Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate 2023

Marking Scheme

Geography

Ordinary Level

Note to teachers and students on the use of published marking schemes

Marking schemes published by the State Examinations Commission are not intended to be standalone documents. They are an essential resource for examiners who receive training in the correct interpretation and application of the scheme. This training involves, among other things, marking samples of student work and discussing the marks awarded, so as to clarify the correct application of the scheme. The work of examiners is subsequently monitored by Advising Examiners to ensure consistent and accurate application of the marking scheme. This process is overseen by the Chief Examiner, usually assisted by a Chief Advising Examiner. The Chief Examiner is the final authority regarding whether or not the marking scheme has been correctly applied to any piece of candidate work.

Marking schemes are working documents. While a draft marking scheme is prepared in advance of the examination, the scheme is not finalised until examiners have applied it to candidates' work and the feedback from all examiners has been collated and considered in light of the full range of responses of candidates, the overall level of difficulty of the examination and the need to maintain consistency in standards from year to year. This published document contains the finalised scheme, as it was applied to all candidates' work.

In the case of marking schemes that include model solutions or answers, it should be noted that these are not intended to be exhaustive. Variations and alternatives may also be acceptable. Examiners must consider all answers on their merits, and will have consulted with their Advising Examiners when in doubt.

Future Marking Schemes

Assumptions about future marking schemes on the basis of past schemes should be avoided. While the underlying assessment principles remain the same, the details of the marking of a particular type of question may change in the context of the contribution of that question to the overall examination in a given year. The Chief Examiner in any given year has the responsibility to determine how best to ensure the fair and accurate assessment of candidates' work and to ensure consistency in the standard of the assessment from year to year. Accordingly, aspects of the structure, detail and application of the marking scheme for a particular examination are subject to change from one year to the next without notice.

In considering this marking scheme, the following should be noted:

- The detail required in any answer is determined by the context and the manner in which the question is asked and by the number of marks assigned to the answer in the examination paper.
- Words, expressions or phrases must be correctly used in context and not contradicted, and where there is evidence of incorrect use or contradiction, the marks may not be awarded.
- As a general rule, if in doubt about the validity of any answer, examiners must consult their advising examiner before awarding marks.
- The suggestions, examples etc. in the scheme are not exhaustive and alternative valid answers etc. are acceptable.
- For the purpose of marking a Significant Relevant Point (SRP) is a single piece of factual information, to which an examiner will assign a mark weighting as prescribed in the marking scheme (typically 3 marks). As previously advised in Circular S85/09 and in the Sample Marking Indicators available on the SEC website each SRP should emerge from the information put forward by the candidate, leading to an overall coherent response to the question.

The table below contains information about annotations used for marking throughout the exam paper.

For certain questions where other annotations are used, these are listed after the marking scheme for the relevant question.

Annotation	Use	Marks (if applicable)
✓₁	Valid information	1
✓₂	Valid information	2
✓₃	Valid information	3
✓₄	Valid information	4
✓₅	Valid information	5
✓₆	Valid information	6
✓	Surplus information	N/A
0	Incorrect answer	0
▬	Significant part of answer	N/A
⌇	Page seen by examiner / Information not valid	N/A
Ex / N / REF	Valid example / name / reference	3
P1 / P2 / P3	Annotations relate to point 1 / point 2 / point 3	N/A
Dg	Valid diagram	3

The table below contains information about annotations used for marking the Geographical Investigation.

Annotation	Use	Marks (if applicable)
Iss / Rec / OS	Valid issue / example of recording / observation	2

Geographical Investigation- Core Unit 3

(Please refer to Appendix 1 for Topics List)

1. Introduction

    4 SRP's @ 1m each
    Conformity with prescribed length – 1m   Total marks 5

2. Planning

    4 SRP's @ 1m each
    Conformity with prescribed length – 1m   Total marks 5

3. Gathering of Data

    Two Methods/Tasks   @ 18m each
    Each method/task – 9 SRP's @ 2m each   36m
    Allow one SRP for diagram for each Method/Task.

Coherence – 2m graded (2/1/0)	
Conformity with prescribed length 2m	4m

                                                         Total marks 40

4. Results, Conclusions, Evaluation

    Three headings @ 8m each
    Each heading: 4 SRP's @ 2m each   24m

Coherence – 4m graded (4/2/0)	
Conformity with prescribed length 2m	6m

                                                         Total marks 30

5. Organisation and Presentation of Results

    Two different methods of presentation.
    Each presentation: 5 SRP's @ 2m each

                                                         Total marks 20

Breakdown of Presentation Marks

Pie Chart / Trend Graph / Bar Chart / Scatter Graph etc.

