



Coimisiún na Scrúduithe Stáit  
State Examinations Commission

Leaving Certificate Examination 2020

Geography

Part One and Answerbook

Ordinary Level

Two hours and 50 minutes

400 marks

Examination Number

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Day and Month of Birth

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For example, 3rd February  
is entered as 0302

Centre Stamp

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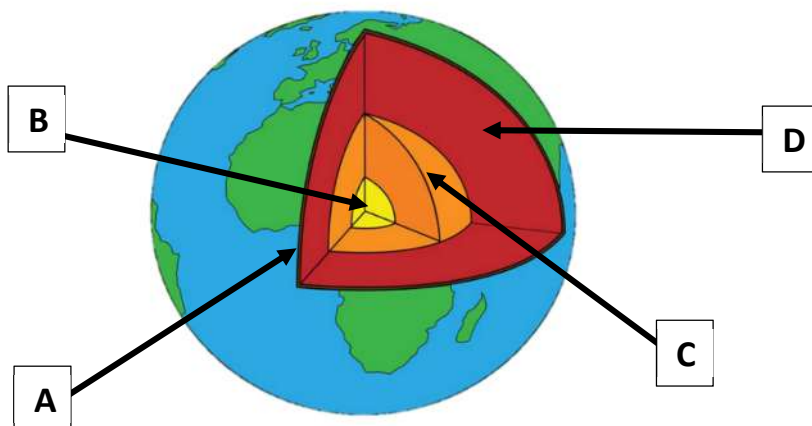
## PART ONE – SHORT-ANSWER QUESTIONS – 100 MARKS

Attempt any **TEN** questions.

All questions carry equal marks.

**THESE QUESTIONS ARE TO BE ANSWERED IN THE SPACES PROVIDED**

### 1. Layers of the Earth



Amended from [www.nationalgeographic.com](http://www.nationalgeographic.com)

Examine the diagram above showing the different layers of the earth 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.

Feature	Letter
Crust	
Inner Core	
Mantle	
Outer Core	

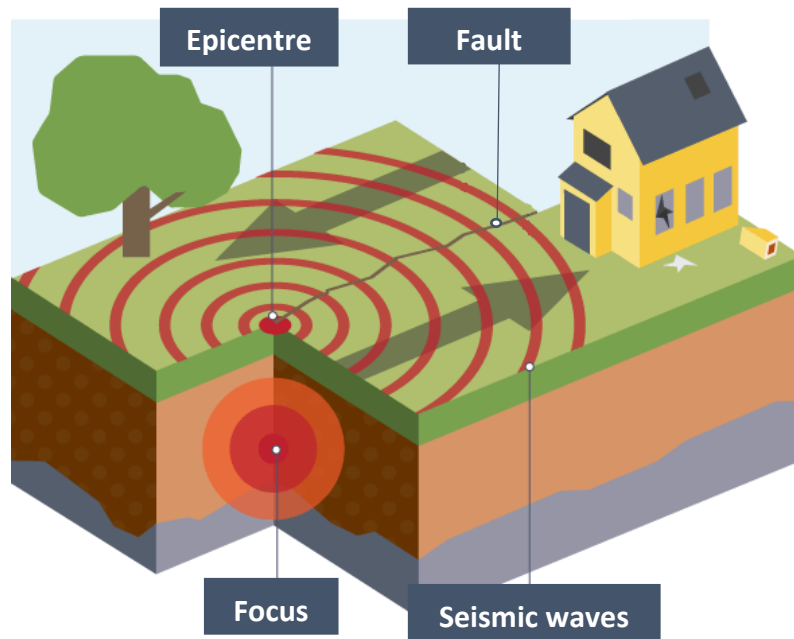
- (ii) What is the name of the molten rock found in the mantle?  
Tick (✓) the correct box.

Magma

Lava

[10m]

## 2. Earthquakes



Amended from [www.multidict.net](http://www.multidict.net)

Examine the diagram above of an earthquake, and answer each of the following questions.

- (i) Match each of the **earthquake terms** with the **description** that best matches it by writing the correct letter in the table below.

Letter	Description
A	The meeting point of two plates along which earthquakes can occur.
B	The point below the surface where the earthquake begins.
C	Ripples that travel inside and on the earth's surface at high speeds.
D	The point on the surface where most damage usually occurs.

Earthquake Term	Letter
Focus	
Epicentre	
Seismic waves	
Fault	

- (ii) What scale is used to measure the magnitude (strength) of an earthquake?

[10m]

**3. River Landforms**



Amended from [www.bing.com/maps](http://www.bing.com/maps), [www.americanrivers.org](http://www.americanrivers.org), [www.nationalgeographic.org](http://www.nationalgeographic.org) and [www.gettyimages.co.uk](http://www.gettyimages.co.uk)

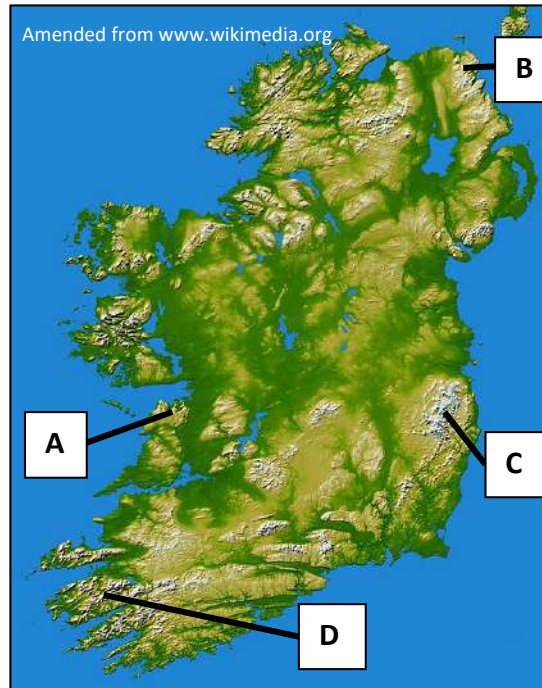
Examine the photographs above. Complete the table by answering each of the following questions. Some of the table has been completed for you.

