



Coimisiún na Scrúduithe Stáit State Examinations Commission

LEAVING CERTIFICATE EXAMINATION, 2017

GEOGRAPHY – ORDINARY LEVEL

FRIDAY 9 JUNE – MORNING 9:30 – 12:20

Examination Number

For the Examiner's Use Only

Part One Short-Answer Questions	Total Mark	Adv. Ex.	App. Ex.
Question 1			
Question 2			
Question 3			
Question 4			
Question 5			
Question 6			
Question 7			
Question 8			
Question 9			
Question 10			
Question 11			
Question 12			
Accumulated Mark			
Disallowed Marks			
Net Mark			

Note: Remember to return this paper with your answer book.

Otherwise marks will be lost.

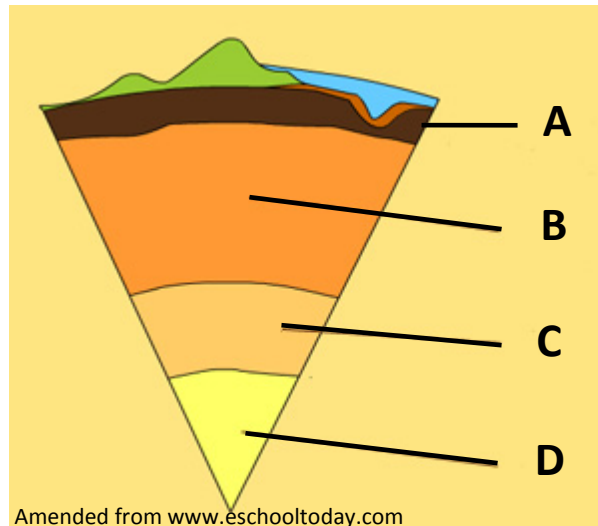
PART ONE – SHORT-ANSWER QUESTIONS – 100 MARKS

Attempt any **TEN** questions.

All questions carry equal marks.

THESE QUESTIONS ARE TO BE ANSWERED IN THE SPACES PROVIDED

1. Layers of the Earth



Examine the diagram above which shows 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 correct layer in the table below.

Layer	Letter
Outer core	
Crust	
Inner core	
Mantle	

- (ii) What term is given to the molten rock found in the mantle?

[10m]

2. Coastal Landforms and Processes



Examine the Ordnance Survey map extract above and answer each of the following questions.

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

Landform	Letter
Sea stack	
Beach	
Cliff	
Headland	

- (ii) Which **one** of the landforms in the table above is formed as a result of coastal deposition?

[10m]

3. Rivers and Glaciation



Examine the photographs above and 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** and **C** 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 river processes **or** glacial processes.

Q.3(i) Letter	Landform	Q.3(ii) River Processes / Glacial Processes
	Ox-bow lake	River
D	U-Shaped valley	
	Cirque/Corrie/Tarn	Glacial
	V-Shaped valley	

[10m]

4. Rocks



Examine the photograph above of a basalt area in Ireland and answer each of the following questions.

- (i) Choose the correct option in each of the following statements and write the answer in the spaces provided.

(a) Basalt is an example of *a metamorphic rock* **or** *an igneous rock*.

(b) Basalt most commonly forms as a result of the *cooling of lava near the earth's surface* **or** *the cooling of magma far below the earth's surface*.

(c) Basalt consists mainly of *small crystals* **or** *large crystals*.

(d) Basalt can be found in the *Wicklow Mountains* **or** *The Giant's Causeway*.

- (ii) Name **one** use of rocks.

[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 length of the R587 regional road, from where it enters the map at W 285 650 to where it meets the R584 regional road at W 296 703.

Tick the correct box.

4.1 km ☐

6.7 km ☐

- (ii) If a person travelled from the school in Dromleigh W 284 652 to the Garda Station in Macroom town, in what direction would they have travelled?

Tick the correct box.

North ☐

North-east ☐

[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) State whether the settlement pattern at each of the following grid references is a linear, dispersed or nucleated (clustered) settlement pattern.

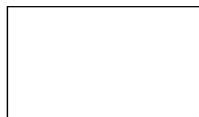
W 333 692 _____

W 366 721 _____

W 317 722 _____

- (ii) Name the antiquity that can be found at W 364 688.