X axis labelled / circle	2m
Y axis labelled / centred	2m
Data presented correctly	2m
Data presented correctly	2m
Overall impression	2m graded (2/1/0)

Diagram / Sketch / Map

1 piece of annotated information	Shown 2m + Named 2m
1 piece of annotated information	Shown 2m + Named 2m
Overall impression	2m graded (2/1/0)

Table

Title	2m
Rows labelled	2m
Columns labelled	2m
Data	2m
Overall impression	2m graded (2/1/0)

PART ONE – SHORT-ANSWER QUESTIONS – 100 MARKS
ANY **TEN** QUESTIONS @ 10 MARKS EACH
Mark **all** questions attempted and award ten questions with highest marks.

Q.1 (i)	B		2m	
	A		2m	
	D		2m	
	C		2m	
(ii)	Eurasian		2m	Total 10m

Q.2 (i)	**(C)**	Q.2 (ii) Igneous	2m	
	A	Sedimentary	2m+ 2m	
	D	**(Igneous)**	2m	
	(B)	Metamorphic	2m	Total 10m

Q.3 (i)	D		2m	
	C		2m	
	B		2m	
	A		2m	
(ii)	Dormant		2m	Total 10m

Q.4	C		2m	
	E		2m	
	A		2m	
	B		2m	
	D		2m	Total 10m

Q.5	C		2m	
	A		2m	
	E		2m	
	D		2m	
	B		2m	Total 10m

Q.6 (i)	18hole golf course		2m	
	Holy Well		2m	
	Garda Station		2m	
(ii)	National (Primary Road)		2m	
(iii)	Correctly drawn symbol		2m	Total 10m

Q.7 (i)	4.2km	5m		
(ii)	320m	5m	Total 10m	

Q.8 (i)	Right foreground	2m		
	Centre middleground	2m		
	Right centreground	2m		
	Left background	2m		
(ii)	Oblique	2m	Total 10m	

Q.9 (i)	11.9 (°C)	2m		
(ii)	17.7 (°C)	2m		
(iii)	May	2m		
(iv)	5	2m		
(v)	233 (mm)	2m	Total 10m	

Q.10 (i)	C	2m		
	D	2m		
	B	2m		
	A	2m		
(ii)	True	2m	Total 10m	

Q.11 (i)	21(%)	2m		
(ii)	80 and over	2m		
(iii)	20-64	2m		
(iv)	2040	2m		
(v)	0-19 **OR** 65-79	2m	Total 10m	

Q.12 (i)	Low pressure or Depression	2m		
(ii)	Calm and dry	2m		
(iii)	1008 (mb)	2m		
(iv)	Correctly drawn symbol	2m		
(v)	Isobars	2m	Total 10m	

In 2023 candidates had additional choice on the Leaving Certificate Geography paper. The instructions for Part Two of the ordinary level examination paper were:

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)

In order to get a total mark for Part Two, the online marking system initially selects the three questions with the highest marks from Part Two and adds them. If all three of these questions are **not** from the same Section, then this is the correct total mark for Part Two, and the Examiner enters NR for an item called Adjust. This leaves the total that the online marking system has initially calculated as it is.

If all three of the questions with the highest marks are from the same Section, then the total of these is invalid due to the required rubric. In these instances, the Examiner enters the appropriate negative mark for the Adjust item, using the following annotations:

Annotation	Use	Marks (if applicable)
A	Indicates that marks from the question below are being adjusted from the total	N/A
0 1 2 3 4 5 6 7 8 9 10	The total of the annotations used is being subtracted from the total	0, -1, -2, -3, -4, -5, -6, -7, -8, -9, -10

Specifically, the Examiner places the A annotation in the top right of the first page on which the question with the third-highest mark was answered, and places the correct combination of numbers beside this A in order to apply the appropriate adjustment. For example, to apply an Adjust mark of -23, an Examiner would place A, -10, -10, -3.

The effect of the Adjust mark is to ensure that the rubric above is applied – that is, that a candidate's total mark for Part Two is the highest combination of valid marks (where the marks of not more than two questions come from the same section).

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 triangulation pillar at Slieve Glah
- The entire area of coniferous plantation at H 46 07
- Lisnananagh Lough
- The course of the Stradone River from Lisnananagh Lough to H 510 068
- Sweelan Lough.

Sketch Outline:

Limits/Frame	**1m**
Proportions (landscape)	**2m**
Overall Impression	**2m graded (2/1/0)**
	Sub-total 5m
Five items shown and labelled as follows:	
Showing	**3m graded (3/1/0)**
Labelled	**2m**
	Sub-total 25m

For an obvious tracing allow 50% of the marks obtained for showing and labelling items and 0m out of 5m for limits, proportion and overall impression.

Total 30m

1B.   Rocks

(i)   Name **two** examples of sedimentary rocks.

Two sedimentary rocks named @ 3m each   6m

(ii)   State **two** different Irish locations where sedimentary rocks are found.

Location 1   4m
Location 2   3m

(iii)   Describe and explain how sedimentary rocks are formed.

Description/Explanation 9 SRP's @ 3m each   27m

At least one SRP for explanation.
Allow one SRP for relevant annotated diagram.

