



**GEOGRAPHY
HIGHER LEVEL
PAPER 2**

Friday 13 November 2009 (morning)

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES

- Do not open this examination paper until instructed to do so.
- Answer four questions:
 - two from Section A;
 - one from Section B;
 - one other from any Section (A, B or C).
- Each question must be selected from a different theme.

SECTION A

*Answer at least **two** questions from this section and each question must be taken from a different theme. (Do not answer both an essay and a structured question on the same theme.)*

Case studies and examples should be used to illustrate answers and, where appropriate, they should be specifically located. Include well drawn, large, relevant maps, sketches, tables and diagrams as often as applicable.

A1. Drainage basins and their management

Either

(a) Essay

“The lower courses of rivers are more important to people than the upper courses.”

Discuss this statement with reference to located examples.

[20 marks]

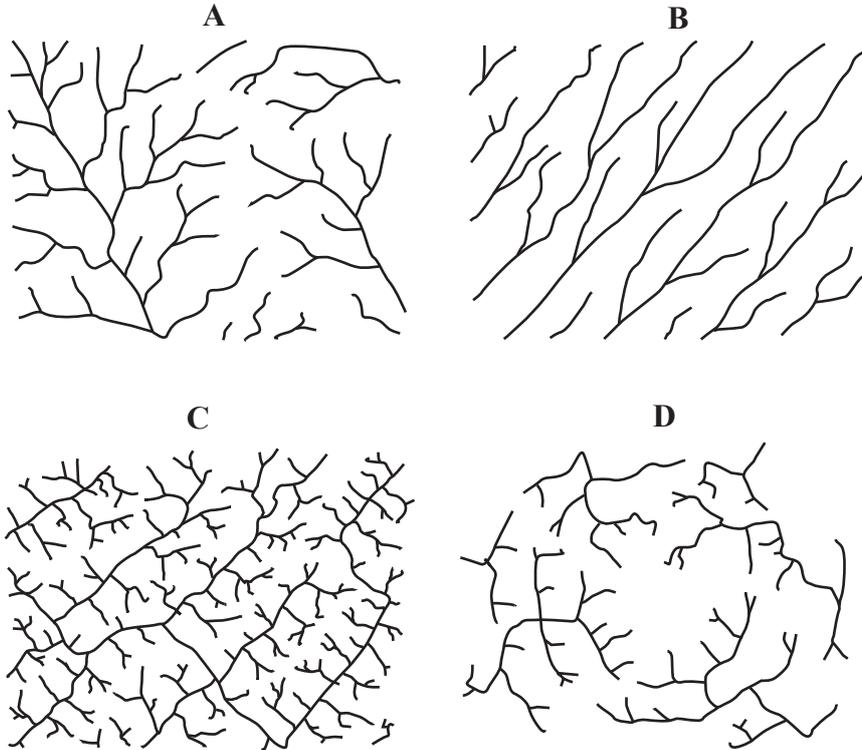
(This question continues on the following page)

(Question A1 continued)

Or

(b) Structured question

The diagrams below show four areas with different drainage patterns.



- (i) (a) Briefly describe how *drainage density* is measured. [2 marks]
- (b) State which area has the highest drainage density. [1 mark]
- (c) State which area has the lowest bifurcation ratio. [1 mark]
- (ii) Explain how **three** physical factors influence drainage patterns. [2+2+2 marks]
- (iii) Analyse how urban areas affect the hydrology* of drainage systems. [10 marks]

* hydrology: the distribution and movement of water quantities within a system

A2. Coasts and their management

Either

(a) Essay

Referring to **one or more** named examples, examine the conflicts that result from human activity along coastlines.