- (iii) Draw the Ordnance Survey map symbol for a Ringfort in the box below.



[10m]

7. Aerial Photograph

Examine the aerial photograph of Macroom accompanying this paper.

State whether each of the following statements is True or False.

- (i) There is a graveyard in the left background of the aerial photograph.

- (ii) There is a roundabout in the left foreground of the aerial photograph.

- (iii) The bridging point of the river is in the left middleground of the aerial photograph.

- (iv) The Central Business District (CBD) is in the centre middleground of the aerial photograph.

- (v) This aerial photograph is a vertical aerial photograph.

[10m]

8. Regions

Match the description of a 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 cultural region
B	A core region
C	A geomorphological region
D	An administrative region in France
E	A climatic region

Example of Region	Letter
The Greater Dublin Area	
Munster Ridge and Valley	
Cool Temperate Oceanic	
The Basque region	
Département	

[10m]

9. Economic Activities

Write the category of economic activity, Primary, Secondary or Tertiary, that best matches each of the economic activities in the table below. One is completed for you.

Economic Activity	Category of Economic Activity
Mining	
Banking	
Construction	
Tourism	Tertiary
Manufacturing	
Forestry	

[10m]

10. Population

Projected Population for some of the World's Top Megacities, 2011-2025

City	Population in 2011 (millions)	Projected Population for 2025 (millions)	Percentage Growth 2011-2025
New York	20	24	+20%
Tokyo	37	39	+5%
Mumbai	20	27	+35%
Mexico City	20	25	+25%
Rio de Janeiro	12	14	+17%

Amended from museumcity.org

Examine the table above showing the projected population for some of the world's top megacities and answer each of the following questions.

- (i) Name the city with the largest population in 2011.

- (ii) Which city is projected to have the smallest population in 2025?

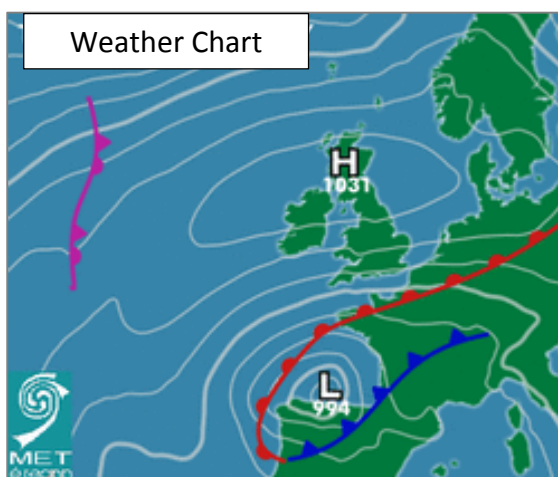
- (iii) Which city is projected to have the highest percentage growth in population between 2011 and 2025?

- (iv) Which city is projected to have the second highest percentage growth in population between 2011 and 2025?

- (v) By how many million people is the population of New York projected to grow between 2011 and 2025?

[10m]

11. Weather



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

- (i) What is the barometric pressure (in hectopascals/millibars) to the north of Spain?

- (ii) Draw the weather chart symbol for a warm front, in the box below.

- (iii) According to the weather chart, what type of wind conditions is Ireland experiencing? Tick the correct box.

Calm	☐
Stormy	☐

- (iv) Complete the following sentences by inserting the correct word from the list below, in each case.

Isotherms Isohyets

- (a) Lines joining places of equal rainfall on a weather chart are called

_____.

- (b) Lines joining places of equal temperature on a weather chart are called

_____.

[10m]

12. Satellite Interpretation



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
Airport runway	
Pyramids in Egypt	
Grand Canyon	
Flooding	

- (ii) State **one** use of satellite images.

[10m]

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 ANSWER BOOK

SECTION 1 – CORE

Questions 1 to 6

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

ONE from **Patterns and Processes in the Physical Environment**

AND

ONE from **Regional Geography**

PATTERNS AND PROCESSES IN THE PHYSICAL ENVIRONMENT

Questions 1 to 3

Attempt **ONE** question

Question 1

A. 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 entire area of the Reservoir east of Lee Bridge (W 342 713)
- An area of land above 200 metres at Cill na Martra in the north-west of the map
- The Sullane River
- An area of coniferous plantation in the south-west of the map
- The built up area of Macroom.