Relevant information, additional to the text, given on the diagrams can be awarded SRP's.

                                                  Total 40m

1C.   Fold Mountains

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

Diagram two items @ 3m each   6m

Description/Explanation 8 SRP's @ 3m each   24m

Allow one SRP for named example of fold mountains.
At least one SRP for explanation.

Relevant information, additional to the text, given on the diagrams can be awarded SRP's.

                                                  Total 30m

Question 2

2A.   Landforms and Processes
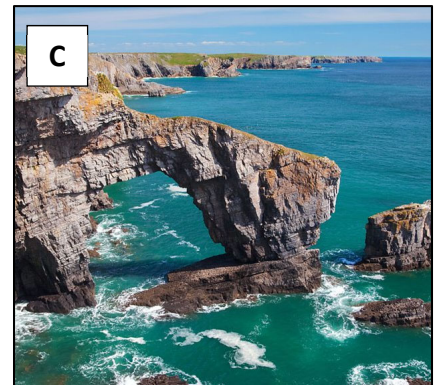
Examine the photographs above and answer each of the following questions.

(i)   In your answer book, match each of the photographs **A**, **B** and **C** with the landform that best matches it from the list below:
- **C** Sea arch   **3m**
- **A** U-shaped valley   **3m**
- **B** Meander.   **3m**

(ii)   In your answer book, match each of the photographs **A**, **B** and **C** with the process most associated with its formation from the list below:
- **A** Glacial erosion   **3m**
- **C** Coastal erosion   **3m**
- **B** River erosion and deposition.   **3m**

(iii)   Explain briefly **each** of the following:
- Longshore Drift
- Plucking.

   Brief explanation 1 = 2SRP's @ 3m each   **6m**

   Brief explanation 2 = 2SRP's @ 3m each   **6m**

   Total 30m

2B. Weathering

(i) Name any **two** factors that influence weathering.

Two valid factors named @ 2m each   4m

(ii) Describe and explain any **two** of the following types of weathering:

- Onion weathering
- Carbonation
- Freeze-thaw action.

Weathering type 1 explained 6 SRP's @ 3m each   18m
Weathering type 2 explained 6 SRP's @ 3m each   18m

  Allow one SRP for a named example/location
  Allow one SRP for relevant annotated diagram.
  Relevant information, additional to the text, given on the diagrams can be
   awarded SRP's.
  At least one SRP for explanation.

                                                        Total 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.

  Description / explanation 10 SRP's @ 3m each.

  Allow one SRP for a named example.
  At least one SRP for explanation.
  Allow one SRP for relevant annotated diagram.
  Relevant information, additional to the text, given on the diagrams can be awarded SRP's.
  Positive and negative interpretation can be accepted.

                                                        Total 30m

Question 3

3A.   Earthquakes

Earthquake in Afghanistan 2022

A 6.1-magnitude earthquake struck early on Wednesday near the Pakistani border, about 160km (100 miles) southeast of Kabul, Afghanistan.

Friday's aftershock, in almost exactly the same place, was of magnitude 4.3. A total of 1,036 people are confirmed to have been killed. About 2,000 people were injured and 10,000 homes partially or entirely destroyed. The epicentre of the earthquake was in a region of arid mountains dotted with small settlements. Poor communications and only very basic roads have hampered relief efforts in a country grappling with a humanitarian crisis. Large parts of South Asia are seismically active because a tectonic plate known as the Indian plate is pushing north into the Eurasian plate.

Amended from www.irishtimes.com

Examine the article above about an earthquake in Afghanistan in 2022 and answer each of the following questions.

(i)	What was the magnitude of the earthquake in Afghanistan?	
	6.1	**3m**
(ii)	Name the **two** tectonic plates mentioned in the article.	
	Indian plate and Eurasian plate	**3m+3m**
(iii)	List **three** effects of earthquakes referred to in the article above.	
	People killed	**3m**
	People injured	**3m**
	Homes destroyed	**3m**
(iv)	Explain briefly the term *epicentre*.	
	Brief explanation two SRP's @ 3m each	**6m**
(v)	Explain briefly **one** way to limit the damage that earthquakes can cause.	
	Brief explanation two SRP's @ 3m each	**6m**

Total 30m

3B. Landform Development

Answer (i) **or** (ii)

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

> **Formation of any two landforms @ 20m each.**
> **For each landform:**
> **Landform named**   **1m**
> **Diagram(s) two aspects @ 2m each**   **4m**
> **Formation explained 5 SRP's @ 3m each**   **15m**
>
> **At least one SRP must explain a relevant process.**
> **Allow one SRP for a named example.**
> **Relevant information, additional to the text, given on diagrams can be awarded SRP's.**
>
>   **Total 40m**

Or

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

> **Any two processes @ 20m each**
>
> **For each process:**
> **Process stated**   **2m**
> **Description / Explanation 6 SRP's @ 3m each**   **18m**
>
> **At least one SRP for explanation.**
> **Allow a named example for one SRP.**
> **Allow one SRP for relevant annotated diagram.**
> **Relevant information, additional to the text, given on diagrams can be awarded SRP's.**
>
>   **Total 40m**

3C.   Human Interaction with Surface Processes

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

- River processes
- Coastal processes
- Mass movement processes.

