary Islands and the elevation profile X-Y, and answer each of the following questions.

- Name the island at **A** on the elevation profile. _____
- What is the depth of the ocean at **B** on the elevation profile? _____
- Calculate the difference in elevation between point **C** and point **D** on the profile, to the nearest 1000 metres.

- Briefly explain **one** economic advantage of living on a volcanic island.

[8m]

2. Earthquakes



- (i) Match each of the letters **A**, **B**, **C** and **D** on the above diagram with the correct feature in the table below.

Feature	Letter
Focus	
Epicentre	
Seismic waves	
Fault line	

- (ii) Explain briefly each of the following terms.

Seismologist _____

Seismometer _____

[8m]

2. The Physical Environment



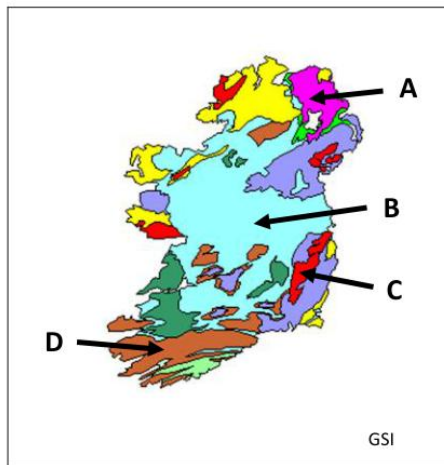
Examine the photographs above and answer each of the following questions.

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

[8m]

7. Rocks in Ireland



Amended from staticflickr.com; sandatlas.org; macgeo.org; cdn.thinglink.me

Examine the map of Ireland and the photographs of rocks above, and answer each of the following questions.

- (i) Match each of the locations on the map, **A**, **B**, **C** and **D** with the example of the rock in the table below which is most associated with it.
- (ii) Match each of the photographs **W**, **X**, **Y** and **Z** with the example of the rock in the table below that best matches it.

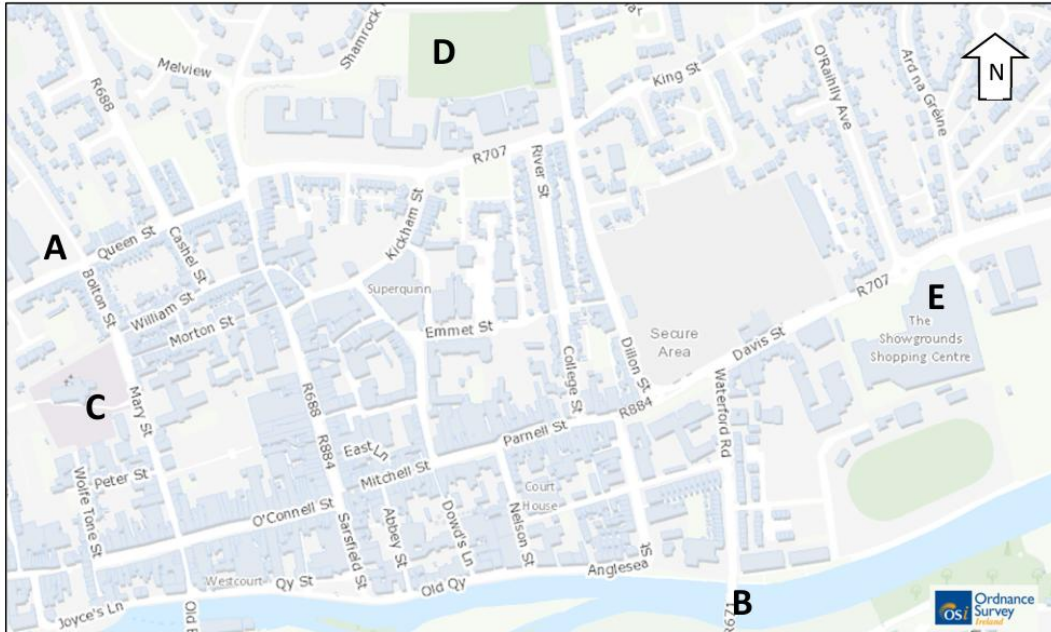
Q.7(i)	Example of Rock	Q.7(ii)
Location (Letter)		Photograph (Letter)
	Limestone	
	Basalt	
	Sandstone	
	Granite	

[8m]

8. Aerial Photograph

Examine the aerial photograph of Clonmel accompanying this paper and examine the street map below which shows part of the area covered by the aerial photograph.