[30m]

B. Rocks

- (i) Name **two** examples of sedimentary rocks.
- (ii) State **two** different Irish locations where sedimentary rocks are found.
- (iii) Describe and explain how sedimentary rocks are formed.

[40m]

C. Fold Mountains

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

[30m]

Question 2

A. Volcanoes

Volcanoes - Earth's Fiery Power

Most volcanoes exist along the edges of tectonic plates. About 90 percent of all volcanoes exist within the Pacific Ring of Fire.

About 1,900 volcanoes on Earth are considered active, meaning they show some level of activity and are likely to explode again. Many other volcanoes are dormant while others are considered extinct.



A large eruption can be extremely dangerous for people living near a volcano. Flows of lava can be released, burning everything in its path. Boulders of hardening lava can rain down on villages. Mud flows from rapidly melting snow can strip mountains and valleys bare and bury towns.

Ash and toxic gases can cause lung damage and other problems. Scientists estimate that more than 260,000 people have died in the past 300 years from volcanic eruptions and their aftermath.

Amended from National Geographic

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

- (i) What percentage of volcanoes exist within the Pacific Ring of Fire?
- (ii) State what is meant by the name *Pacific Ring of Fire*.
- (iii) Name **two** materials that are emitted into the air when volcanoes erupt.
- (iv) Explain briefly what is meant by the term *extinct volcano*.
- (v) List **two** negative effects of volcanoes.
- (vi) Explain briefly **one** positive effect of volcanoes.

[30m]

B. 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]

C. Human Interaction with the Rock Cycle

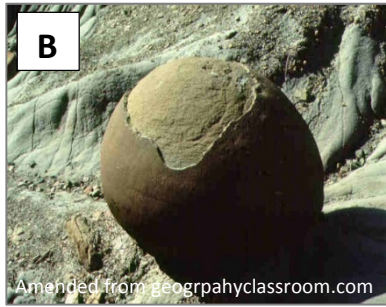
Describe and explain how humans interact with the rock cycle with reference to **one** of the following:

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

[30m]

Question 3

A. Weathering



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

- (i) In your answer book, match each of the photographs **A**, **B** and **C** with the process of weathering that best matches it from the list below:
 - Freeze-thaw action
 - Carbonation
 - Onion weathering (exfoliation).
- (ii) State whether each of the processes of weathering listed above are examples of chemical weathering **or** physical/mechanical weathering.
- (iii) Name any **two** factors that influence weathering.
- (iv) Explain briefly what is meant by the term *scree*.

[30m]

B. Earthquakes

- (i) Name **two** examples of different locations where earthquakes have occurred.
- (ii) Name a scale used to measure the force of an earthquake.
- (iii) Explain how earthquakes occur **and** describe their main effects.

[40m]

C. Human Interaction with Surface Processes

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

- River processes
- Coastal processes
- Mass movement processes.

[30m]

REGIONAL GEOGRAPHY

Questions 4 to 6

Attempt **ONE** question

Question 4

A. European Region

Draw a sketch map of a **European** region (**not in Ireland**) that you have studied.

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

- **One** named river in this region
- **Two** named towns or cities in this region
- **One** named area of relief (upland or lowland) in this region.

[30m]

B. Tertiary Economic Activities – Irish Region

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

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

[40m]

C. Agriculture – Continental / Sub-Continental Region

Explain how **two** of the factors listed below influence the development of agriculture in a **Continental / Sub-Continental** region (**not in Europe**) that you have studied:

- Climate
- Relief and soils
- Markets.

[30m]

Question 5

A. Agriculture in Ireland

Irish Agri-Food and Drink Sector:	Main Destinations for Irish Agri-Food and Drink Exports in 2015
▪ The agri-food and drink sector accounts for 12.3% of exports and 8.6% of employment. ▪ In 2015 agri-food and drink exports increased by an estimated 3% to €10.8 billion. ▪ 4.5 million hectares of land is used for agriculture and a further 730,000 hectares is used for forestry.	Amended from Bord Bia

Examine the information above regarding the Irish agri-food and drink sector in 2015 and answer each of the following questions.