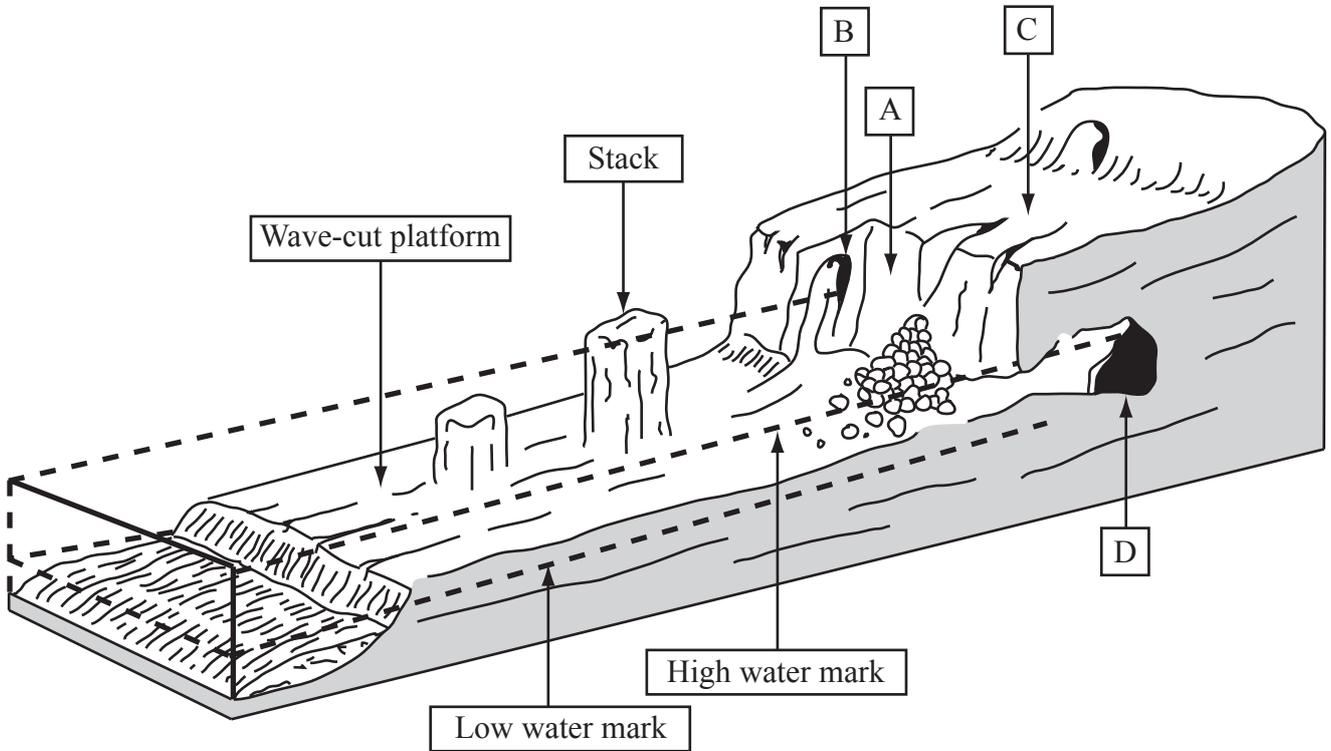
[20 marks]

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(Question A2 continued)

Or

(b) Structured question



[Source: Adapted from Michael Hill, (2004), *Coast and Coastal Management*]

(i) Name the features found at:

- (a) A
- (b) B
- (c) C
- (d) D

[4 marks]

(ii) Explain the formation of:

- (a) the wave-cut platform,
- (b) the stack.

[3+3 marks]

(iii) Referring to examples, explain why the successful management of coastal erosion is difficult to achieve.

[10 marks]

A3. Arid environments and their management

Either

(a) Essay

Using examples, examine the range of opportunities for human activity in arid and/or semi-arid areas.

