



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate Examination 2023

Geography

Part Two

Higher Level

Friday 9 June Morning 9:30 – 12:20

400 marks

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The 2023 examination papers were adjusted to compensate for disruptions to learning due to COVID-19.
This examination paper does not necessarily reflect the same structure and format as the examination papers
of past or subsequent years.

PART TWO – STRUCTURED and ESSAY QUESTIONS – 320 MARKS

You must attempt **FOUR** questions. This must include one question from three of the sections below:

- 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)

The fourth question can be from any section.

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 area of Lisnahanagh Lough
- The course of the Stradone River from where it exits Lisnahanagh Lough to H 505 056.
- The triangulation pillar at Fleming's Folly in the south west of the map
- The entire area of land above 300 metres.

[20m]

1B. Igneous Rocks

Explain the formation of **two** igneous rocks, with reference to Irish examples.

[30m]

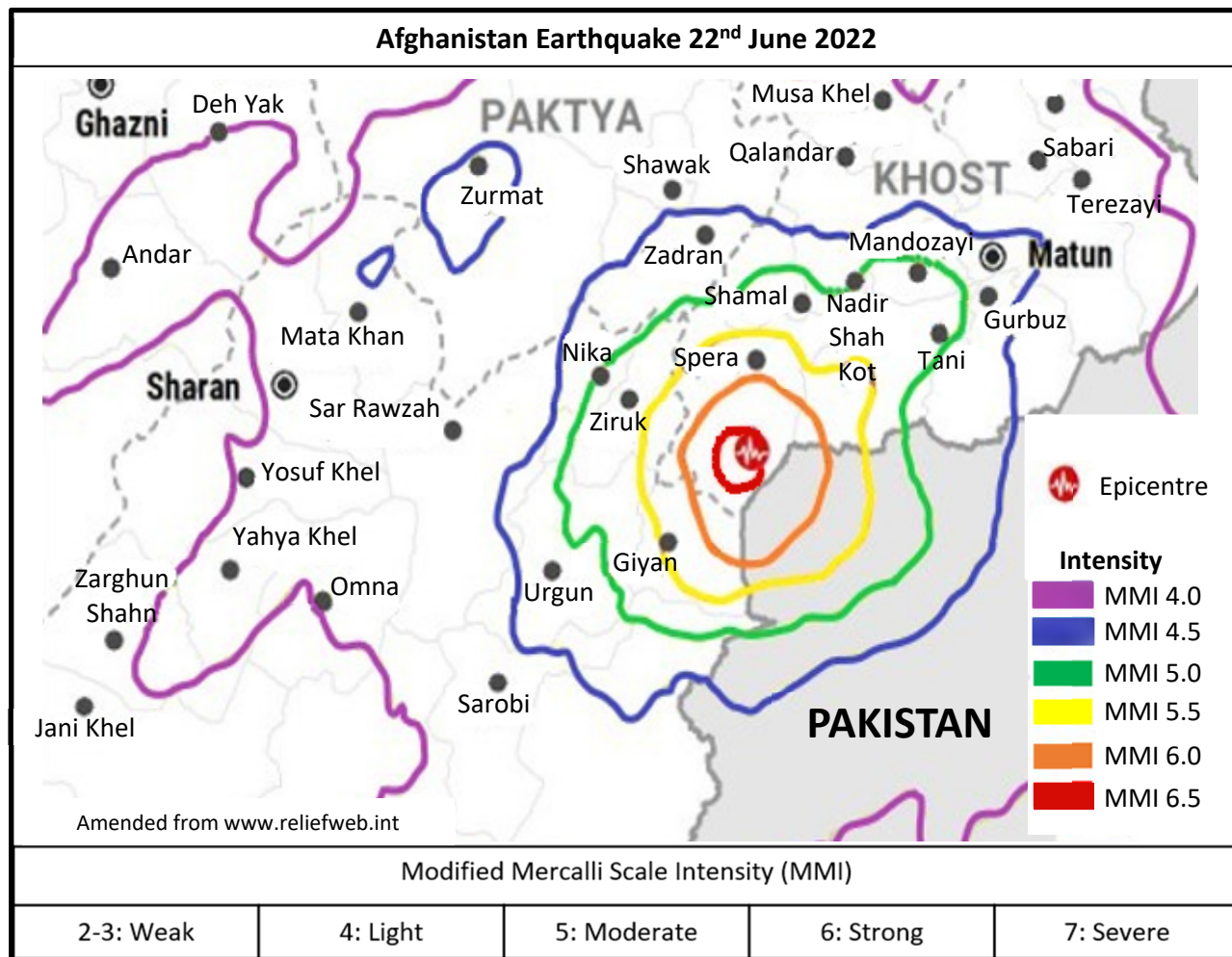
1C. Isostasy

Examine how isostasy has impacted on the Irish landscape, with reference to the fluvial landscape and/or the coastal landscape.

[30m]

Question 2

2A. Earthquakes



Examine the map and legend above which gives information on an earthquake in Afghanistan and answer each of the following questions.

- (i) What was the Modified Mercalli Scale Intensity (MMI) at the epicentre of this earthquake?
- (ii) Name **two** settlements that experienced an MMI of 5.0 or higher.
- (iii) On Afghanistan's border with which other country did this earthquake take place?
- (iv) Other than the Modified Mercalli Scale, name **one** scale used to measure earthquakes.
- (v) Name **one** instrument used to measure earthquakes.
- (vi) Explain briefly the term *focus*, in relation to earthquakes.
- (vii) Explain briefly **one** way to reduce the effects of an earthquake.

[20m]

2B. Surface Processes

Answer (i) or (ii)

- (i) Examine the role of the **process of deposition** on the formation of **one** fluvial landform **or one** coastal landform **or one** glacial landform that you have studied.

Or

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

[30m]