- What percentage of Ireland's population is employed in the agri-food and drink sector?
- What was the value of exports (€) from the Irish agri-food and drink sector in 2015?
- Calculate **X**, the percentage of Irish agri-food and drink exported to the UK in 2015.
- How many hectares of land is used for agriculture **and** how many hectares of land is used for forestry?
- Explain briefly **one** advantage of European Union membership for Ireland's agri-food and drink sector.
- Explain briefly **one** disadvantage of European Union membership for Ireland's agri-food and drink sector.

[30m]

B. Economic Activities – European Region

Explain the development of any **two** of the following with reference to a **European** region (**not in Ireland**) that you have studied:

- The reasons why **tourists** are attracted to the region
- The importance of **manufacturing** to the region
- The development of **transport** in the region.

[40m]

C. Urban Growth – Continental / Sub-Continental Region

Describe and explain the reasons for the growth of an urban area in a **Continental / Sub-Continental** region (**not in Europe**) that you have studied.

[30m]

Question 6

A. European Unemployment

Percentage of People Unemployed in 2005, 2010 and 2015 in Selected Countries

	Ireland %	Germany %	France %	Poland %	Lithuania %	Greece %
2005	4.4	11.2	8.9	19.1	8.3	10.0
2010	13.9	7.0	9.3	9.7	17.8	12.7
2015	9.4	4.6	10.4	7.5	9.1	24.9

Amended from www.ec.europa.eu

Examine the table above showing the percentage of people unemployed in selected countries in 2005, 2010 and 2015 and answer each of the following questions.

- (i) Which country had the highest percentage of people unemployed in 2015?
- (ii) Which **two** countries experienced a decrease in the percentage of people unemployed from 2005 to 2015?
- (iii) In which year was the percentage of people unemployed in Ireland lower than the percentage unemployed in each of the selected countries? Explain briefly **one** reason for this.
- (iv) Explain briefly **one** possible reason why Poland's percentage of people unemployed decreased from 2005 to 2015.
- (v) Explain briefly **one** way of reducing unemployment levels.

[30m]

B. European Union Expansion

- (i) Name **two** countries that joined the European Union since 2000.
- (ii) Explain the advantages of European Union expansion for Ireland.
- (iii) Explain the disadvantages of European Union expansion for Ireland.

[40m]

C. Regional Development

Describe and explain **two** problems faced by 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

OR

Patterns and Processes in the Human Environment

PATTERNS AND PROCESSES IN ECONOMIC ACTIVITIES

Questions 7 to 9

Question 7

A. 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 built up area of Macroom
- The entire route of the N22 national primary road
- The entire route of the R584 regional road
- The electricity transmission line in the north-east of the map
- A post office.

[30m]

B. European Union

Explain how European Union policies have impacted on the Irish economy.

[30m]