Note: The orientation of the aerial photograph accompanying this paper is different from the orientation of the street map below.



Locate each of the features labelled **A**, **B**, **C**, **D** and **E** above, on the aerial photograph accompanying this paper.

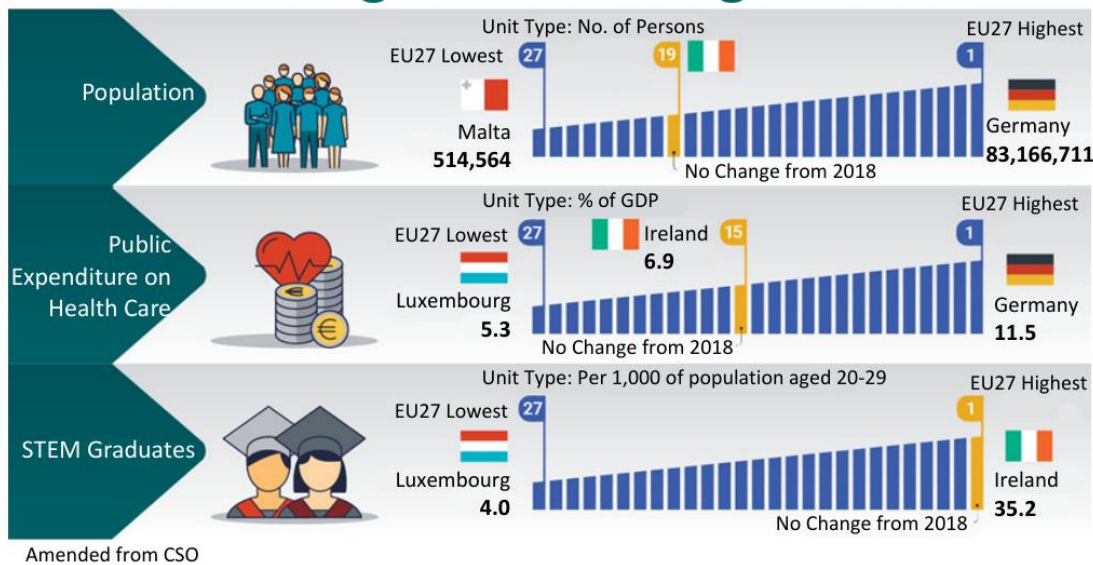
Using accepted notation, give the location on the aerial photograph of each of these features in the table below. One has been completed for you.

Feature on Street Map	Location on the Aerial Photograph
A Vacant yard	Centre foreground
B Bridge	
C Church	
D Sports pitch	
E Shopping Centre	

[8m]

12. Graphical Interpretation

Measuring Ireland's Progress 2019



Examine the infographic above which shows where Ireland ranked in the European Union (EU) in 2019 for the following metrics: population, public expenditure on health care and the number of Science, Technology, Engineering and Maths (STEM) graduates. Answer each of the following questions.

- (i) What percentage of its GDP did Ireland spend on health care in 2019?

- (ii) Which country was ranked 27th in two of the metrics?

- (iii) Calculate the difference in number of persons between the lowest and highest ranked countries in terms of population.

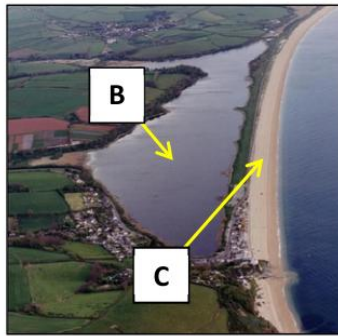
- (iv) Ireland is ranked highest in the EU for the number of STEM graduates in the 20 to 29 age group. Briefly explain **one** advantage to Ireland's economy of this high rank.