2C. Chemical Weathering

Explain, with the aid of a labelled diagram(s), how chemical weathering has shaped **one** of the following:

- The surface karst landscape
- The underground karst landscape.

[30m]

Question 3

3A. Mass Movement

Glacier Avalanche in Italy

A mass of ice broke off the Marmolada glacier, sending an avalanche of ice, rocks and debris plummeting down the slope and onto a popular hiking trail along the Dolomite Mountains. Known as the Queen of the Dolomites, the Marmolada is about 3,300 metres high and is the tallest peak in the eastern Dolomites. According to research by Italian scientists the Marmolada glacier has lost an estimated 80% of its volume over the last 72 years and there was a warning in 2020 that the glacier could disappear within 15 years because of global warming.



Amended from www.theguardian.com

Examine the article above which gives information on a glacier avalanche and answer each of the following questions.

- (i) In which country are the Dolomite Mountains located?
- (ii) What height (in metres) is the Marmolada mountain?
- (iii) By what estimated percentage has the volume of the glacier been reduced in the last 72 years?
- (iv) Name **one** example of a slow type of mass movement.
- (v) Explain briefly the term *regolith*.
- (vi) List **two** factors that influence the speed of mass movement.
- (vii) Explain briefly how **one** of these factors influences the speed of mass movement.

[20m]

3B. The Tectonic Cycle

Explain how the study of plate tectonics has helped us to understand the global distribution of any **one** of the following:

- Earthquakes
- Volcanoes
- Fold mountains

[30m]

3C. 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]

SECTION 2

REGIONAL GEOGRAPHY

Questions 4 to 6

All questions carry 80 marks.

Question 4

4A. Map Skills

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

On it, show and name each of the following:

- The outline of a named feature of relief (upland or lowland)
- A named urban centre
- The outline of a named agricultural or industrial region
- The course of a named river.

[20m]

4B. Tertiary Economic Activity – Continental / Sub-Continental Region

Account for the development of **one** tertiary economic activity in a **Continental / Sub-Continental** region (not in Europe), that you have studied.