- (i) Match each of the photographs **A, B, C** and **D** with the landform that best matches it in the table below.
- (ii) State whether each of the landforms named in the table is formed by erosion **or** deposition.

Q.3 (i) Letter	Landform	Q.3 (ii) Erosion OR Deposition
	V-shaped valley	Erosion
	Waterfall	
C	Floodplain	
	Delta	Deposition

[10m]

#### 4. Rock Types



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

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

Rock Type	Letter
Granite	
Basalt	
Limestone	
Sandstone	

- (ii) State whether the following statement is true or false.

Marble is an example of a metamorphic rock.

[10m]

**5. Ordnance Survey Map**

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

- (i) What is the height, in metres, of the highest point on the map?

--

- (ii) What is the length of the M11 motorway, from where it enters the map at T 229 710 to where it crosses the Avoca River at T 234 745?

Tick (✓) the correct box.

3.7 km

2.2 km

**[10m]**

**6. Ordnance Survey Map**

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

- (i) Name each of the features that can be found at each of the following grid references:

T 242 728
T 194 776
T 256 733
T 198 759

- (ii) Draw the Ordnance Survey map symbol for Boating Activities in the box below.

--

**[10m]**

## 7. Aerial Photograph

Examine the aerial photograph of Arklow accompanying this paper.

- (i) Match the **feature** with the location on the aerial photograph that best matches it, by writing the correct letter in each case, in the table below.

Letter	Feature
A	Bridge
B	Lake
C	Harbour
D	Agricultural Fields

Location	Letter
Right background	
Right middleground	
Left foreground	
Left background	

- (ii) Indicate whether the aerial photograph accompanying this paper is a vertical or an oblique aerial photograph, by putting a tick (✓) in the correct box.

Vertical

Oblique

[10m]

## 8. Regions

Match the **description of the region** with the **example of the region** that best matches it, by writing the correct letter in each case, in the table below.

Letter	Description of Region
A	A climatic region
B	A core region
C	A geomorphological region
D	A region of industrial decline
E	An administrative region in France

Example of Region	Letter
A Département	
Sambre-Meuse, Belgium	
Munster Ridge and Valley	
The Greater Dublin Area	
The Mediterranean	

[10m]



## 9. Economic Activities



Amended from [www.ewi.org](http://www.ewi.org), [www.rollercoaster.ie](http://www.rollercoaster.ie), [www.agriland.ie](http://www.agriland.ie) and [www.miningpeople.com.au](http://www.miningpeople.com.au)

- (i) Examine the photographs above and indicate whether each is an example of a Primary, Secondary or Tertiary economic activity, by ticking (✓) the correct box in the table below.

Photograph	Primary Activity	Secondary Activity	Tertiary Activity
A			
B			
C			
D			

- (ii) Name **one** primary economic activity **NOT** shown in the photographs above.

[10m]

## 10. Weather

Mean Monthly Temperatures and Monthly Rainfall at Knock Airport 2019

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Mean Temperature (°C)	5.0	6.5	6.0	8.3	10.2	11.7	15.0	14.0	12.2	8.4	5.5	5.2
Rainfall (mm)	93	99	182	97	78	114	86	208	117	105	103	174

Amended from www.met.ie

Examine the table above which shows the mean monthly temperatures and monthly rainfall at Knock Airport in 2019 and answer each of the following questions.

(i) What was the highest mean monthly temperature (°C) at Knock Airport in 2019?

(ii) What was the mean temperature (°C) for March?

(iii) Which month experienced the highest level of rainfall?

(iv) In how many months were the mean temperatures greater than 9°C?

(v) What was the total rainfall (mm) for June, July and August combined?

[10m]

## 11. Tourism in Ireland



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

- (i) Which region attracted 17% of overseas tourists in 2017?

- (ii) Which region attracted the lowest percentage of overseas tourists in 2017?

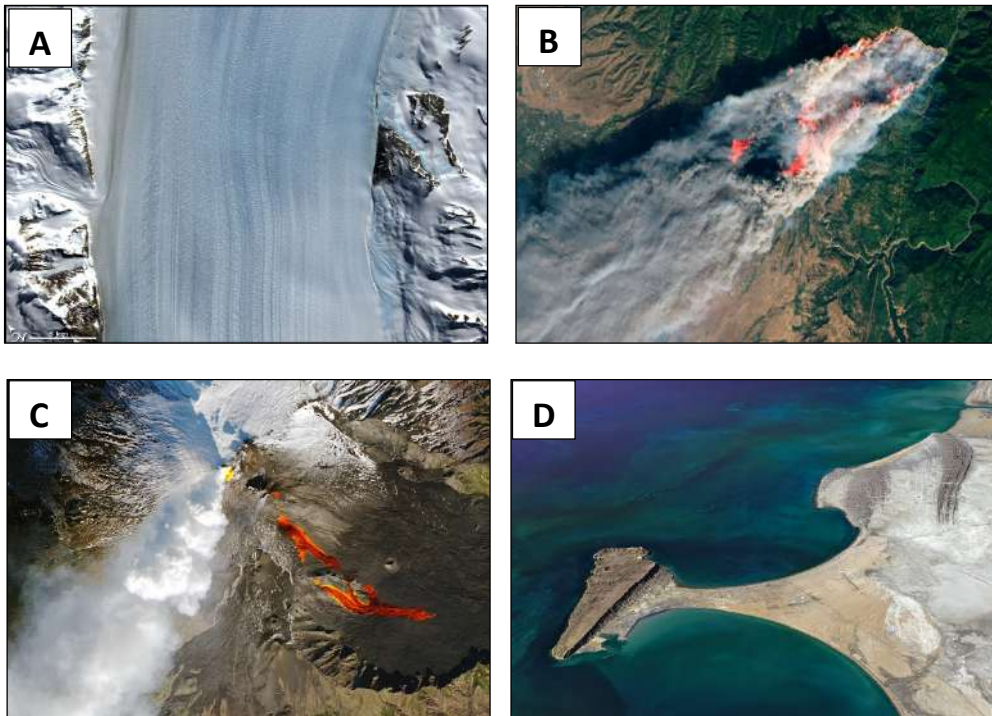
- (iii) What percentage of overseas tourists visited the Border region?

