



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate Examination 2022

Geography

Part Two

Higher Level

Friday 10 June Morning 9:30 – 12:20

320 marks

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PART TWO – STRUCTURED and ESSAY QUESTIONS – 240 MARKS

You must attempt **THREE** questions. You are not allowed to choose all three questions from the same section. You may choose two questions from the same section if you wish.

- Section 1 – **Patterns and Processes in the Physical Environment** (Questions 1-3)
- Section 2 – **Regional Geography** (Questions 4-6)
- Section 3 – **Electives** (Questions 7-12)
- Section 4 – **Options** (Questions 13-24)

All questions carry equal marks.

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

SECTION 1
PATTERNS AND PROCESSES IN THE PHYSICAL ENVIRONMENT

Questions 1 to 3

All questions carry 80 marks.

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 to half scale.

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

- The entire course of the River Suir
- An area of land over 400m
- The Waterford Cycling Trails cycle route from S 148 180 to S 200 218
- An area of coniferous plantation north of Northing 24 and west of Easting 17.

[20m]

1B. Tectonic Activity – Irish Landscape

Examine how tectonic activity has influenced the development of the Irish landscape.

[30m]

1C. Human Interaction with the Rock Cycle

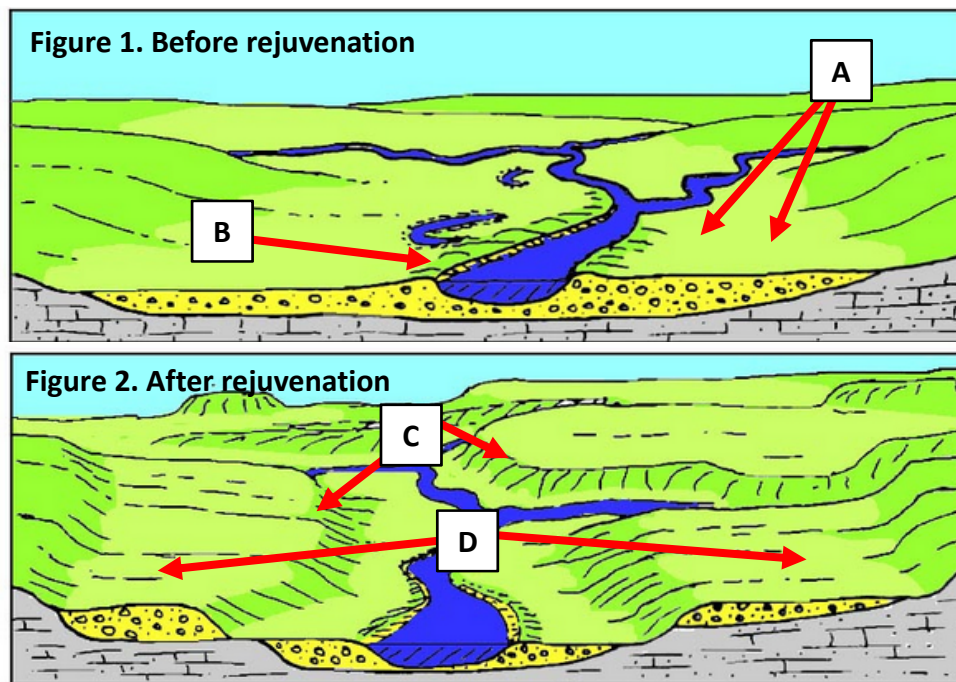
Examine how humans interact with the rock cycle, with reference to **one** of the following:

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

[30m]

Question 2

2A. Adjustment to Base Level



Amended from www.geologycafe.com

Examine the diagrams above which show a fluvial landscape before and after rejuvenation. Answer each of the following questions.

- Name the fluvial landforms labelled **A** and **B** in Figure 1.
- Name the landforms of river rejuvenation labelled **C** and **D** in Figure 2.
- Name **two** coastal landforms that form as a result of an adjustment to base level.
- Explain briefly **one** cause of river rejuvenation.
- Explain briefly what is meant by *peneplain*.