[30m]

4C. Urban Development

Examine how **two** of the following factors have influenced the development of any urban area that you have studied:

- Transport
- Location
- Primary economic activity.

[30m]

Question 5

5A. European Air Transport

Goods Transported by Air (in thousands of tonnes)

	2015	2018	2021
Belgium	1,126	1,416	2,083
Denmark	210	242	246
France	2,380	2,407	2,275
Germany	4,325	4,773	5,273
Ireland	148	156	155
Netherlands	1,712	1,840	1,807
Portugal	133	173	174
Switzerland	401	493	341
EU 27	12,524	14,243	15,023

Amended from Eurostat

Examine the table above showing the goods transported by air in Europe in selected years and answer each of the following questions.

- (i) Which country transported 242,000 tonnes of goods by air in 2018?
- (ii) Which country had the lowest amount of goods transported by air in 2015?
- (iii) Name **one** country that had a decline in goods transported by air between 2015 and 2021.
- (iv) Calculate the percentage of EU 27 goods transported by air in 2018 that were accounted for by Germany.
- (v) Which country from the table above is not a member of the EU?
- (vi) Explain briefly **one** advantage of transporting goods by air.
- (vii) Explain briefly **one** environmental challenge caused by air transport.

[20m]

5B. Primary Economic Activity

Explain any **two** factors that have influenced the development of **one** primary economic activity in an **Irish** region that you have studied.

[30m]

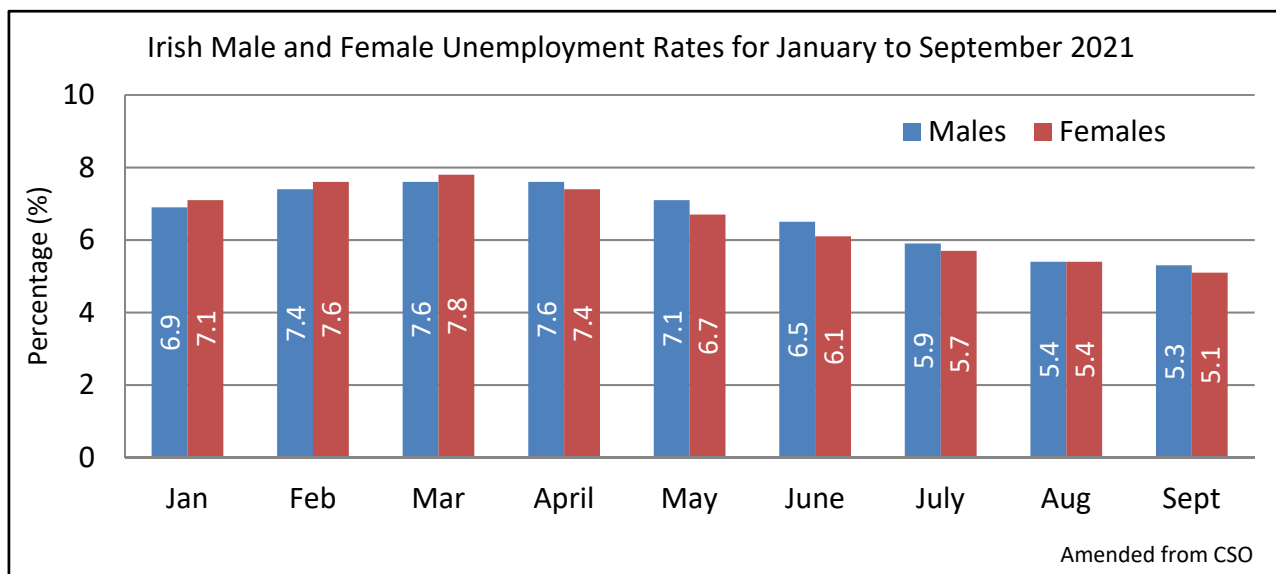
5C. The European Union

Discuss the potential challenges facing the future development of the European Union with reference to factors such as political union, economic union and sovereignty.