Interaction identified	**3m**
Explanation 9 SRP's @ 3m each	**27m**

Allow a second interaction identified for one SRP.
All further interactions must be explained for SRP's.
Allow one SRP for a named example.
Allow one SRP for relevant annotated diagram.
Relevant information, additional to the text, given on the diagrams can be awarded SRP's.
Positive and negative interpretation can be accepted.

                                                                    Total 30m

4A.   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.

Outline of Region	**6m graded (6/4/2/0)**	
River:	**Named**	**2m**
	Shown	**4m graded (4/2/0)**
Town/City 1:	**Named**	**2m**
	Shown	**4m graded (4/2/0)**
Town/City 2:	**Named**	**2m**
	Shown	**4m graded (4/2/0)**
Relief (upland/lowland):	**Named**	**2m**
	Shown	**4m graded (4/2/0)**
		Total 30m

4B.   Economic Activities – Irish Region

Explain the development of any **two** of the following with reference to an **Irish** region 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.

Region named	**1m**
Activity 1 explained 7 SRP's @ 3m each	**21m**
Activity 2 explained 6 SRP's @ 3m each	**18m**
	Total 40m

4C.   Regions and Culture

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

Religion	Language	Politics
Music/Dance		Sport/Games

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

Description/explanation 10 SRP's @ 3m each

Allow a region named for one SRP
At least one SRP for explanation.

Total 30m

Question 5

5A. **Fishing in Ireland**
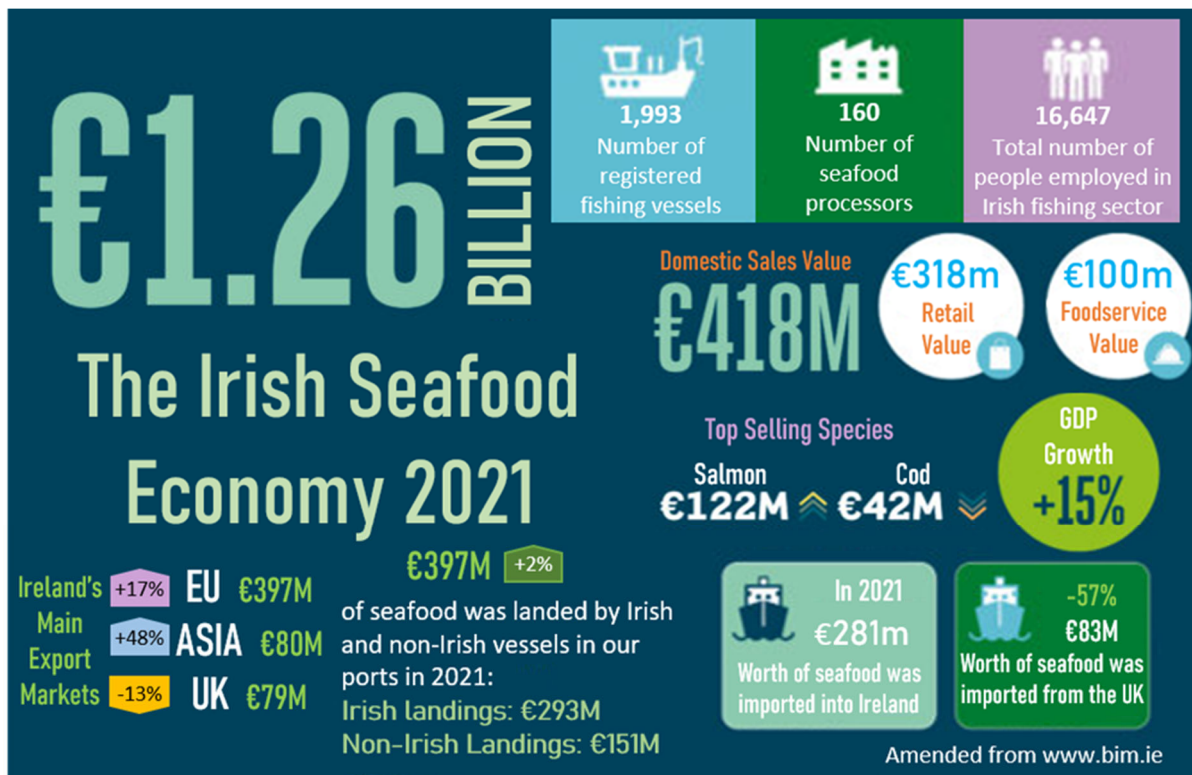
Examine the infographic above which shows information about the Irish seafood economy in 2021 and answer each of the following questions

(i)   How many people were employed in the Irish fishing sector in 2021?