[20m]

2B. Surface Processes

Answer (i) or (ii)

- Examine the role of the **processes of erosion** on the formation of **one** fluvial landform or **one** coastal landform or **one** glacial landform that you have studied.

Or

- Describe and explain **the factors governing the operation** of **one** mass movement process that you have studied.

[30m]

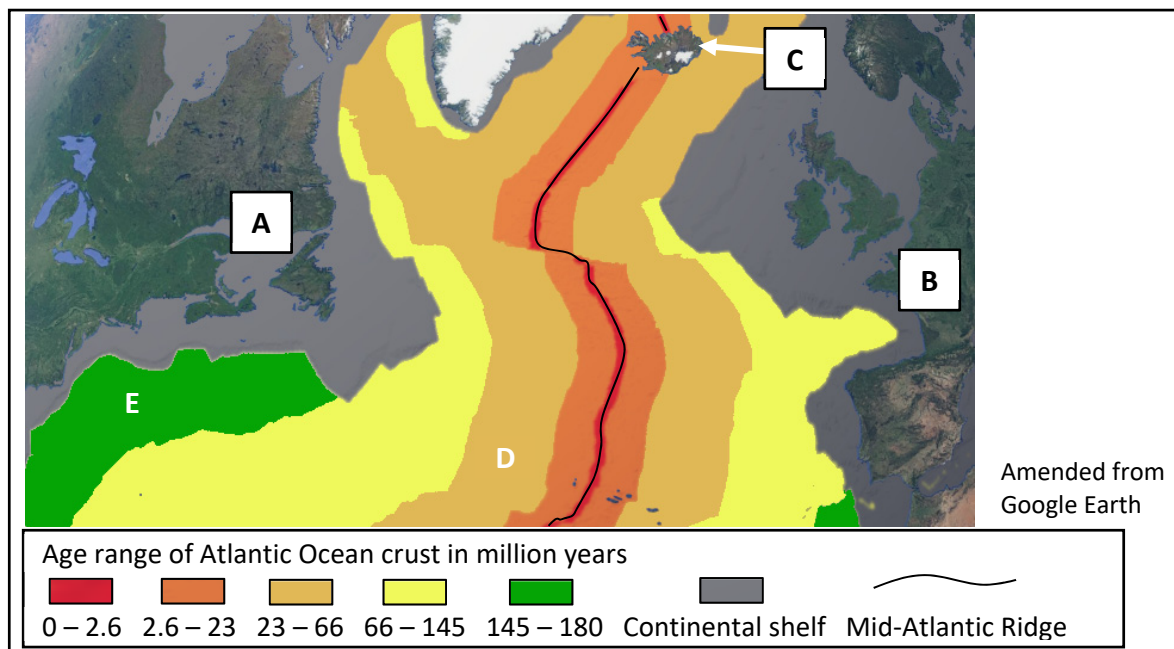
2C. Metamorphic Rocks

Examine the formation of metamorphic rocks, with reference to examples from Ireland.

[30m]

Question 3

3A. Plate Tectonics



Examine the image above which shows a plate boundary in the North Atlantic Ocean and the age of the oceanic crust in that area. Answer each of the following questions.

- Name each of the tectonic plates labelled **A** and **B**.
- Name the country labelled **C** which is located along the Mid-Atlantic Ridge.
- State the age range for the oceanic crust at each of the locations labelled **D** and **E**.
- What type of igneous rock is most commonly formed along mid-ocean ridges?
- Explain briefly why the ocean crust found at **E** is older than the ocean crust found at **D**.
- Explain briefly what is meant by the term *Moho line*.

[20m]

3B. Weathering

Explain the role of temperature in the process(es) of physical/mechanical weathering.

[30m]

3C. Human Interaction with Surface Processes

‘Human activity impacts on surface processes.’

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

- The impact of dams on river processes
- The impact of coastal defence work on coastal processes
- The impact of human activity on mass movement.

[30m]

SECTION 2

REGIONAL GEOGRAPHY

Questions 4 to 6

All questions carry 80 marks.