[20 marks]

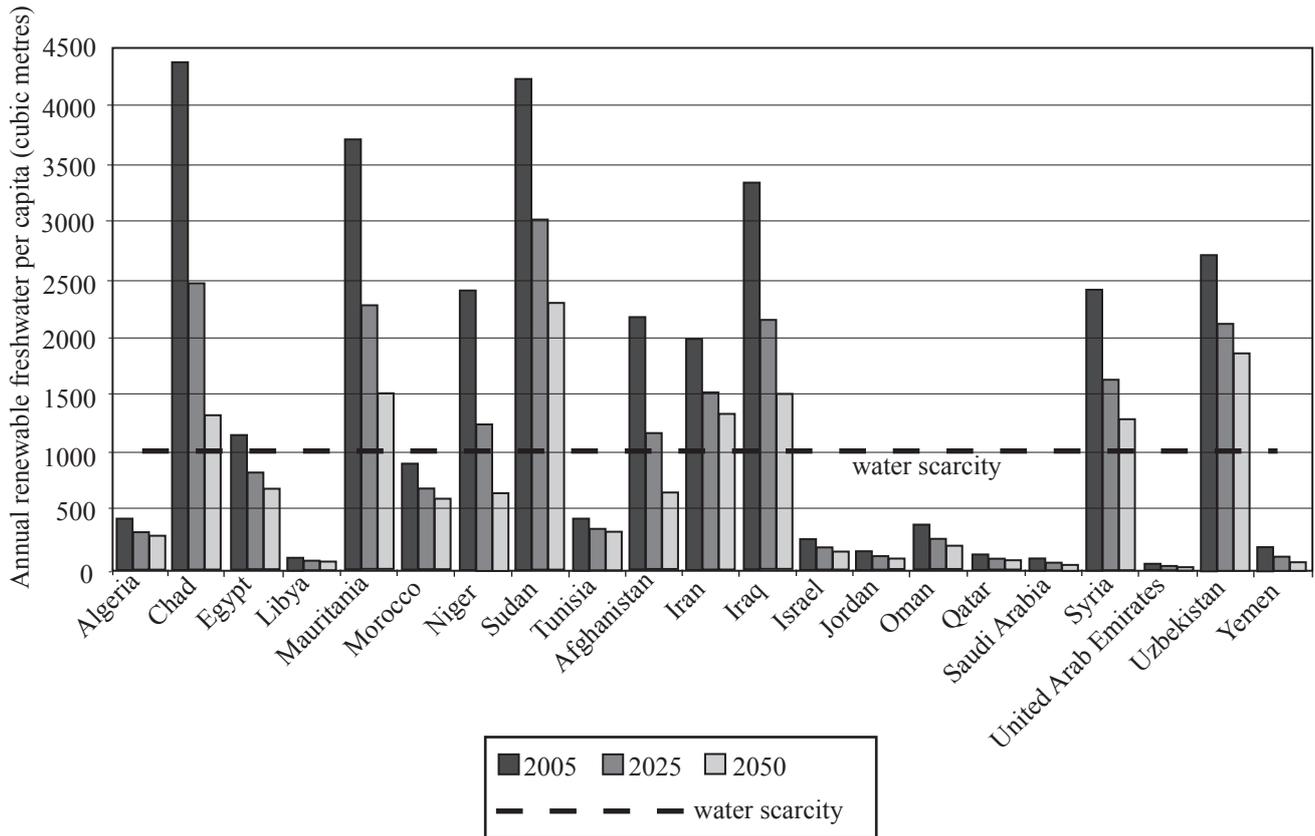
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(Question A3 continued)

Or

(b) Structured question

The graph shows renewable freshwater availability *per capita*: 2005, 2025, 2050 (predicted) for selected countries.



[Source: UNEP (2006)]

- (i) (a) State which country has the greatest decrease in the amount of annual renewable fresh water *per capita* between 2005 and 2050. [1 mark]
- (b) Estimate the amount of decrease projected in that country. [1 mark]
- (ii) Describe the change from 2005 to 2050 in the number of countries experiencing water scarcity. [2 marks]
- (iii) Explain why arid areas receive low levels of precipitation. [6 marks]
- (iv) Examine the role of water in the development of landforms in arid and semi-arid areas. [10 marks]

A4. Lithospheric processes and hazards

Either

(a) Essay

“The impact of earthquakes is greater in more economically developed countries (MEDCs) than in less economically developed countries (LEDCs).” Discuss this statement.