[8m]

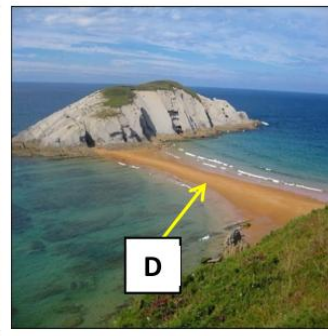
4. Coastal Features and Processes



www.rougmont.fandon.com



www.coastalwiki.org



www.meteorologiaenred.com

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

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

Letter	Coastal Feature
	Sand bar
	Tombolo
	Lagoon
	Sand spit

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

- (a) Longshore drift is a process involved in the formation of the features in part (i).

True ☐

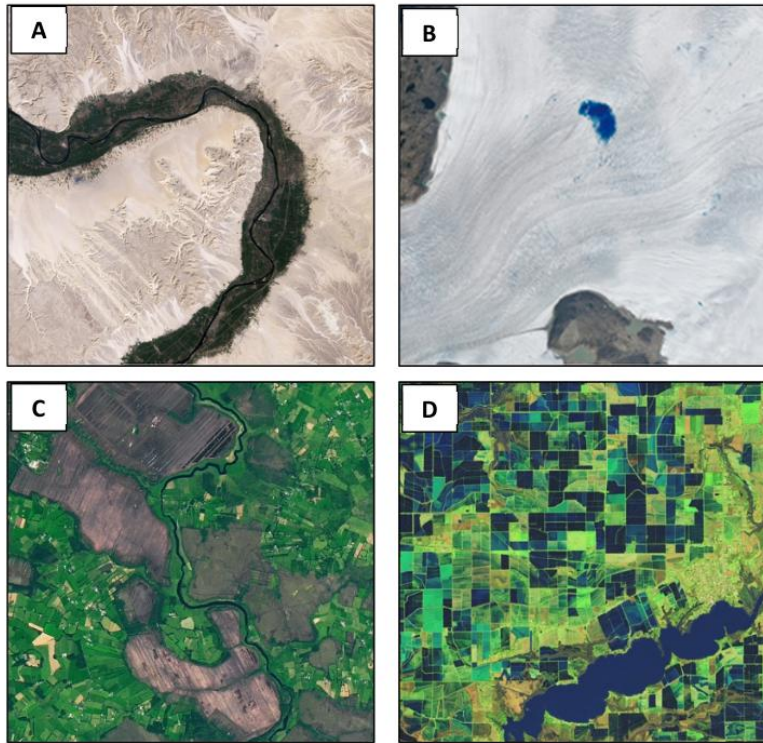
False ☐

- (b) Waves are known as constructive when the swash is greater than the backwash.

True ☐

False ☐

[8m]

12. Satellite Interpretation

Amended from www.earthobservatory.org

Examine the satellite images above and answer the question below.

Match each of the images **A**, **B**, **C** and **D** with the description that best matches it in the table below.

Description	Letter
Cutaway peatlands, Ireland	
Meltwater pond on Greenland glacier	
Farmland along the Nile Floodplain	
Flooded rice fields, Louisiana	

[8m]

7. Map Skills

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

- (i) Give a six-figure grid reference for the Independent Holiday Hostel in Oughterard.

- (ii) Calculate the approximate area (in km²) of Lough Corrib shown on the map extract.