Question 4

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]

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]

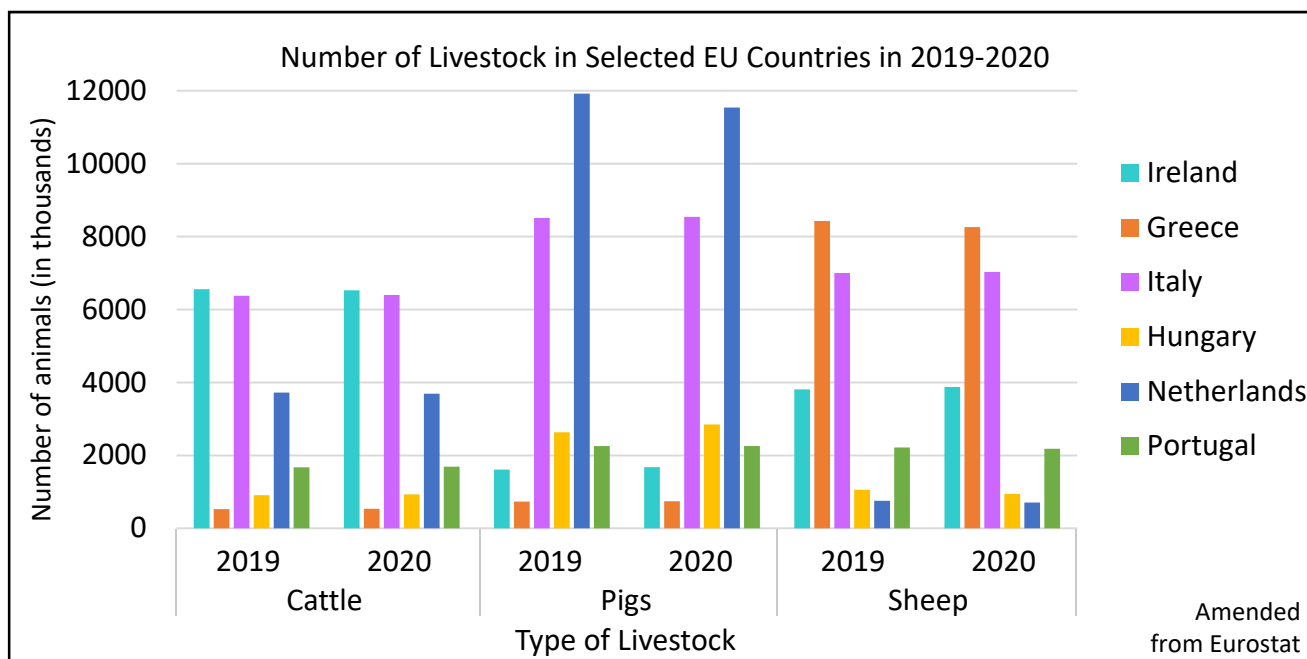
4C. Concept of a Region

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

[30m]

Question 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.

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

Question 6

6A. Education in European Countries

Percentage of 25-34 Year Olds with Third Level Education
in Selected EU Countries in 2012, 2016 and 2020

	2012	2016	2020
EU Average	34.1	36.8	40.5
Germany	28.9	30.5	35.1
Ireland	50.3	54.3	58.4
Spain	40.4	41.0	47.4
France	42.6	44.2	49.4
Italy	22.5	25.6	28.9
Lithuania	48.6	54.9	56.2
Hungary	30.5	30.4	30.7
Netherlands	41.4	45.2	52.3

Amended from Eurostat

Examine the table above showing the percentage of 25-34 year olds with third level education in selected EU countries in selected years. Answer each of the following questions.