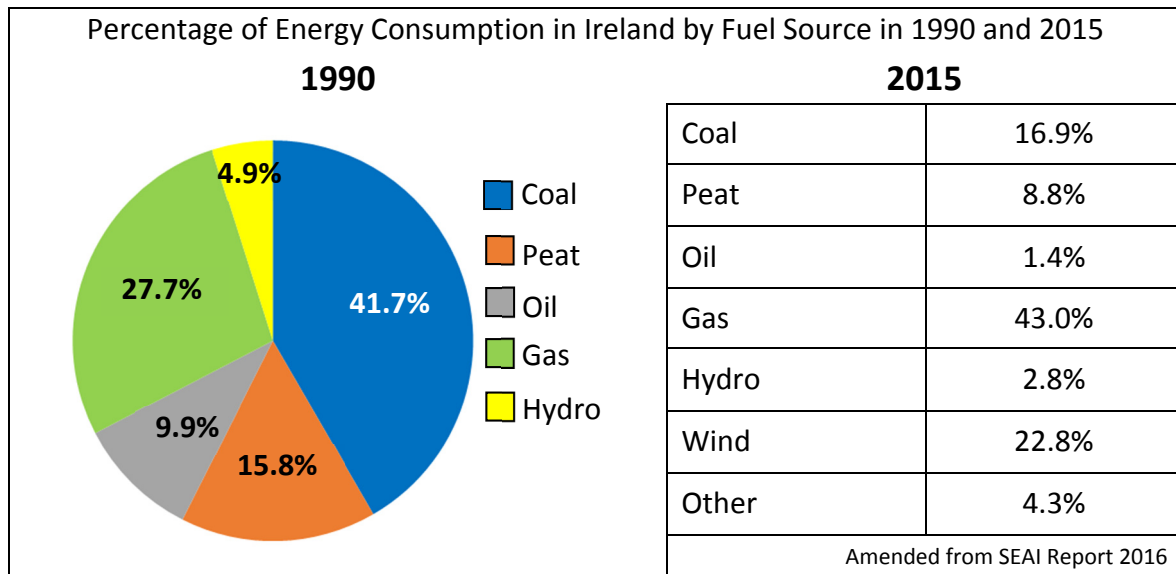
C. Environmental Pollution

- (i) Name **one** example of environmental pollution that you have studied.
- (ii) Explain the cause **and** effects of this environmental pollution.
- (iii) Describe how this environmental pollution could be reduced.

[40m]

Question 8

A. Energy Consumption



Examine the information above relating to energy consumption in Ireland by fuel source in 1990 and in 2015 and answer each of the following questions.

- What percentage of energy consumed in 1990 was generated from coal?
- What percentage of energy consumed in 2015 was generated from coal?
- Explain briefly what is meant by the term *fossil fuel*.
- Calculate the percentage of energy consumed in 1990 that was generated from fossil fuels.
- Explain briefly what is meant by the term *renewable energy*.
- Explain briefly **one** reason for the increase in the use of wind as an energy source.

[30m]

B. Multinational Company (MNC)

- Name **one** multinational company operating in Ireland.
- Name **one** raw material used by this multinational company **and** name the country from which this raw material is sourced.
- Name **one** product manufactured by this multinational company.
- State where this multinational company is located in Ireland **and** explain in detail why it set up at this location.

[40m]

C. Colonialism – Developing Economy

- Name **one** developing economy which has been colonised.
- Explain the impacts of colonialism on this developing economy.

[30m]

Question 9

A. Economic Development

Gross Domestic Product (GDP) per capita in \$US, 2015

Country	GDP
Ireland	\$51,000
Greece	\$18,000
USA	\$56,000
Germany	\$41,000
Norway	\$75,000

Amended from www.worldbank.org

Examine the table above showing the Gross Domestic Product (GDP) per capita in \$US for selected countries in 2015 and answer each of the following questions.

- (i) Using graph paper, draw a suitable graph to illustrate this data.
- (ii) In your answer book, state **two** reasons why the Gross Domestic Product (GDP) for some countries is higher than for others.

[30m]

B. Economic Development – Developed Economy

Describe and explain the development of **one** of the following with reference to a developed economy that you have studied:

- Tourism
- Financial services
- Service and footloose industries.

[30m]

C. Economic Activity and Conflict

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

- (i) Using a six-figure grid reference, state clearly where you would locate a wind farm.
- (ii) Using evidence from the Ordnance Survey map, explain why you selected this location for the wind farm.
- (iii) Describe and explain how conflict may arise as a result of locating the wind farm at this location.

[40m]

PATTERNS AND PROCESSES IN THE HUMAN ENVIRONMENT

Questions 10 to 12

Question 10

A. Population Dynamics

Life Expectancy at Birth in 2015

Country	Life Expectancy
Afghanistan	60 years
Ireland	81 years
Mali	58 years
Brazil	75 years
Sudan	64 years

Amended from www.hdr.undp.org

Examine the table above showing life expectancy at birth for selected countries in 2015 and answer each of the following questions.

- (i) Using graph paper, draw a suitable graph to illustrate this data.
- (ii) In your answer book, state **two** ways that life expectancy could be increased in countries such as Mali and Sudan.

[30m]

B. Historic Settlement

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

- (i) Name **and** give a six-figure grid reference for the location of **three** different examples of historic settlement evident on the Ordnance Survey map.
- (ii) Describe each of the three historic settlements named in part (i) above.

[30m]

C. 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.

[40m]

Question 11

A. Aerial Photograph

Examine the aerial photograph of Macroom accompanying this paper.

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

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

- **Two** connecting streets
- The river
- The church in the left middleground
- An area of warehousing in the left foreground
- A recreational area.

[30m]

B. Migration – Rural to Urban

- Explain the reasons why people migrate from rural areas to urban areas.
- Explain the problems experienced in urban areas as a result of this migration.