16,647   **3m**

(ii)   What was the value (in €million) of seafood imported into Ireland in 2021?

281 (€million)   **3m**

(iii)   Calculate the combined value of the seafood exports (in € million) to the EU, Asia and the UK.

556 (€million)   **6m**

(iv)   Name the **two** top selling species of fish in Ireland in 2021.

Cod and salmon   **3m+3m**

(v)   Name **two** fishing ports in Ireland.

Two valid fishing ports named   **3m+3m**

(vi)   Explain briefly **one** advantage of fishing to the Irish economy.

Brief explanation two SRP's @ 3m each   **6m**

Total 30m

5B. **Tourism in a European Region**

Answer each of the following questions with rerference to a **European** region
(**not in Ireland**) that you have studied.

(i)   Name **two** tourist attractions in this region.

Two valid attractions named   **2m+2m**

(ii)   Explain the positive impacts of tourism in this region.

Explanation 6 SRP's @ 3m each   **18m**
Allow a named region for one SRP.

(iii)   Explain the negative impacts of tourism in this region.

Explanation 6 SRP's @ 3m each   **18m**

Total 40m

5C. **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.

Description/explanation 10 SRP's @ 3m each

At least one SRP for explanation.
Allow an urban area named for one SRP.

Total 30m

Question 6

6A.   Life Expectancy in the European Union

European Union Life Expectancy by Age and Sex 2020

Amended from www.ec.europa.eu
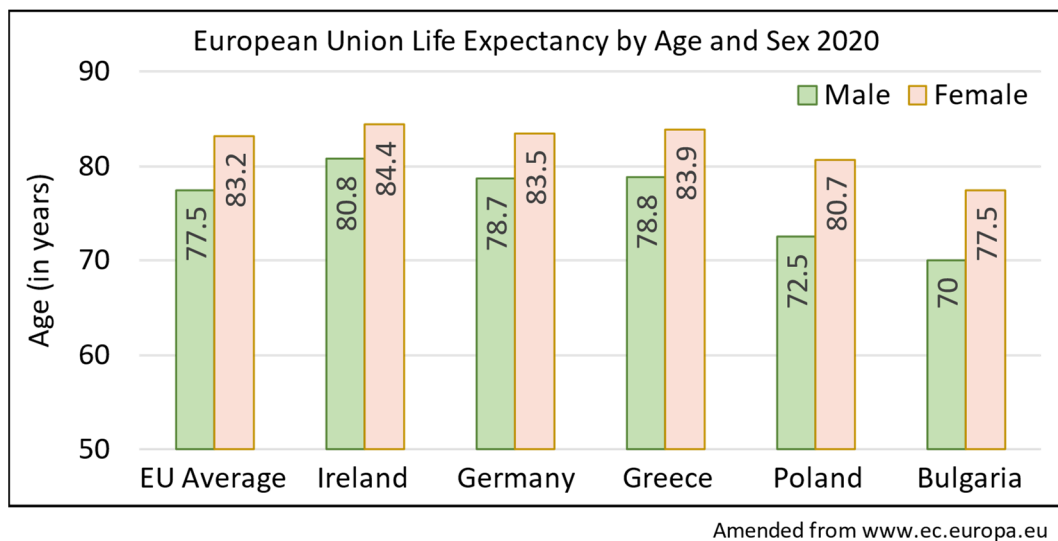
Examine the chart above with information on life expectancy in selected countries of the European Union (EU) in 2020 and answer each of the following questions.

(i)   In which country was the female life expectancy 83.5 years in 2020?
Germany   **3m**

(ii)   In which country was male life expectancy the highest in 2020?
Ireland   **3m**

(iii)   Name **two** countries whose female life expectancy is below the EU Average for females.
Poland and Bulgaria   **3m+3m**

(iv)   Calculate the difference in life expectancy for males, in years, between Bulgaria and the EU Average.
7.5 (years)   **6m**

(v)   Explain briefly **two** reasons why some countries have higher life expectancies than other countries.
Reason 1 - Brief explanation two SRP's @ 3m each   6m
Reason 2 - Brief explanation two SRP's @ 3m each   6m

Total 30m

6B. **Primary Economic Activity in a Continental / Sub-Continental Region**

Answer each of the following questions with reference to a **Continental / Sub-Continental** region (**not in Europe**) that you have studied.

(i) Name **one** primary economic activity that contributes to the economy of this region.
One valid primary economic activity named   4m

(ii) Explain the advantages that this region has for the development of the primary economic activity named in part (i) above.
Explanation 9 SRP's @ 3m each   27m
Allow a named region for one SRP.

(iii) Describe **one** problem faced by this primary economic activity in this region.
Description 3 SRP's @ 3m each   9m

Total 40m

6C. **Regional Development**

Describe and explain **two** problems faced by any region that you have studied.