- (i) What was the percentage of 25-34 year olds with third level education in Hungary in 2016?
- (ii) Which country had the lowest percentage of 25-34 year olds with third level education in 2012?
- (iii) List **two** countries where the percentage of 25-34 year olds with third level education in 2020 was higher than the EU Average for 2020.
- (iv) Did the percentage of 25-34 year olds with third level education for each of the countries listed above rise **or** fall between 2012 and 2020?
- (v) Calculate the difference between the country with the highest percentage and the country with the lowest percentage of 25-34 year olds with third level education in 2020.
- (vi) Name **one** third level institution in Ireland where students receive tertiary education.
- (vii) Explain briefly **one** benefit of a region having large numbers of people who have third level education.

[20m]

6B. Agriculture in Ireland

Account for the development of agriculture in an **Irish** region that you have studied, with reference to any **two** of the following factors:

- Relief
- Climate
- Markets.

[30m]

6C. Socio-Economic Regions

Examine the causes **and** impacts of industrial decline with reference to any region(s) 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 ECONOMIC ACTIVITIES

Questions 7 to 9

Question 7

7A. 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 entire route of the N24
- The entire route of the railway line
- A post office
- A car park.

[20m]

7B. Multinational Company

With reference to **one** multinational company that you have studied, describe and explain any **two** of the following:

- Sourcing of raw materials and components
- Location of processing units
- Location of markets.

[30m]

7C. Sustainable Development

Examine how economic activities can be developed sustainably in order to control their environmental impact.

[30m]

Question 8

8A. Irish Trade

Ireland's Top Export Partners in 2020

Export Partner	Value of Total Exports (€billion)
USA	51
Belgium	18
Germany	18
UK	15
China	10
Netherlands	9

Amended from CSO

Examine the data above showing Ireland's top export partners in 2020, and answer each of the following questions.

- Using graph paper, draw a suitable graph to illustrate this data.
- Explain briefly what is meant by the term *balance of payments*.

[20m]

8B. Globalisation

Explain the impact of globalisation on **one** developing economy that you have studied.

[30m]

8C. Tertiary Economic Activities

Using evidence from the 1:50 000 Ordnance Survey map of Clonmel accompanying this paper, discuss the potential for the development of tourism in the area shown on the map, with reference to **each** of the following:

- Accessibility
- Services (excluding transport)
- Attractions.

[30m]

Question 9

9A. Measuring Development

Human Development Index (HDI) Data for Selected countries

Region	HDI 1990	HDI 2019	Life expectancy at birth (years) 2019	Mean years of schooling 2019
Norway	0.849	0.957	82.4	12.9
Ireland	0.773	0.955	82.3	12.7
Australia	0.871	0.944	83.4	12.7
USA	0.865	0.926	78.9	13.4
Bolivia	0.551	0.718	71.5	9.0
Vietnam	0.483	0.704	75.4	8.3
Cameroon	0.448	0.563	59.3	6.3
Niger	0.220	0.394	62.4	2.1

Amended from www.hdr.undp.org

Examine the table above showing the Human Development Index (HDI) and development indicators for selected countries and answer each of the following questions.

- Which country had the longest life expectancy at birth in 2019?
- What was the Human Development Index (HDI) for Bolivia in 1990?
- What was the mean years of schooling in 2019 for Cameroon?
- Which country had the greater increase in HDI between 1990 and 2019, Ireland or Vietnam?
- Explain briefly **one** reason why life expectancy in some countries is lower than it is in others.
- Life expectancy and mean years of schooling are two factors used to calculate the Human Development Index. Name a third factor.
- Explain briefly **one** advantage of using the Human Development Index as a measure of economic development.

[20m]

9B. Economic Development – Developed Economy

Examine the impact of **two** of the following on the development of footloose industries **or** financial services **or** mass tourism in a developed economy that you have studied:

- Physical factors
- Human factors
- Political factors.

[30m]

9C. European Union Policy

Examine how different European Union policies impact on the Irish economy.

[30m]

PATTERNS AND PROCESSES IN THE HUMAN ENVIRONMENT

Questions 10 to 12

Question 10

10A. Aerial Photograph

Examine the aerial photograph of Clonmel accompanying this paper.

Draw a sketch map of the aerial photograph, half the length and half the breadth.