[20 marks]

Or

(b) Structured question

If you choose to answer this question refer to the map in the Resources Booklet.

The map shows the world distribution of plate boundaries (blue lines), recent earthquakes (yellow dots) and active volcanoes (red triangles).

(i) Using the map, identify the type of plate boundary found at:

- (a) A
- (b) B
- (c) C
- (d) D

[4 marks]

(ii) Explain why earthquakes occur at **one** of the locations A, B, C or D.

[3 marks]

(iii) Distinguish between the Richter Scale and the Mercalli Scale.

[3 marks]

(iv) Examine the distribution of active volcanoes shown on the map in relation to plate margins and hot spots.

[10 marks]

A5. Ecosystems and human activity

Either

(a) Essay

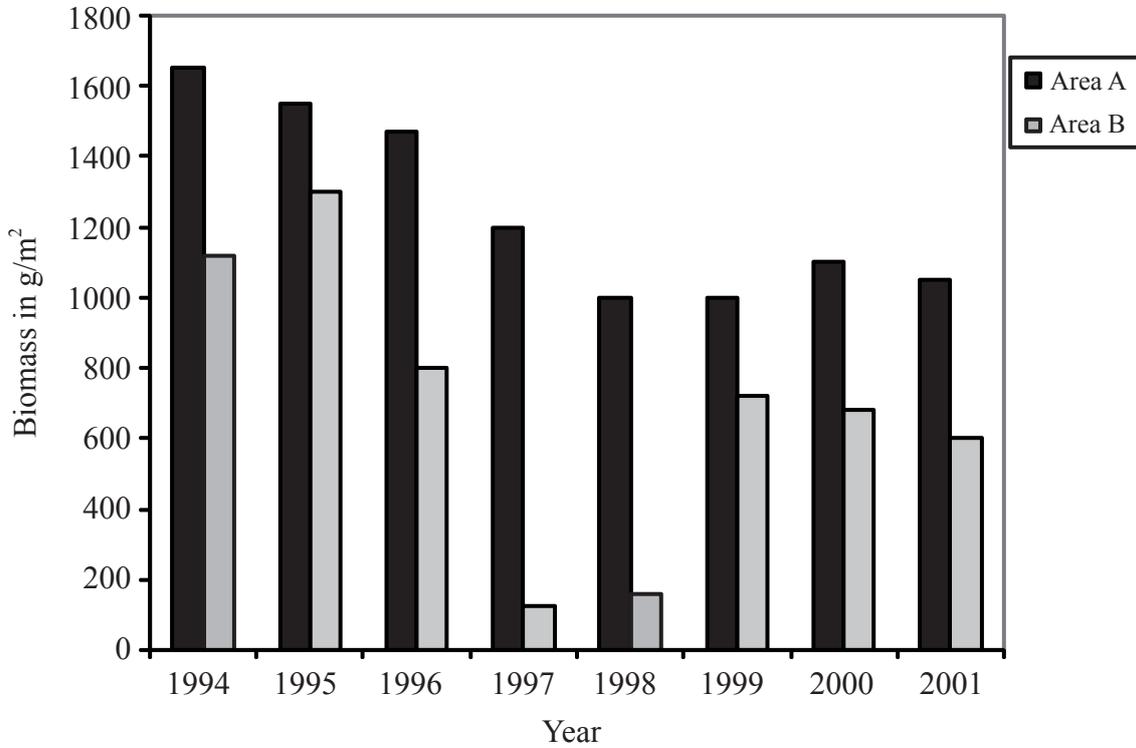
Discuss the interactions of biotic and abiotic components in **one or more** named ecosystems.