- (iv) Name **one** tourist attraction found in Dublin.

- (v) State **one** problem associated with tourism.

[10m]

**12. Satellite Interpretation**



Amended from [www.earthobservatory.org](http://www.earthobservatory.org), [www.businessinsider.org](http://www.businessinsider.org), [www.spaceref.com](http://www.spaceref.com) and [www.earthobservatory.nasa.gov](http://www.earthobservatory.nasa.gov)

Examine the satellite images above and answer each of the following questions.

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

Description	Letter
Byrd Glacier, Antarctica	
Tombolo, Pakistan	
Wildfire in California	
Mt. Etna erupting	

- (ii) State whether the following statement is true or false.

Longshore drift is an important process in the formation of tombolos.

**[10m]**

# Answerbook for PART TWO

## Instructions

Questions for **PART TWO** are supplied separately.

Start each question on a new page. Write the question number in the box at the top of each page.

Use the left-hand column to label each part, as shown below.

Part Cuid	Question Ceist
(a)	
(b)(i)	
(b)(ii)	

**Start each question on a new page**  
*Cuir tús le gach ceist ar leathanach nua*

Four pages of graph paper are provided at the back of this answerbook. On pages with graph paper, the box for the question number is at the bottom of the page.

You do not need to use all of the pages in this answerbook. If you run out of space in this answerbook, you may ask the superintendent for more paper or graph paper.

Write your answers in blue or black pen. You may use pencil for sketches, graphs and diagrams only.









