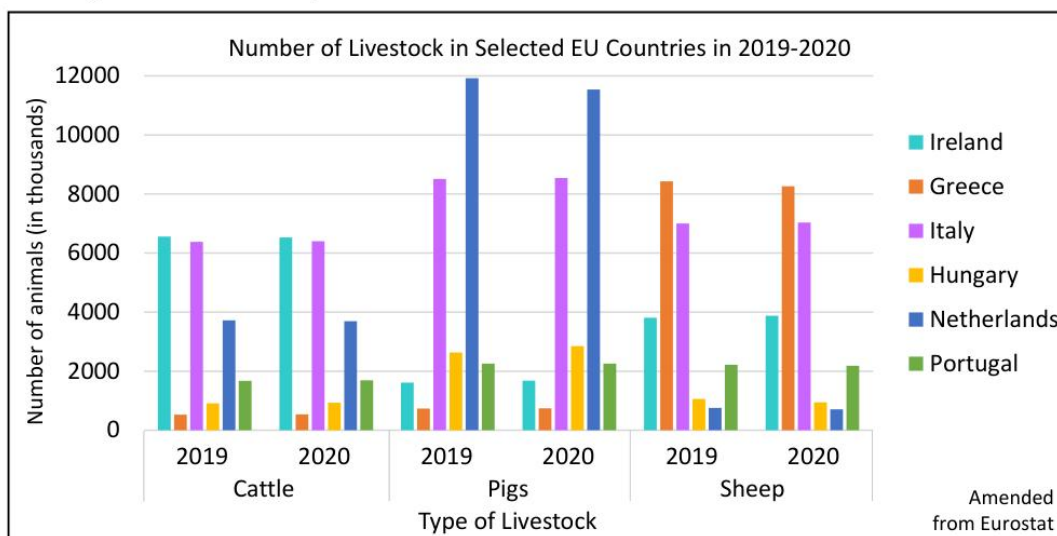
- (iii) Measure the length (in km) of the Dismantled Railway from M 150 402 to where it meets Easting 08 at M 080 416.

- (iv) What type of cultural area can be found west of Easting 06, bordered by the yellow highlighted line?

[8m]

Question 5

5A. Agriculture in the European Union



Examine the bar chart above showing the number of cattle, pigs and sheep in selected European Union countries in 2019 and 2020 and answer each of the following questions.

- Which animal did Greece have the highest number of in 2019?
- Name **two** countries from the chart above that had more than 2 million pigs in 2019.
- Which country, from the chart above, had more than 6 million of each type of livestock in 2020?
- Was there an increase or decrease in the number of pigs in the Netherlands between 2019 and 2020?
- Name **one** specific European Union policy which influences the development of agriculture.
- Explain briefly **one** benefit of Ireland having large numbers of cattle.
- Explain briefly **one** environmental problem associated with having large numbers of livestock.

[20m]

5B. Secondary Economic Activity – Continental / Sub-Continental Region

Examine how any **two** factors have influenced the development of secondary economic activity in a **Continental / Sub-Continental** region (not in Europe) that you have studied.

[30m]

5C. Population Dynamics

Account for population distribution throughout a **European** region (not in Ireland) that you have studied.

[30m]

SECTION 3

ELECTIVES

Questions 7 to 12

Patterns and Processes in Economic Activities (Questions 7, 8 and 9)

Patterns and Processes in the Human Environment (Questions 10, 11 and 12)

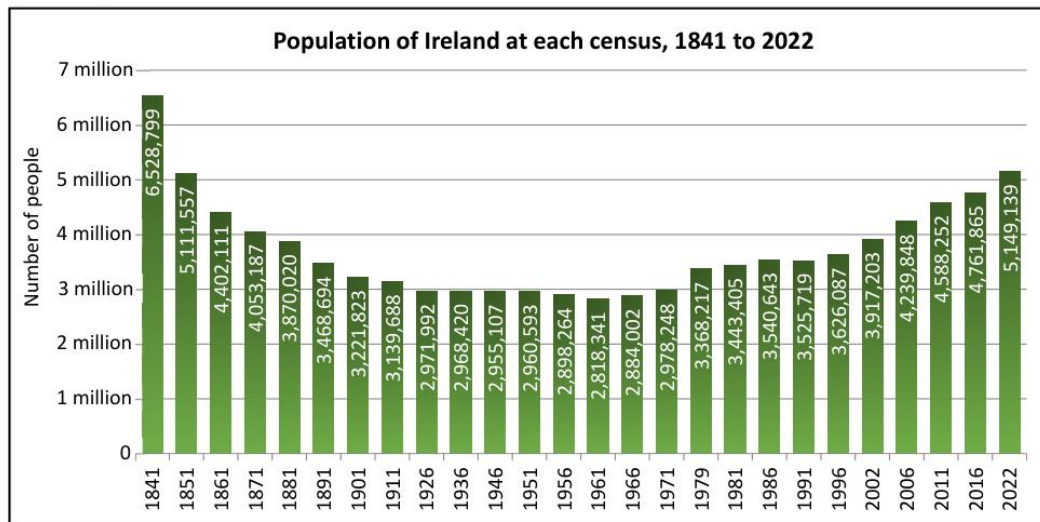
All questions carry 80 marks.