[20 marks]

Or

(b) Structured question

The graph shows the changes in biomass in two different areas found within the same grassland ecosystem/biome.



- (i) Define the term *biomass*. [2 marks]
- (ii) Describe the trends shown on the graph. [4 marks]
- (iii) Suggest reasons for the changes in the biomass production in Area B. [4 marks]
- (iv) Discuss the factors that affect the resilience* and/or fragility in a forest ecosystem. [10 marks]

* resilience: the capacity of an ecosystem to cope with disturbances

A6. Climatic hazards and change

Either

(a) Essay

Describe the development of El Niño and La Niña events and discuss their effects on climate and human activities.

[20 marks]

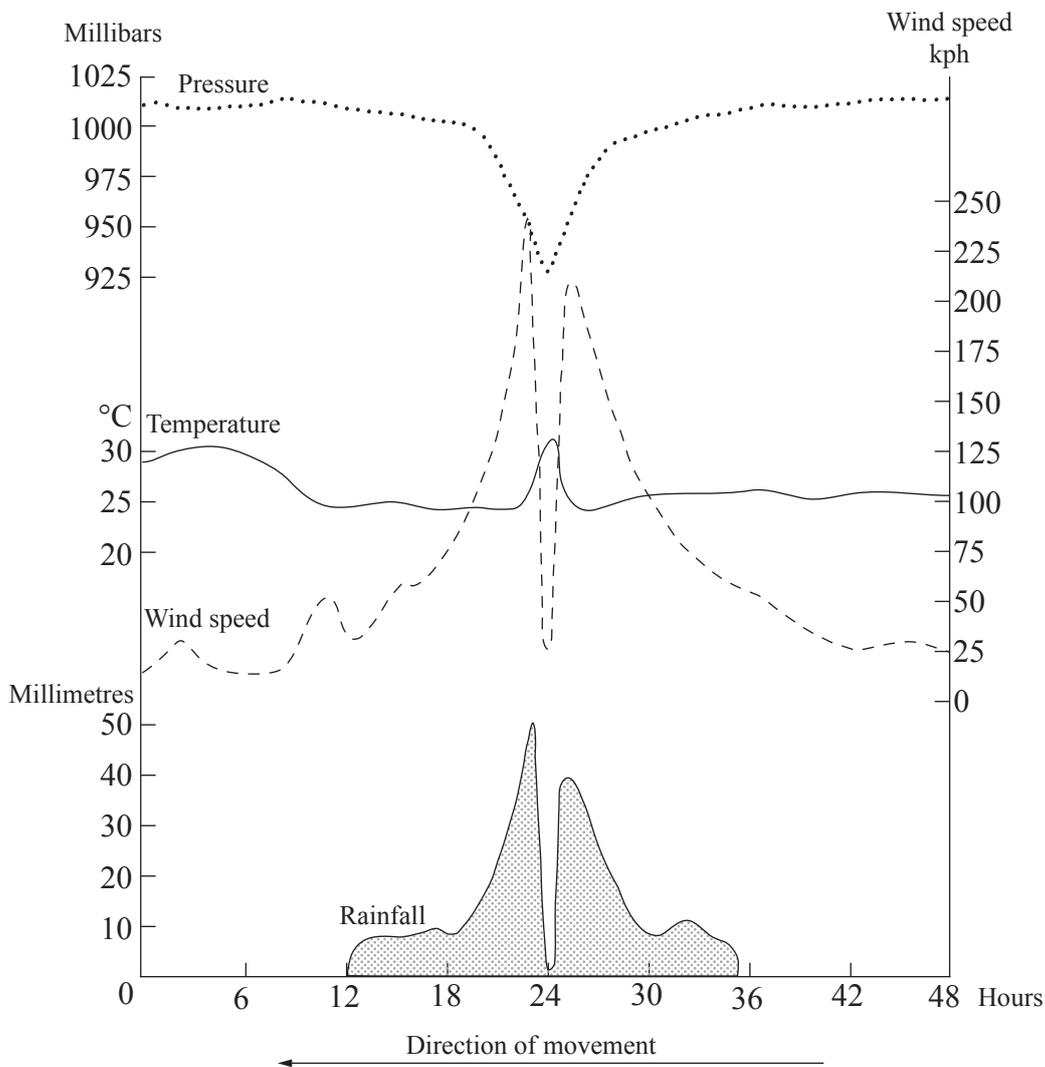
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(Question A6 continued)