[30m]

Question 6

6A. Irish Unemployment



Examine the clustered bar chart above showing the male and female unemployment rates in Ireland from January 2021 to September 2021 and answer each of the following questions.

- What was the female unemployment rate (%) for March 2021?
- In which month were the male and female unemployment rates the same?
- For how many months was the female unemployment rate higher than the male unemployment rate?
- Was the unemployment rate for males increasing **or** decreasing from May to September?
- Calculate the average unemployment rate (%) for females for the months shown on the chart above.
- Explain briefly **two** benefits of having a low unemployment rate.

[20m]

6B. Secondary Economic Activity

Account for the development of secondary economic activity in a **European** region (not in Ireland) that you have studied, with reference to any **two** of the following factors:

- Labour
- Transport
- Raw materials
- Markets.

[30m]

6C. Population in Ireland

Account for the distribution of population throughout an **Irish** region 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. Aerial Photograph

Examine the aerial photograph 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:

- The lake
- **Two** connecting streets
- An area of waste ground in the centre foreground.
- Industrial buildings in the left background

[20m]

7B. Mobility of Economic Activities

Examine the mobility of modern economic activities with reference to **one** multinational company that you have studied.

[30m]

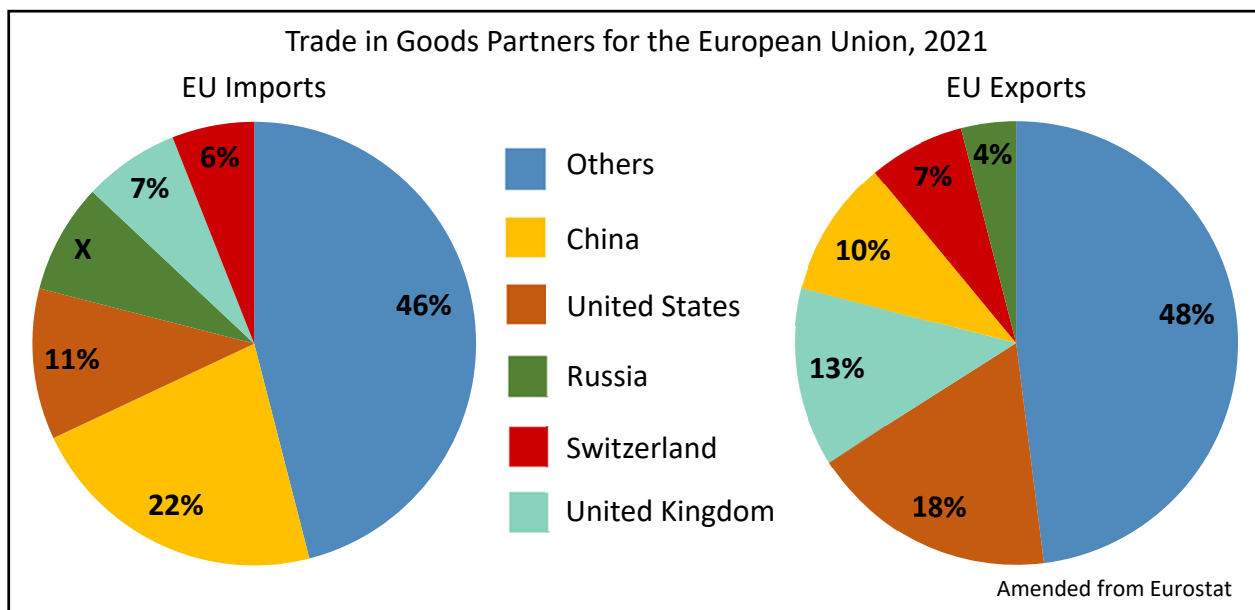
7C. Environmental Impact

Examine how economic activities can have an environmental impact with reference to examples on a local scale and a global scale.

[30m]

Question 8

8A. European Union Trade



Examine the pie charts above showing European Union (EU) trade in goods partners for 2021 and answer each of the following questions.