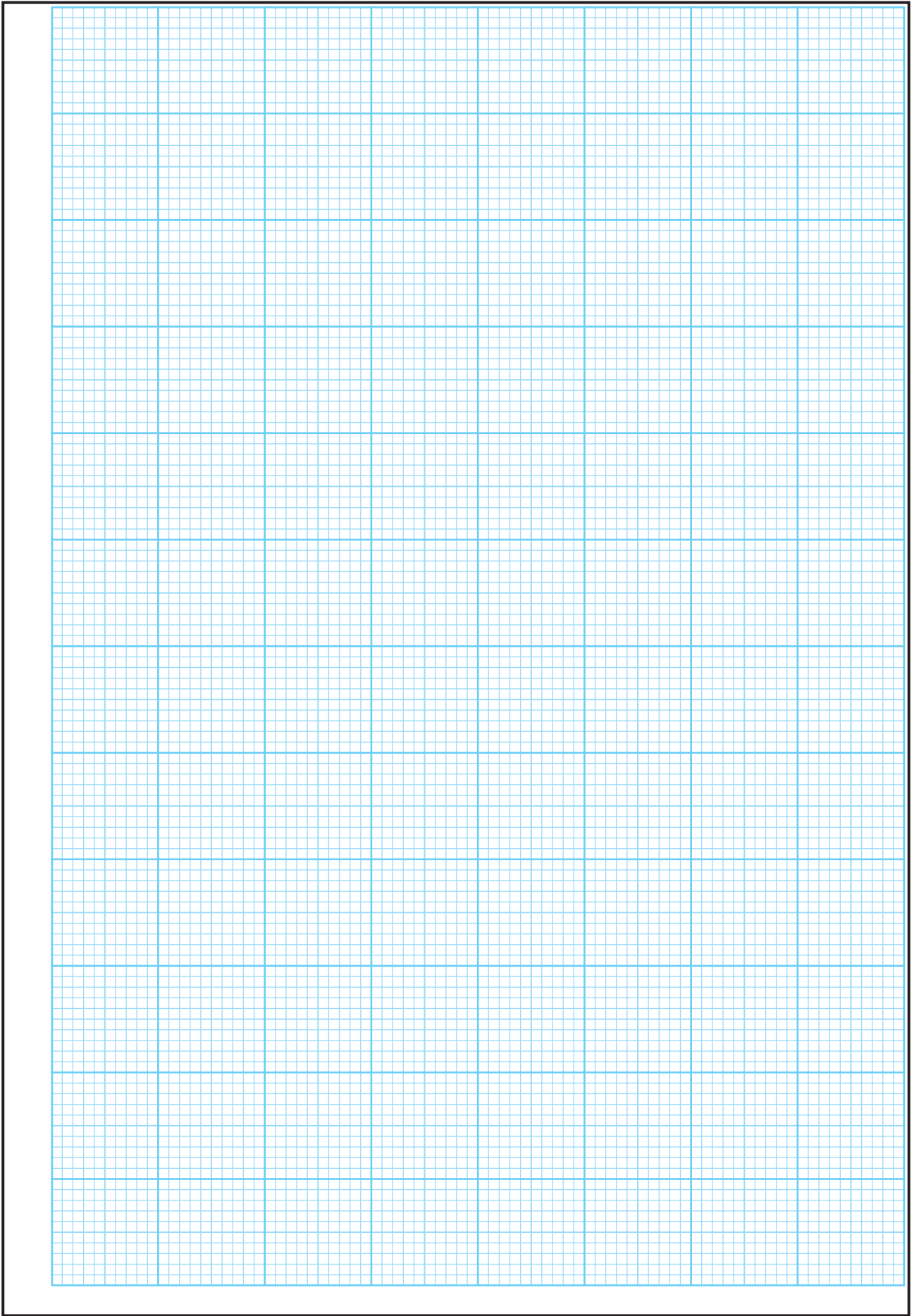






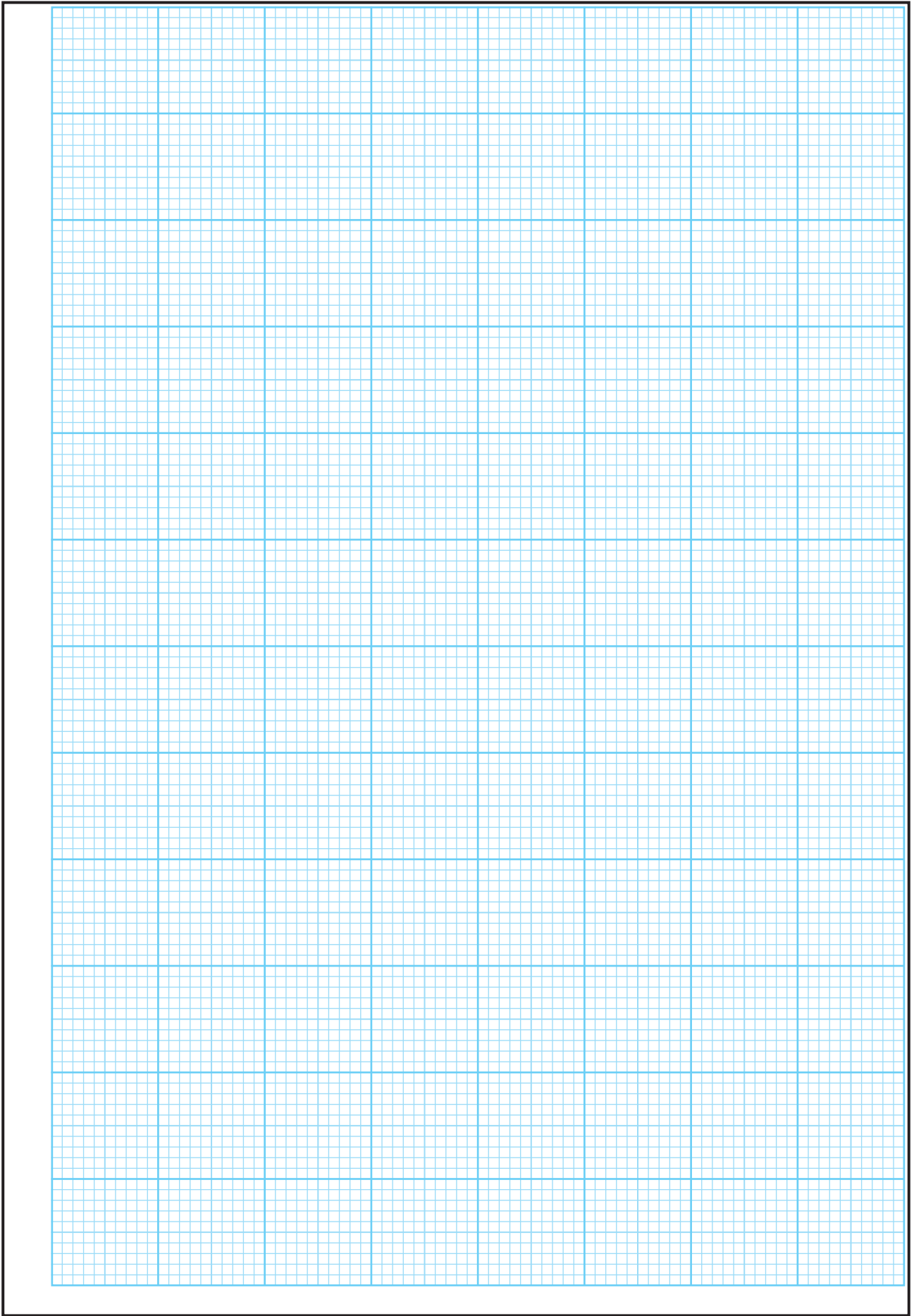






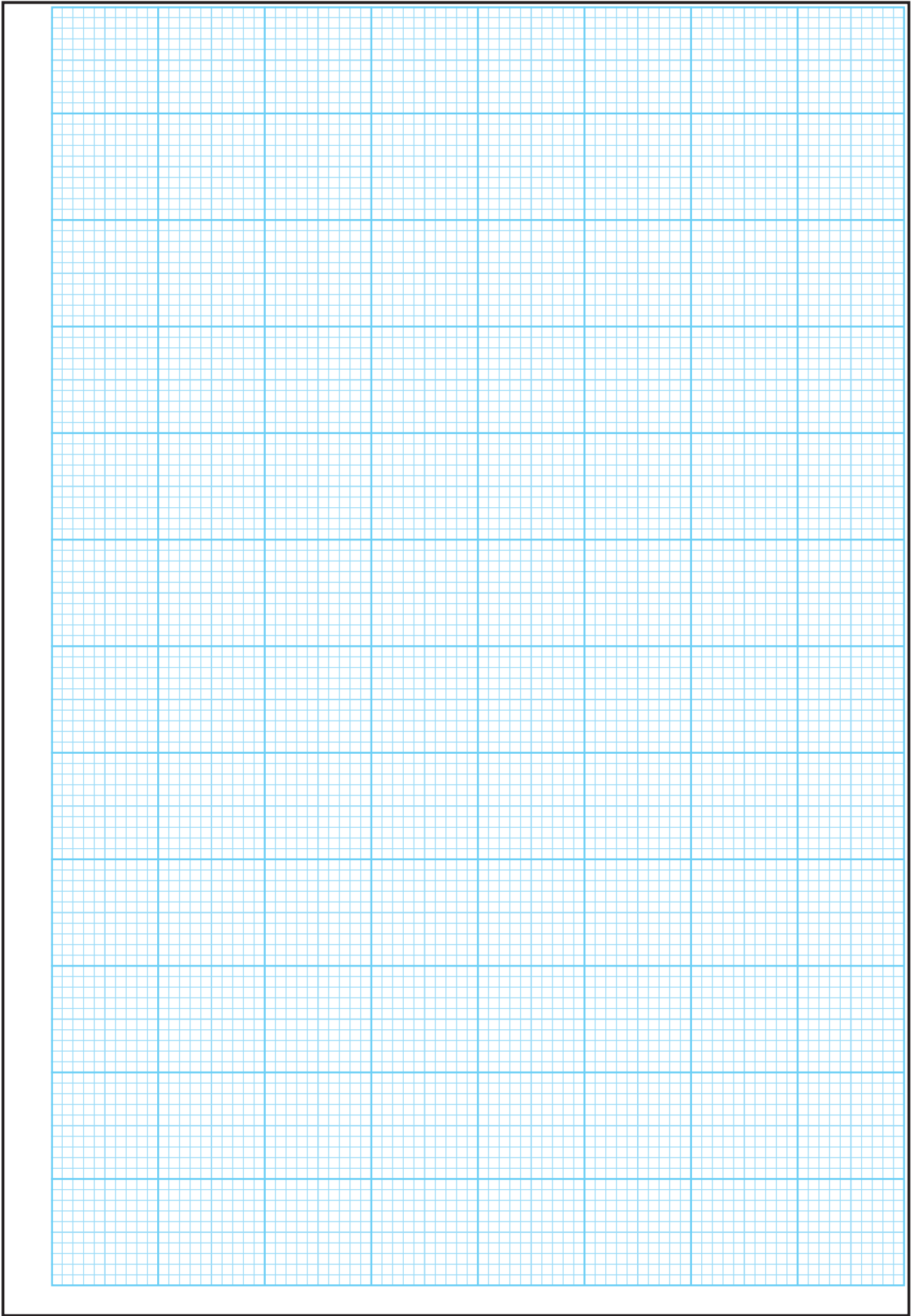
Question



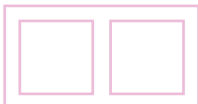


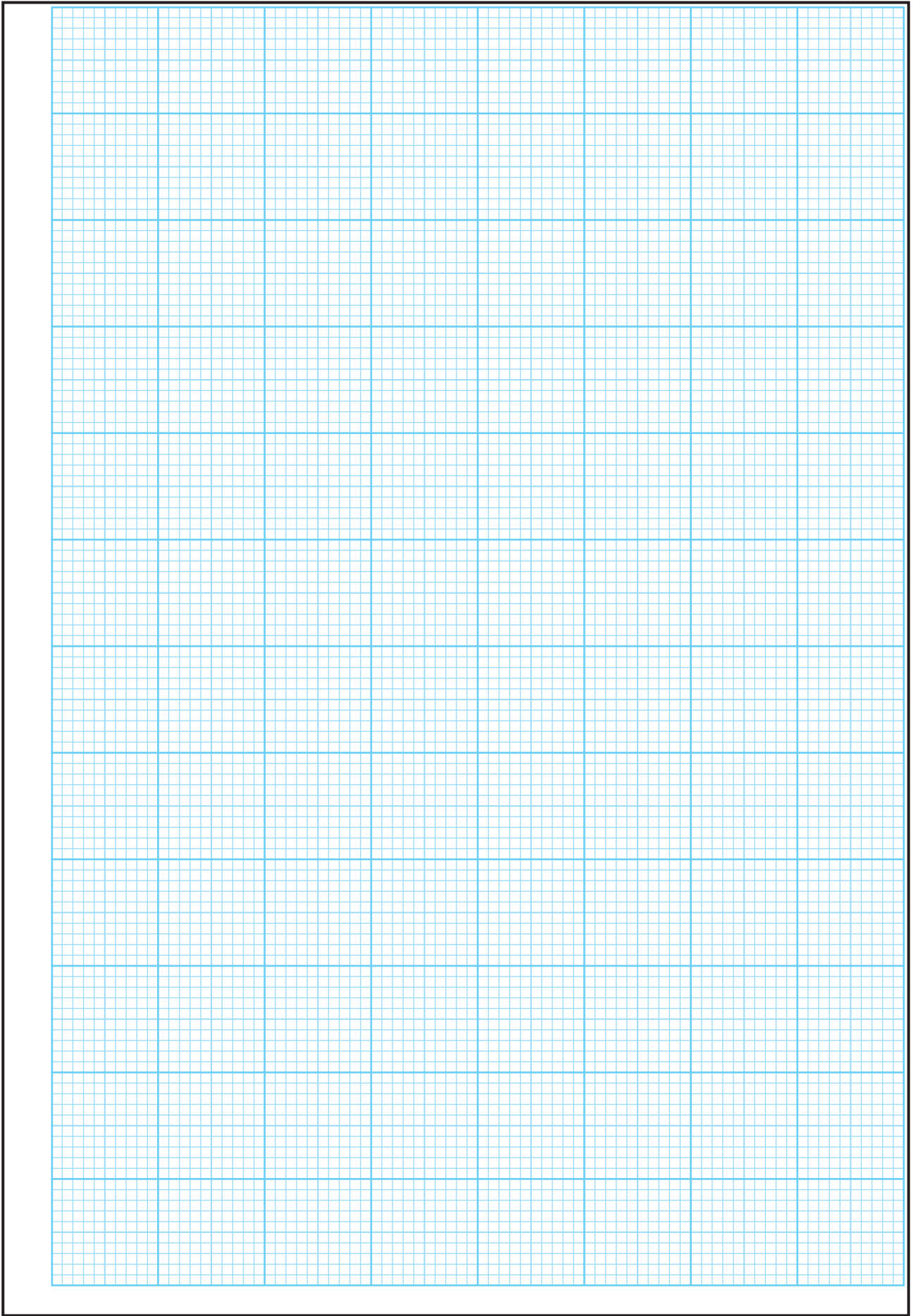
Question





Question





Question



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Leaving Certificate – Ordinary Level

## Geography Part One and Answerbook

Two hours and 50 minutes





Coimisiún na Scrúduithe Stáit  
State Examinations Commission

Leaving Certificate Examination 2020

# Geography

Part Two

Ordinary Level

Two hours and 50 minutes

400 marks

Do not hand this up

## **PART TWO – STRUCTURED QUESTIONS – 300 MARKS**

You must attempt **THREE** questions, as follows:

- **TWO** questions from **Section 1 – Core**:
  - **One** question from Questions 1, 2 and 3 **(100 marks)**
  - AND**
  - **One** question from Questions 4, 5 and 6 **(100 marks)**
- **ONE** question from **Section 2 – Electives (100 marks)**

***THESE QUESTIONS ARE TO BE ANSWERED IN THE ANSWERBOOK CONTAINING PART ONE***

**SECTION 1 - CORE**

**Questions 1 to 6**

You **MUST** attempt **TWO** questions:

**ONE** from **Patterns and Processes in the Physical Environment (Questions 1 to 3)**

**AND**

**ONE** from **Regional Geography (Questions 4 to 6)**

All questions carry 100 marks.