PATTERNS AND PROCESSES IN THE HUMAN ENVIRONMENT

Questions 10 to 12

Question 11

11A. Population Characteristics



Amended from CSO

Examine the chart above showing the population of Ireland at each census from 1841 to 2022 and answer each of the following questions.

- Which census year had the highest population?
- Which census year had the lowest population?
- Was the population increasing **or** decreasing from 1996 to 2022?
- In how many censuses was the population at or over 4 million people?
- Calculate the change in Ireland's population between 1841 and 2022.
- Explain briefly **one** reason why Ireland's population increased since 2011.
- Explain briefly the term *natural change*.

[20m]

11B. Changing Urban Functions

Examine how the functions and/or services of urban centres can change over time, with reference to an example(s) that you have studied.

[30m]

11C. Future Urbanism

Discuss **two** challenges facing cities of the future.

[30m]

SECTION 4**OPTIONS****Questions 13 to 24**

All questions carry 80 marks.

Note: It is better to discuss **three** or **four** aspects of the theme in some detail, rather than to give a superficial treatment of a large number of points.

Culture and Identity

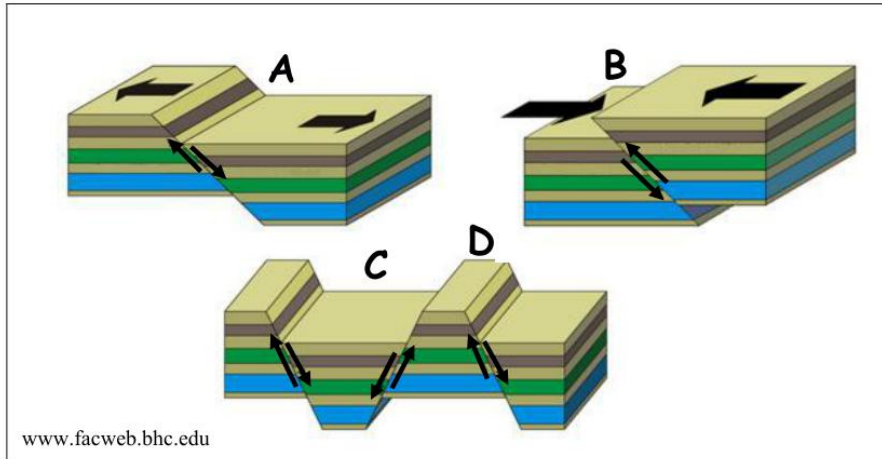
Note: It is better to discuss **three** or **four** aspects of the theme in some detail, rather than to give a superficial treatment of a large number of points.

- 20.** Examine how people express their culture and identity in everyday life.

[80m]

Question 2

A. Faulting and Landforms



Examine the diagrams above and answer the following questions.

- (i) Name the type of fault at **A** and the type of fault at **B**.
- (ii) Explain briefly what causes the type of faulting at **A** or at **B**.
- (iii) Name the landform at **C** and the landform at **D** that result from faulting.

[20m]

B. Landform Development

Answer (i) or (ii).

- (i) Explain with the aid of a labelled diagram(s) the formation of **one** landform of erosion that you have studied.

Or

- (ii) Describe and explain **one** process of mass movement that you have studied.

[30m]

C. Human Interaction

Examine how humans interact with the rock cycle, with reference to **one** of the following:

- Mining
- Extraction of building materials
- Oil/gas exploration
- Geothermal energy production.

[30m]