Problem 1
Description/Explanation 5 SRP's @ 3m each 15m

Problem 2
Description/Explanation 5 SRP's @ 3m each 15m

At least one SRP for explanation for each problem.
Allow a named region for one SRP.

Total 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 100 marks.

Question 7

7A.   Aerial Photograph

Examine the aerial photograph of Cavan accompanying this paper.

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

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

- A lake
- A church
- An area of waste ground in the centre foreground
- A car park
- **Two** connecting streets.

Sketch Outline:

Limits/frame	**1m**
Proportions (landscape)	**2m**
Overall impression	**2m graded (2/1/0)**
	Sub-total 5m
Five items shown and labelled as follows:	
Showing	**3m graded (3/1/0)**
Labelled	**2m**
	Sub-total 25m

For an obvious tracing allow 50% of marks obtained for the features but 0 marks out of the 5 for sketch map.

Total 30m

7B.   Economic Activity – Environmental Pollution

(i)   Name **one** example of environmental pollution caused by economic activity.

Valid example named   4m

(ii)   Explain the causes **and** effects of this environmental pollution.

Cause identified one SRP @ 3m each   3m

Effect identified one S RP @ 3m each   3m

Explanation 6 SRP's @ 3m each   18m

(iii)   Describe how this environmental pollution could be reduced.

Description 4 SRP's @ 3m each   12m

Total 40m

7C.   Colonialism

(i)   Name **one** developing economy that was colonised.

Valid colonised country   3m

(ii)   Describe and explain the impacts of colonialism on this developing economy.

Description / Explanation 9 SRP's @ 3m each   27m

At least one SRP for explanation.

Total 30m

Question 8

8A.   **Economic Development**

Expected Years of Schooling for
Selected Countries 2019

Country	Expected Years of Schooling
Ireland	19
Brazil	15
Mali	8
Saudi Arabia	16
Japan	15

Amended from www.hdr.unp.org

Examine the table above showing the expected years of schooling for selected countries in 2019 and answer each of the following questions.

(i)   Using graph paper, draw a suitable graph to illustrate this data.

Graph paper 3m

Vertical axis labelled/Circle	**3m graded (3/1/0)**
Horizontal axis labelled/Centred	**3m graded (3/1/0)**
5 items @ 3m each graded (3/1/0)	**15m**
	Sub-total 24m

(ii)   In your answer book, explain briefly **one** way that an educated workforce benefits the economy of a country.

Brief explanation 2 SRP's @ 3m each   **6m**

                                                                         Total 30m

8B. **Ordnance Survey Map**

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

Imagine you have been given the task of finding a suitable location for a new factory within the area covered by the map.

(i) State, using a six-figure grid reference, where you would locate the factory.

Six-figure grid reference **4m graded (4/2/0)**

(ii) Explain the reasons why you chose this location.

Reasons explained 9 SRP's @ 3m each **27m**

(iii) Describe **one** disadvantage of locating the factory at this location.

One advantage described 3 SRP's @ 3m each **9m**

Total 40m

8C. **Ireland and the European Union**

Explain how being a member of the European Union has impacted on the Irish economy.

Impact Identified 1 SRP **3m**
Explanation 9 SRP's @ 3m each **27m**

Allow a second impact identified for one SRP.
Allow a named policy (or policy area) for one SRP.

Total 30m

Question 9

9A. Renewable energy

<table>
<tr><td colspan="2">Ireland's First Large-Scale Solar Farm Opens in Wicklow</td></tr>
<tr><td>The first large-scale solar farm to supply electricity to the Irish grid has been opened near Ashford in Co. Wicklow and is now operational.
Millvale solar farm incorporates 33,600 solar modules covering 25 hectares of land. That is enough to power approximately 3,600 homes every year. It is estimated that the electricity it generates will prevent 4,800 tonnes of greenhouse gas emissions each year.</td><td></td></tr>
<tr><td colspan="2">Eamon Ryan, the Minister for the Environment, Climate and Communications, said:
"It supports the growth of the green economy, creates sustainable work opportunities and benefits citizens, as renewable energy becomes more cost effective and replaces fossil fuels".</td></tr>
<tr><td colspan="2" align="right">Amended from www.rte.ie/news</td></tr>
</table>

Examine the article above about the opening of a solar farm and answer each of the following questions.

(i)   In which county is this solar farm located?

Wicklow   **3m**

(ii)   What is the area of land (in hectares) of Millvale solar farm?

25 (hectares)   **3m**

(iii)   How many tonnes of greenhouse gas emissions is it estimated this solar farm will prevent from being released into the atmosphere each year?

4,800 (tonnes)   **3m**

(iv)   Name **two** benefits of this solar farm that were stated in the article by Eamon Ryan.

Two valid benefits named   **3m+3m**

(v)   Name **one** other example of renewable energy, apart from solar power.