# PATTERNS AND PROCESSES IN THE PHYSICAL ENVIRONMENT

## Questions 1 to 3

Attempt **ONE** question.

### Question 1

#### 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 on the Ordnance Survey map.

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

- The coastline
- A beach
- An area of mixed woodland
- The Avoca River
- An area of land over 200m in height.

[30m]

#### 1B. Rocks

- (i) Name **one** example of an igneous rock **and** describe and explain how igneous rocks are formed.
- (ii) Name **one** example of a sedimentary rock **and** describe and explain how sedimentary rocks are formed.

[40m]

#### 1C. Human Interaction with Surface Processes

Examine how humans interact with **one** of the following surface processes:

- River processes
- Coastal processes
- Mass movement processes.

[30m]

## Question 2

### 2A. Volcanoes

A volcano is an opening in the Earth's crust that allows molten rock from beneath the crust to reach the surface. When a volcano erupts it can release lava, gas, ash and rock.

Volcanoes can be active, dormant or extinct. It is estimated that 75% of all active volcanoes and 90% of earthquakes worldwide occur in a region known as the Pacific Ring of Fire. Indonesia is one country located in this region.

Recent eruptions in Indonesia have caused at least 13,000 people to be evacuated this year. Negative effects of volcanoes include buildings being destroyed by mudflows that are triggered by eruptions, injury from falling rocks and lung damage from the ash and gas.

Dangerous as they are, volcanoes can also have positive effects such as building and shaping the land, creating mountains and new seafloor.



Amended from [www.nationalgeographic.com](http://www.nationalgeographic.com)

Read the information above and answer each of the following questions.

- (i) Name **two** materials released by a volcano during a volcanic eruption.
- (ii) What country, named in the text, had to evacuate at least 13,000 people because of volcanic eruptions?
- (iii) List **two** effects of volcanic activity that are mentioned in the report.
- (iv) Explain briefly **one** other positive effect of volcanic activity not mentioned in the report.
- (v) Name **one** example of a volcano that you have studied.
- (vi) Explain briefly what is meant by the term *dormant volcano*.

[30m]

### 2B. Landform Development

Answer (i) or (ii).

- (i) Explain, with the aid of diagrams, the formation of any **two** landforms.

Or

- (ii) Describe and explain any **two** processes of mass movement.

[40m]

### 2C. Human Interaction with the Rock Cycle

Describe and explain how humans interact with the rock cycle with reference to **one** of the following:

- Quarrying
- Mining
- Oil/Gas exploitation
- Geothermal energy production.

[30m]

### Question 3

#### 3A. Landforms and Processes



Amended from [www.fodors.com](http://www.fodors.com), [www.nps.gov](http://www.nps.gov) and [www.visitlouth.ie](http://www.visitlouth.ie)

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

(i) In your answer book, match each of the letters **A**, **B** and **C** on the photographs above, with the landform that best matches it from the list below:

- Drumlin
- Cliff
- Beach.

(ii) In your answer book, match each of the letters **A**, **B** and **C** on the photographs above, with the process most associated with its formation from the list below:

- Coastal deposition
- Coastal erosion
- Glacial deposition.

(iii) Explain briefly **each** of the following:

- Hydraulic action
- Abrasion.

[30m]

#### 3B. Karst Landscapes

(i) Name **one** example of a karst landscape.

(ii) Explain, with the aid of a diagram, how **one surface** feature in a karst landscape was formed.

(iii) Explain, with the aid of a diagram, how **one underground** feature in a karst landscape was formed.

[40m]

#### 3C. Fold Mountains

With the aid of a diagram(s), describe and explain how fold mountains are formed.

[30m]

## REGIONAL GEOGRAPHY

### Questions 4 to 6

Attempt **ONE** question.

#### Question 4

##### 4A. Irish Region

Draw a sketch map of Ireland.

On it, **show** and **name** each of the following:

- **One** region studied by you
- **One** named river in this region
- **One** named town or city in this region
- **One** named area of relief (upland or lowland) in this region.

[30m]

##### 4B. European Union Expansion

- (i) Name **two** countries that have joined the European Union since Ireland joined in 1973.
- (ii) Explain the advantages of European Union expansion for Ireland.
- (iii) Explain the disadvantages of European Union expansion for Ireland.

[40m]

##### 4C. Agriculture – European Region

Explain how **two** of the factors listed below influence the development of agriculture in a **European** region (**not in Ireland**) that you have studied:

- Climate
- Relief and soils
- Markets.

[30m]

## Question 5

### 5A. Life Expectancy in the European Union

European Union (EU) Life Expectancy by Age (Years) and Sex 2019

	Male	Female
<b>EU Average</b>	78.3	83.5
<b>Sweden</b>	80.8	84.1
<b>Greece</b>	78.8	83.9
<b>Latvia</b>	69.8	79.7
<b>Ireland</b>	80.4	84.0
<b>Netherlands</b>	80.2	83.4

Amended from [www.ec.europa.eu](http://www.ec.europa.eu)

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

- (i) In which country was the male life expectancy 78.8 in 2019?
- (ii) In which country was female life expectancy the longest in 2019?
- (iii) Name **two** countries whose male life expectancy is above the EU Average for males.
- (iv) Calculate the difference in life expectancy for females, in years, between Latvia and the EU Average.
- (v) Explain briefly **two** reasons why some countries have lower life expectancies than other countries.

[30m]

### 5B. Urban Growth in a European Region

Discuss the reasons for the growth of an urban area in a **European** region (**not in Ireland**) that you have studied.

[30m]

### 5C. Tertiary Economic Activities – Irish Region

Answer each of the following with reference to an **Irish** region that you have studied.