[40m]

C. Population Dynamics

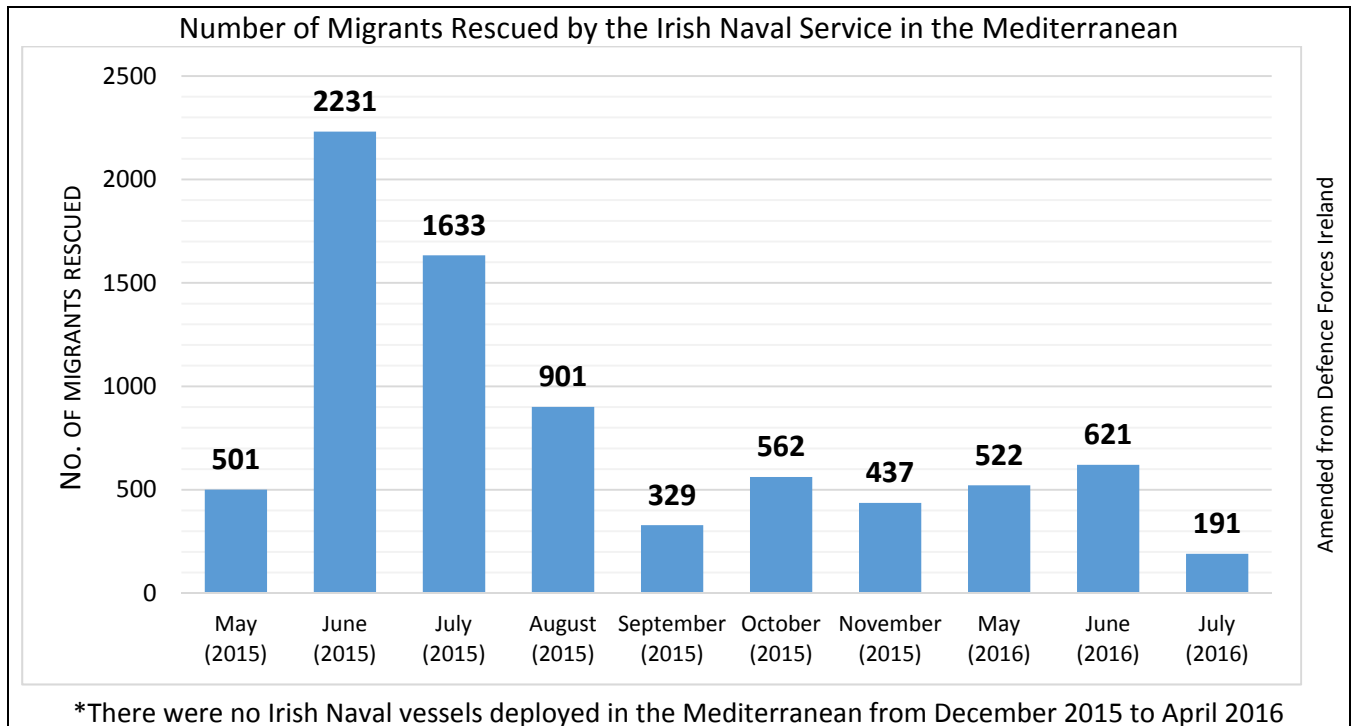
Explain how any **three** of the following factors influence population:

- Resources
- Society and culture
- Income levels
- Technology.

[30m]

Question 12

A. Migration



Examine the graph above showing the number of migrants rescued by the Irish Naval service in the Mediterranean and answer each of the following questions.

- How many migrants were rescued in May 2015 **and** how many migrants were rescued in May 2016?
- Calculate the total number of migrants rescued in 2016 in the three months of May, June and July combined.
- Name **two** pull factors that result in people migrating to Europe.
- Explain briefly **one** of the pull factors named in part (iii) above.
- Explain briefly **one** positive impact for the European Union of receiving these migrants.

[30m]

B. Development of Urban Settlements

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

Explain **three** reasons why the town of Macroon developed at this location, using evidence from the Ordnance Survey map to support each reason.

[30m]

C. Developing World City

- (i) Name **one** city in the developing world that is rapidly growing.
- (ii) Explain the reasons for the rapid growth of this developing world city.
- (iii) Describe the problems caused by this rapid growth.
- (iv) Explain **one** solution to these problems.

[40m]

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