One valid example named   **3m**

(vi)   Explain briefly what is meant by the term *fossil fuels*.

Brief explanation two SRP's @ 3m each   **6m**

(vii)   Explain briefly **one** disadvantage of renewable energy.

Brief explanation two SRP's @ 3m each   **6m**

                                                    Total 30m

9B.   Multinational Company

(i)   Name **one** multinational company located in Ireland that you have studied **and** name **one** product that it manufactures.

Valid MNC named	**4m**
Valid product named	**3m**

(ii)   State where this multinational company is located in Ireland **and** explain why it set up at this location.

Valid location	**3m**
Explanation 7 SRP's @ 3m each	**21m**

(iii)   Explain **one** reason why this multinational company might decide to locate to another country.

Explanation 3 SRP's @ 3m each	**9m**

Total 40m

9C.   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.

Named developed economy	**3m**
Description/explanation 9 SRP's @ 3m each	**27m**
At least one SRP for explanation.	

Total 30m

Question 10

10A.   Aerial Photograph

Examine the aerial photograph of Cavan accompanying this paper.

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

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

- A lake
- A church
- Tennis courts
- A roundabout
- Industrial buildings in the left background

Sketch Outline:

Limits/frame	**1m**
Proportions (landscape)	**2m**
Overall impression	**2m graded (2/1/0)**
	Sub-total 5m

Five items shown and labelled as follows:	
Showing	**3m graded (3/1/0)**
Labelled	**2m**
	Sub-total 25m

For an obvious tracing allow 50% of marks obtained for the features but 0 marks out of the 5 for sketch map.

Total 30m

10B. **Migration – Ireland**

Migration takes place due to push factors and pull factors.

(i) Name **one** push factor **and one** pull factor associated with migration.

Push factor named	**2m**
Pull factor named	**2m**

(ii) Discuss the positive impacts of migration on Ireland.

    Discussion 6 SRP's @ 3m each   **18m**

(iii) Discuss the negative impacts of migration on Ireland.

    Discussion 6 SRP's @ 3m each   **18m**

                                               Total 40m

10C. **Traffic Congestion**

(i) Name **one** example of an urban area where traffic congestion is a problem.

    Named example 3m

(ii) Describe and explain the measures that can be taken in urban areas to solve the problem of traffic congestion.

    Description / Explanation 9 SRP's @ 3m each   **27m**
    At least one SRP for explanation.

                                               Total 30m

Question 11

11A.   Population Dynamics

Population Increase (%) in
Selected Irish Counties 2016-2022

County	Population Increase (%)
Kilkenny	5
Dublin	8
Kildare	11
Meath	13
Longford	14

Amended from www.cso.ie

Examine the table above showing the population increase (%) in selected Irish counties 2016-2022 and answer each of the following questions.

(i)   Using graph paper, draw a suitable graph to illustrate this data.

Graph paper 3m

Vertical axis labelled/Circle   **3m graded (3/1/0)**

Horizontal axis labelled/Centred   **3m graded (3/1/0)**

5 items @ 3m each graded (3/1/0)   **15m**

Sub-total 24m

(ii)   In your answer book, explain briefly **one** challenge associated with an increase in population.

Brief explanation 2 SRP's @ 3m each   **6m**

Total 30m

11B. Rural Settlement Patterns

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

(i)   Name **three** different rural settlement patterns evident on the Ordnance Survey map **and** give a six-figure grid reference for the location of an example of each.

Pattern 1 named:	**4m**
Pattern 2 named:	**3m**
Pattern 3 named:	**3m**
Grid reference 1:	**4m graded (4/2/0)**
Grid reference 2:	**4m graded (4/2/0)**
Grid reference 3:	**4m graded (4/2/0)**

(ii)   Explain each of the **three** rural settlement patterns named in part (i) above.

Explanation for each pattern:	
Pattern 1: 2 SRP's @ 3m each	**6m**
Pattern 2: 2 SRP's @ 3m each	**6m**
Pattern 3: 2 SRP's @ 3m each	**6m**

Total 40m

11C. Urban Sprawl

(i)   Name **one** city where urban sprawl has occurred.

City named	**3m**

(ii)   Explain the reasons why urban sprawl has occurred in this city.