Or

(b) Structured question

The graph shows the changes in the surface weather conditions recorded at a weather station during the passage of a weather system.



- (i) State the type of weather system that passed over this weather station. [1 mark]
- (ii) Describe the changes in wind speed recorded at the weather station over the 48 hour period. [3 marks]
- (iii) Explain the geographical distribution and formation of tornadoes. [6 marks]
- (iv) Discuss whether the human response to a major weather event is related to the level of economic development of the affected area. [10 marks]

SECTION B

Answer at least **one** question from this section. If more than one question is selected from this section, each must be taken from a different theme. (Do not answer both an essay and a structured question on the same theme.)

Case studies and examples should be used to illustrate answers and, where appropriate, they should be specifically located. Include well drawn, large, relevant maps, sketches, tables and diagrams as often as applicable.

B7. Contemporary issues in geographical regions

Either

(a) Essay

Using examples, examine the differences between single-feature regions, functional regions and multi-feature regions. [20 marks]

Or

(b) Structured question

If you choose to answer this question refer to the map in the Resources Booklet.

The map shows Clayoquot Sound Biosphere Reserve in British Columbia, Canada. The diagram shows a model of typical biosphere reserve zonation.

- (i) Describe the location and distribution of core protected areas in Clayoquot Sound Biosphere Reserve. [3 marks]
- (ii) State **two** ways in which the location of core protected areas in Clayoquot Sound Biosphere Reserve does not match the location of core areas shown in the model. [2 marks]
- (iii) Justifying your choice, suggest whether it is better to consider the Biosphere Reserve as a geographic place or as a geographic region. [5 marks]
- (iv) Using an annotated map only, describe and explain the essential defining characteristics of your local region, together with its precise boundaries. [10 marks]

B8. Settlements

Either

(a) Essay

Examine the factors influencing the location of retailing in and around large towns and cities in more economically developed countries (MEDCs) and less economically developed countries (LEDCs).

[20 marks]

Or

(b) Structured question

If you choose to answer this question refer to the photograph in the Resources Booklet.

The photograph shows part of Caracas, capital of Venezuela.

(i) Describe the characteristics of the two residential areas shown on the photograph.

[2+2 marks]

(ii) Suggest reasons for the characteristics you have described in (i).

[6 marks]

(iii) Describe and evaluate the management strategies used to overcome problems of **either** traffic congestion **or** housing in urban areas.

[10 marks]

B9. Productive activities: aspects of change*Either***(a) Essay**

“Technological innovations in agriculture have created more benefits than problems in recent years.” Discuss this statement.

*[20 marks]**Or***(b) Structured question**

If you choose to answer this question refer to the diagrams in the Resources Booklet.

The diagrams show Von Thünen’s model of agricultural location.