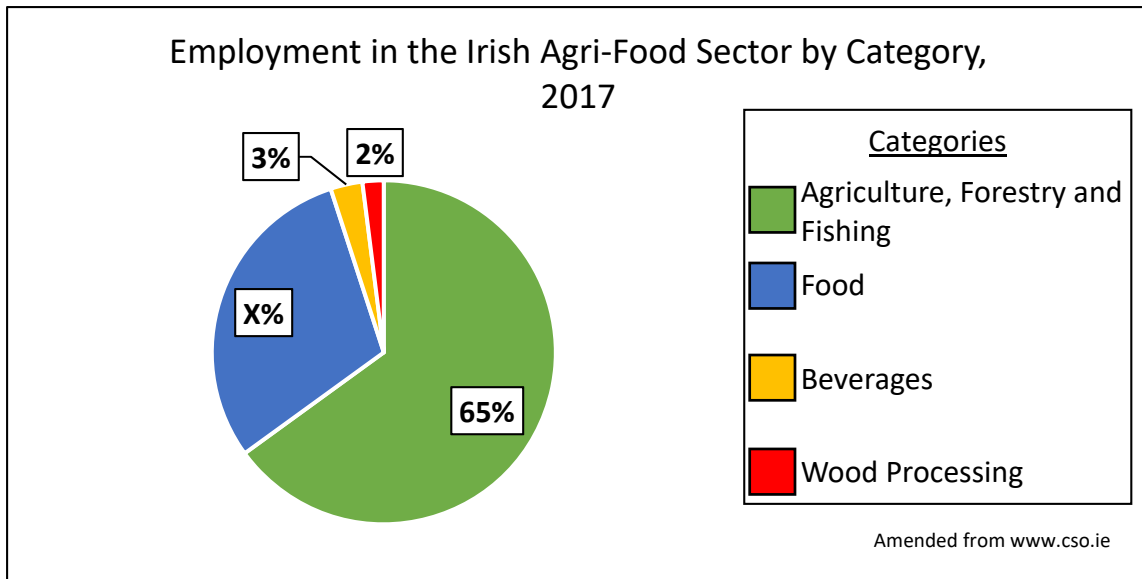
- (i) Name **one** tertiary economic activity that contributes to the economy of this region.
- (ii) Explain the advantages that this region has for the development of the tertiary economic activity named in part (i) above.
- (iii) Describe **one** challenge faced by this tertiary economic activity in this region.

[40m]



## Question 6

### 6A. Irish Employment



Examine the chart above showing the percentage of people employed in different categories of the Irish agri-food sector in 2017 and answer each of the following questions.

- Which category employed the most people in 2017?
- Calculate **X** the percentage (%) employed in the Food sector.
- Which category on the chart is an example of primary economic activity?
- Name any **two** crops grown in Ireland.
- Name **one** Irish food product **and** name **one** Irish beverage product.
- Explain briefly **one** reason why there is only 2% employment in the wood processing industry.

[30m]

### 6B. Economic Activities – Continental / Sub-Continental Region

Explain any **two** of the following with reference to a **Continental / Sub-Continental** region (**not in Europe**) that you have studied:

- The factors influencing **agriculture** in the region
- The importance of **manufacturing** to the region
- The **reasons** why tourists are attracted to the region.

[40m]

### 6C. Regions and Culture

The culture of a region can often be determined by the following factors:

Religion

Language

Sport/Games

Music/Dance

Describe and explain the importance of culture in any region that you have studied.

[30m]

**SECTION 2 – ELECTIVES**

**Questions 7 to 12**

You **MUST** attempt **ONE** question from:

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

**OR**

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

All questions carry 100 marks.

## PATTERNS AND PROCESSES IN ECONOMIC ACTIVITIES

### Questions 7 to 9

#### Question 7

##### 7A. Ordnance Survey Map

Examine the Ordnance Survey map and legend accompanying this paper.

Draw a sketch map of the area shown on the Ordnance Survey map.

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

- The entire route of the M11 motorway
- The entire route of the railway line
- An 18 hole golf course
- A post office
- The built up area of Arklow south of the Avoca River.

[30m]

##### 7B. Economic Development – Developed Economy

- (i) Name **one** example of a developed economy that you have studied.
- (ii) Explain the reasons for the growth of tourism **or** financial services in the developed economy named by you in part (i) above.
- (iii) Explain **one** benefit that tourism **or** financial services brings to developed economies.
- (iv) Explain **one** problem caused by tourism **or** financial services.

[40m]

##### 7C. Environmental Impact – Fossil Fuels

- (i) Name **two** examples of fossil fuels.
- (ii) Describe and explain the impact of burning fossil fuels on the environment.

[30m]

## Question 8

### 8A. Multinational Companies

Best Performing Multinational Companies in the World, 2019

Company	Market Value (\$US billion)
Apple	960
Microsoft	950
Amazon	920
Alphabet	860
Berkshire Hathaway	520

Amended from www.ceoworld.biz

Examine the table above showing the best performing multinational companies in the world in 2019 and answer each of the following questions.

- (i) Using graph paper, draw a suitable graph to illustrate this data.
- (ii) In your answer book, calculate the difference in market value (in \$US billion) between the top ranked multinational company and the fifth ranked multinational company.

[30m]

### 8B. Ordnance Survey Map

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

It is proposed to build a new hotel at the point T 253 735.

- (i) Describe and explain the advantages of this location.
- (ii) Describe and explain the disadvantages of this location.
- (iii) Using a six-figure grid reference, suggest an alternative location for the new hotel **and** explain briefly **one** reason why you chose this alternative location.

[40m]