- Which country did the EU import 6% of all imported goods from?
- What percentage of EU exports went to the United States?
- What was the percentage difference in exports and imports between the EU and the United Kingdom in 2021?
- Name **one** country shown above that the EU had a trade surplus with in 2021.
- Calculate **X**, the percentage of imports to the EU that came from Russia in 2021.
- Explain briefly the term *balance of trade*.
- Explain briefly **one** way that change in EU membership has had an impact on EU trade.

[20m]

8B. Economic Development – Developed Economy

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

- Footloose industries
- Financial services
- Mass tourism.

[30m]

8C. Economic Development

Using evidence from the 1:50 000 Ordnance Survey map that accompanies this paper, explain **three** factors that have influenced the development of economic activity in the area shown on the Ordnance Survey map.

[30m]

Question 9

9A. Economic Development

Average Total Years of Schooling for Adult Population for Selected Countries in 2017

Country	Years
Argentina	10
Burundi	3
Germany	14
Indonesia	8
Ireland	13
Niger	2

Amended from www.ourworldindata.org

Examine the data above showing the average total years of schooling for the adult population for selected countries in 2017 and answer each of the following questions.

- Using graph paper, draw a suitable graph to illustrate this data.
- Explain briefly **one** disadvantage of using the Human Development Index (HDI) as a measure of economic development.

[20m]

9B. Colonialism

Examine the impact of colonialism on a developing economy that you have studied.

[30m]

9C. Renewable Energy

Examine how the development of renewable energy is crucial for Ireland's environment and economy.

[30m]

PATTERNS AND PROCESSES IN THE HUMAN ENVIRONMENT

Questions 10 to 12

Question 10

10A. Aerial Photograph

Examine the aerial photograph of Cavan 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:

- The lake
- An ecclesiastical land-use
- A carpark
- A residential land-use in the background.

[20m]

10B. Urban Issues

Discuss any **two** of the following issues that may arise from the growth of urban settlements:

- Urban decay and absence of community
- Urban sprawl
- Environmental issues.

[30m]

10C. Migration

Describe and explain changes in patterns of migration to and from Ireland since 1950.

[30m]

Question 11

11A. Asylum Applications in the EU

Asylum Applications to the
European Union in 2021

Country	% of All Applications
Austria	6
France	19
Germany	30
Italy	8
Spain	10
Rest of EU	27

Amended from www.consilium.europa.eu

Examine the data above showing the percentage of all asylum applications to the EU received by different countries in 2021 and answer each of the following questions.

- (i) Using graph paper, draw a suitable graph to illustrate this data.
- (ii) Explain briefly **one** reason why people seek asylum.

[20m]

11B. Dynamics of Population

Examine the impact of any **one** of the following factors on levels of population change, with reference to example(s) that you have studied:

- The development of resources
- Income levels
- Technology.

[30m]