Explanation 6 SRP's @ 3m each	**18m**

(iii)   Describe **one** solution to urban sprawl.

|	
Description 3 SRP's @ 3m each	**9m**

Total 30m

Question 12

12A. Changing Landuse Patterns

Development of Dublin Port

In February 2022, the *Docklands Business Forum* submitted a proposal to Dublin City Council for its 2022-2028 draft development plan calling for the relocation of the Port outside the city. They argued that the 200 hectares of land currently occupied by the port could be better and more profitably used for housing and business developments.
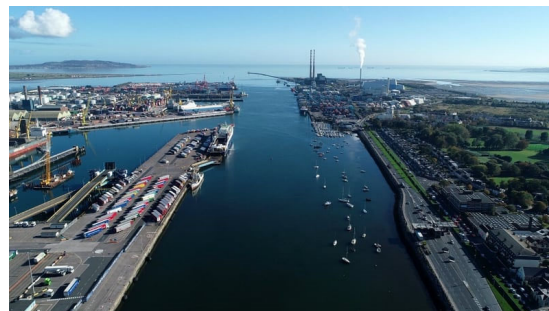
The proposal was rejected immediately by Dublin City Council, who claimed that it would violate EU environmental law. However, it would be foolish to think that this will be the last time that businesses fix their eye on the port for redevelopment. With the continued housing crisis in Dublin and the difficulty in finding office space, the area around Dublin Port has been seen as an attractive site for expansion.

Amended from www.rte.ie

Examine the article above about Dublin Port and answer each of the following questions.

(i) Who submitted a proposal calling for the relocation of Dublin Port?

The Docklands Business Forum   3m

(ii) In what month during 2022 was this proposal submitted?

February   3m

(iii) How much land (in hectares) does Dublin Port currently occupy?

200 (hectares)   3m

(iv) Why did Dublin City Council reject the proposal?

It would violate EU environmental law   3m

(v) State **two** reasons, mentioned in the article, why Dublin Port will continue to be an attractive site for expansion.

The housing crisis and difficulty finding office space 3m+3m

(vi) Explain briefly what is meant by the term *urban redevelopment*.

Brief explanation 2 SRP's @ 3m each   6m

(vii) Explain briefly **one** reason why towns/cities develop near ports.

Brief explanation 2 SRP's @ 3m each   6m

Total 30m

12B. **Developing World City**

(i) Name **one** city in the developing world that is growing rapidly.
Developing City named   **4m**

(ii) State **three** factors that influence the growth of this developing world city.
Factor 1:   **3m**

Factor 2:   **3m**

Factor 3:   **3m**

(iii) Describe and explain any **three** problems associated with the rapid growth of this developing world city.
Description / Explanation 9 SRP's @ 3m each   **27m**
At least one SRP for explanation.

                                                           Total 40m

12C. **Overpopulation**

(i) Explain briefly what is meant by the term *overpopulation*.
Brief explanation 2 SRP's @ 3m each   **6m**

(ii) Describe and explain the causes **and** effects of overpopulation with reference to example(s) that you have studied.
Description / Explanation 8 SRP's @ 3m each   **24m**
At least one SRP for explanation.

Allow one SRP for an example
Allow one cause stated for one SRP
Allow one effect stated for one SRP
Credit the second example from the explanation.

                                                           Total 30m

Appendix 1

List of Geographical Investigation Topics 2023

1.   A study of migration and its impact on population in a rural or urban area.

2.   Analyse the relationship between traffic flow and economic activity in a local area.

3.   Investigate the role played by geomorphic processes on the formation of **one** landform in a fluvial **or** coastal **or** glacial environment.

4.   A study of the impact of weathering on landscape development.

5.   Investigate the causes and impacts of an environmental issue in a local area.

6.   Human interaction with geomorphic processes in a glacial **or** coastal **or** fluvial **or** karst environment.

Coimisiún na Scrúduithe Stáit

Marcanna Breise as ucht freagairt trí Ghaeilge

Léiríonn an tábla thíos an méid marcanna breise ba chóir a bhronnadh ar iarrthóirí a ghnóthaíonn níos mó ná 75% d'iomlán na marcanna.

N.B. Ba chóir marcanna de réir an ghnáthráta a bhronnadh ar iarrthóirí nach ngnóthaíonn níos mó ná 75% d'iomlán na marcanna don scrúdú. Ba chóir freisin an marc bónais sin **a shlánú síos**.

Tábla 400 @ 10%

Bain úsáid as an tábla seo i gcás na n-ábhar a bhfuil 400 marc san iomlán ag gabháil leo agus inarb é 10% gnáthráta an bhónais.

Bain úsáid as an ngnáthráta i gcás 300 marc agus faoina bhun sin. Os cionn an mharc sin, féach an tábla thíos.

Bunmharc	Marc Bónais	Bunmharc	Marc Bónais
301 – 303	29	351 - 353	14
304 – 306	28	354 - 356	13
307 – 310	27	357 - 360	12
311 – 313	26	361 - 363	11
314 – 316	25	364 - 366	10
317 – 320	24	367 - 370	9
321 – 323	23	371 - 373	8
324 – 326	22	374 - 376	7
327 – 330	21	377 - 380	6
331 – 333	20	381 - 383	5
334 – 336	19	384 - 386	4
337 – 340	18	387 - 390	3
341 – 343	17	391 - 393	2
344 – 346	16	394 - 396	1
347 – 350	15	397 - 400	0

Geographical Investigation – Not included in total for bonus marks

Note: Modified marking scheme available for candidates who sat a modified examination paper.