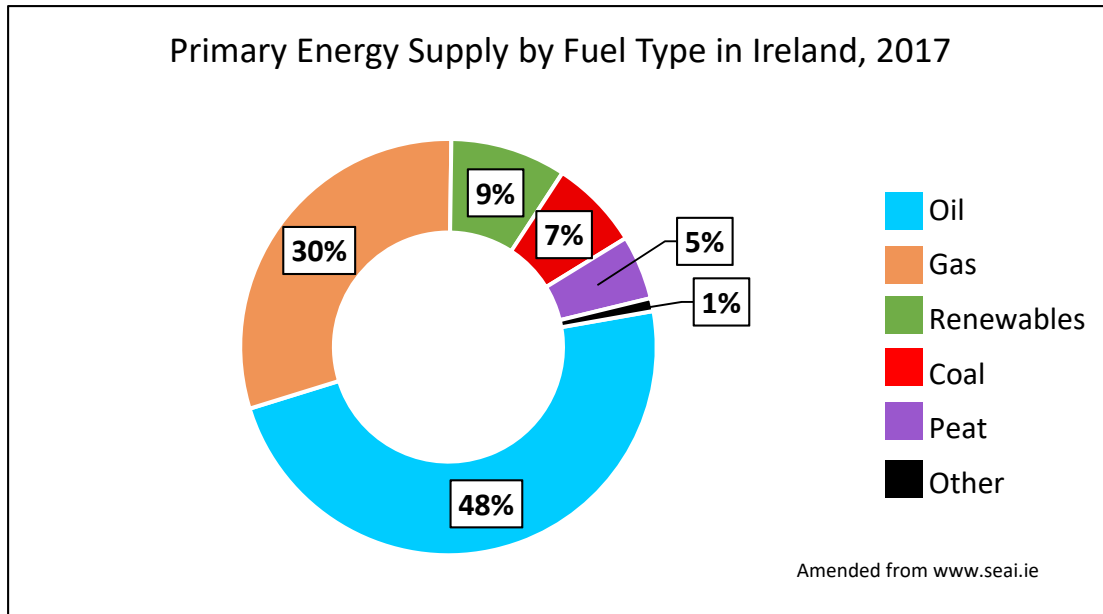
### 8C. Economic Activity and Conflict

- (i) Name **one** example of how the development of economic activities has resulted in conflict arising between people.
- (ii) Describe and explain this conflict.

[30m]

## Question 9

### 9A. Energy in Ireland



Examine the chart above showing the percentage of primary energy supply by fuel type in Ireland in 2017 and answer each of the following questions.

- Which fuel type provided the highest percentage of Ireland's energy in 2017?
- What percentage of primary energy was provided by renewables in 2017?
- Calculate the percentage of primary energy provided by oil, gas and coal combined in 2017.
- Name **two** examples of renewable energy.
- Explain briefly **one** advantage of renewable energy.
- Explain briefly **one** disadvantage of renewable energy.

[30m]

### 9B. Multinational Company

- Name **one** multinational company located in Ireland that you have studied **and** name **one** product that it manufactures.
- State where this multinational company is located in Ireland **and** explain in detail why it set up at this location.
- Explain **one** reason why this multinational company might decide to locate to another country.

[40m]

### 9C. European Union Policy

Explain how European Union policy has impacted on the Irish economy.

[30m]

# PATTERNS AND PROCESSES IN THE HUMAN ENVIRONMENT

## Questions 10 to 12

### Question 10

#### 10A. Immigration

Estimated Number of Immigrants to Ireland

Year	Number of Immigrants
2010	42,000
2012	57,000
2014	67,000
2016	82,000
2018	90,000

Amended from [www.cso.ie](http://www.cso.ie)

Examine the table above showing the estimated number of immigrants to Ireland by year and answer each of the following questions.

- (i) Using graph paper, draw a suitable graph to illustrate this data.
- (ii) In your answer book, explain briefly **one** reason why the number of immigrants to Ireland has risen since 2010.

[30m]

#### 10B. Development of Urban Settlements

Examine the aerial photograph of Arklow accompanying this paper.

Explain **three** reasons why the town of Arklow developed at this location, using evidence from the aerial photograph to support each reason.

[30m]

#### 10C. Developing World City

- (i) Name **one** city in the developing world that is growing rapidly.
- (ii) Explain **one** reason for the rapid growth of the city named by you in part (i) above.
- (iii) Describe and explain any **three** problems associated with the rapid growth of this developing world city.

[40m]

## Question 11

### 11A. Aerial Photograph

Examine the aerial photograph of Arklow accompanying this paper.

Draw a sketch map of the area shown on the aerial photograph.

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

- The coastline
- The river
- A running track
- A large car park in the centre middleground
- A housing estate in the right background.

[30m]

### 11B. Urban Functions

- (i) Name **one** urban area that you have studied.
- (ii) Name any **two** functions of the urban area named by you in part (i) above.
- (iii) Describe and explain how the functions of this urban area have changed over time.

[30m]

### 11C. Migration – Ireland

Migration takes place due to push factors and pull factors.

- (i) Name one push factor **and** one pull factor associated with migration in Ireland.
- (ii) Discuss the positive impacts of migration on Ireland.
- (iii) Discuss the negative impacts of migration on Ireland.

[40m]

## Question 12

### 12A. Transport in Ireland

Distribution of Journeys in Ireland by Type of Transport in 2014 and 2016 (%)

Type of Transport	2014	2016
Car	75.3%	75.1%
Walk	14.8%	14.6%
Public Transport	5.8%	5.5%
Bicycle	1.6%	1.7%
Other	2.5%	3.1%

Amended from www.cso.ie

Examine the table above showing the percentage distribution of journeys made in Ireland using different types of transport in 2014 and 2016 and answer each of the following questions.

- (i) What percentage of journeys were made by car in 2014?
- (ii) What type of transport was used in the lowest percentage of journeys in 2016?
- (iii) Calculate the total percentage of journeys made by car and public transport combined in 2016.
- (iv) Name **two** examples of public transport available in cities such as Dublin.
- (v) List **two** ways authorities in urban areas attempt to reduce the amount of people travelling by car.
- (vi) Explain briefly **one** problem that may be experienced in areas where there is a high percentage of journeys made by car.

[30m]

### 12B. Urban Sprawl

- (i) Name **one** city where urban sprawl has occurred.
- (ii) Explain the reasons why urban sprawl has occurred in this city.
- (iii) Describe **one** solution to urban sprawl.

[30m]

### 12C. Settlement Distribution

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

- (i) Give a grid reference for an area on the map where there is an **absence** of settlement.
- (ii) Explain in detail, using evidence from the map, why there is an **absence** of settlement at this location.
- (iii) Give a grid reference for an area on the map which has a relatively **high** density of settlement.
- (iv) Explain in detail, using evidence from the map, why there is a relatively **high** density of settlement at this location.

[40m]



Do not hand this up

Do not hand this up

Do not hand this up

Do not hand this up

Leaving Certificate – Ordinary Level

**Geography Part Two**

Two hours and 50 minutes