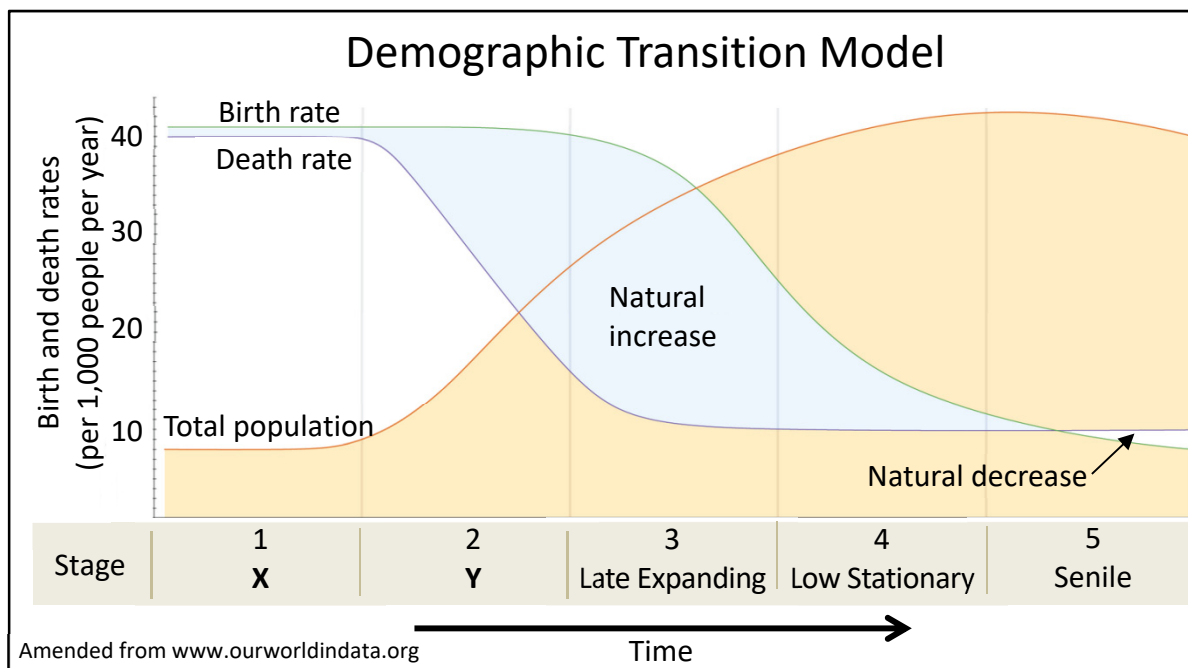
11C. Urban Land-Use

Describe and explain the land-use zones in any city that you have studied.

[30m]

Question 12

12A. Population Dynamics



Examine the diagram above showing the Demographic Transition Model and answer each of the following questions.

- Name **X**, Stage 1 of the Demographic Transition Model.
- Name **Y**, Stage 2 of the Demographic Transition Model **and** name an example of a country in this stage.
- What stage of the Demographic Transition Model is Ireland currently in?
- In which stage of the Demographic Transition Model does the death rate reduce by the most?
- State **one** reason why the birth rate starts to decrease after stage 2.
- Explain briefly **one** challenge facing countries in Stage 5 of the Demographic Transition Model.
- Explain briefly the term *natural change*.

[20m]

12B. Rural Settlement Patterns

Using evidence from the 1:50 000 Ordnance Survey map of Cavan accompanying this paper, describe and explain **three** rural settlement patterns evident on the map.

[30m]

12C. Urban Growth – Developing World City

Problems can develop from the growth and expansion of urban centres.

Discuss this statement with reference to **one** developing world city that you have studied.

[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 any **two** of the following:

- Aid programmes
- Land ownership patterns
- Differing gender roles in society.

[80m]

- 14.** Views of development and underdevelopment involve contrasting models and approaches to development. Discuss.

[80m]

- 15.** We live in an interdependent global economy. Discuss the impact of social and political decisions with reference to each of the following:

- Economic and political refugees
- Migration patterns
- Human rights issues.

[80m]

Geoecology

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.** Soil characteristics are affected by a combination of soil processes operating in their immediate environment. Examine how any **three** of the following processes impact on soil characteristics:

- Weathering
- Soil erosion
- Leaching
- Podzolisation.

[80m]

- 17.** Biomes are altered by human activities. Discuss.

[80m]

- 18.** Describe and explain the general composition and characteristics of any **one** soil type.

[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. Many cultural groups around the world do not have a nation state of their own. Discuss this statement with reference to example(s) you have studied. [80m]
20. Examine how people express their culture and identity in everyday life. [80m]
21. Examine the strategies that have been or could be implemented to aid the survival of minority languages. [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. Examine how solar energy is transformed and redistributed through circulation patterns in the atmosphere and oceans. [80m]
23. Give an account of how atmosphere-ocean phenomena (e.g. pressure, temperature, wind and humidity) are measured and examine the importance of such measurements. [80m]
24. Examine how climate characteristics influence economic development. [80m]

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