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

- Two connecting streets
- An area of recreational land-use
- An area of ecclesiastical land-use
- An area of residential land-use.

[20m]

10B. Migration

‘Population movements have an impact on donor and receiver regions.’

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

- Migration policy in the European Union
- Rural to urban migration in the developing world.

[30m]

10C. Central Place Theory

Describe and explain Central Place Theory with reference to example(s) that you have studied.

[30m]

Question 11

11A. Population Density

Total Population, total land area and population density
for Selected Countries in 2020

Country	Total population	Total area (in km ²)	Population Density (people per km ²)
Belgium	11,549,000	30,510	378.5
Bulgaria	6,951,000	93,030	74.7
Croatia	4,058,000	56,594	71.7
Germany	83,166,000	357,386	232.7
Iceland	364,000	102,775	3.5
Ireland	4,963,000	70,273	X
Italy	60,244,000	301,338	199.9
Netherlands	17,407,000	41,198	422.5
Spain	47,330,000	498,511	94.9

Amended from Eurostat

Examine the table above showing the total population, total land area and population density for selected countries in 2020 and answer each of the following questions.

- (i) What was the population density, people per km², for Italy in 2020?
- (ii) Which country had the lowest population in 2020?
- (iii) Which country has the largest total area?
- (iv) How many countries have a total area that is smaller than Ireland?
- (v) Calculate X, the population density, people per km², for Ireland in 2020.
- (vi) Explain briefly **two** reasons why some areas have a low population density.

[20m]

11B. Changing Urban Functions

Examine how the functions of urban centres can change over time, with reference to Irish example(s).

[30m]

11C. Population Characteristics – Ireland

Describe and explain how the characteristics of Ireland's population have changed since the 1950's.

[30m]

Question 12

12A. Population

Percentage of Population Aged
Over 65 by Continent in 2018

Continent	% of population over 65 years
North America	15
Latin America	8
Africa	3
Europe	18
Asia	8
Oceania	12

Amended from www.visualcapitalist.com

Examine the table above showing the percentage of people aged over 65 in each continent in 2018 and answer each of the following questions.

- Using graph paper, draw a suitable graph to illustrate this data.
- Explain briefly **one** challenge faced by countries with high numbers of people aged over 65 years.

[20m]

12B. Future Urbanism

Discuss **two** issues facing cities of the future in the developed world.

[30m]

12C. Settlement Distribution

Examine the 1:50 000 Ordnance Survey map of Clonmel accompanying this paper.

Using evidence from the map, account for variations in settlement distribution in the areas north and south of Northing 21.

[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.

Global Interdependence

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.

13. 'Empowering people is a way of linking economic growth with human development.'

Discuss this statement with reference to land ownership patterns and their impact on development.

[80m]

14. Examine how social and/or political decisions can impact on each of the following:

- Economic and political refugees
- Human rights issues.

[80m]

15. Examine sustainable development as a model for future development.

[80m]

Geocology

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.

16. Explain how soil characteristics impact on soil development.

[80m]

17. With reference to **one** biome that you have studied, account for the type of climate experienced in this biome and explain how this climate impacts on soils and vegetation within the biome.

[80m]

18. Examine how desertification **and** conservation have impacted on soil.

[80m]

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.

19. Examine the importance of religion as a cultural indicator. [80m]
20. Examine the effects of political and/or physical boundaries on cultural groups. [80m]
21. 'Cultural identity is defined by many diverse factors'.
Examine this statement with reference to a case study of a European region you have studied. [80m]

The Atmosphere – Ocean Environment

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.

22. 'Climate characteristics have an influence on economic development.'
Discuss this statement with reference to each of the following:
 - Agriculture
 - Drought and desertification
 - Tourism. [80m]
23. Describe the formation of each of the following **and** discuss its impact on weather patterns:
 - Mid-latitude depressions
 - Anticyclones
 - Land and sea breezes. [80m]
24. Climate characteristics change over space and time.
Discuss. [80m]

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Leaving Certificate – Higher Level

Geography Part Two

Friday 10 June

Morning 9:30 – 12.20