- (i) State the type of farming that would be found in Zone X. *[1 mark]*
- (ii) Referring to Diagram A, explain why the type of farming changes with distance from the central city. *[3 marks]*
- (iii) Referring to **at least one** specific type of farming, distinguish between the factors responsible for optimal (ideal) locations and for sub-optimal (marginal) locations. *[6 marks]*
- (iv) Examine the influence of meso-factors (within one region) and micro-factors (choice of site) on the location of manufacturing industries. *[10 marks]*

B10. Globalization

Either

(a) Essay

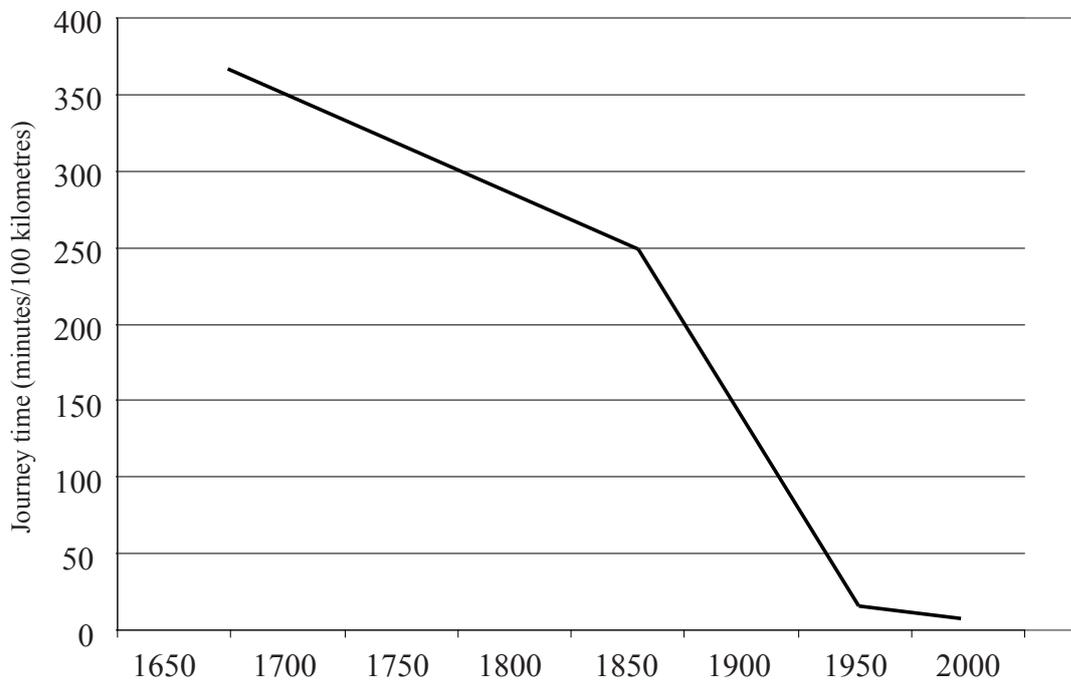
Examine the effects of globalization upon cultural diversity.

[20 marks]

Or

(b) Structured question

The diagram shows the average journey time for overland and air travel between 1650 and 2000.



[Source: Adapted from R Tolley and B Turton, (1995)]

- (i) Describe and explain the trend in journey times shown on the graph. *[1+3 marks]*

- (ii) Explain how the changes shown on the graph have accelerated the process of globalization. *[6 marks]*

- (iii) Referring to **one or more** examples, examine why some countries or regions are less globalized than others. *[10 marks]*

SECTION C

*If you choose to answer this question, use the topographic map extract and the aerial photograph in the Resources Booklet to answer **all** parts.*

C11. Topographic mapping

The aerial photograph and map show part of Ponte de Lima, a town in Northern Portugal.

- (a) State the compass direction towards which the camera was pointing when this photograph was taken. *[1 mark]*

 - (b) Describe **two** advantages of the photograph compared to the map in showing the geographical characteristics of the town of Ponte de Lima. *[2 marks]*

 - (c) Select a site for a new out-of-town shopping centre within two kilometres of the centre of Ponte de Lima and justify your choice. *[1+2 marks]*

 - (d) Using only an annotated sketch map, describe the main features of relief and drainage shown on the map. *[6 marks]*

 - (e) Referring to the outlined area on the map marked A, describe and explain the influence of relief and drainage on the location of the settlement. *[4+4 marks]*
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