



**GEOGRAPHY
HIGHER LEVEL
PAPER 2**

Tuesday 10 May 2005 (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 selected 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

Referring to specific case studies at different scales, examine the extent to which there are common issues associated with water utilization.

[20 marks]

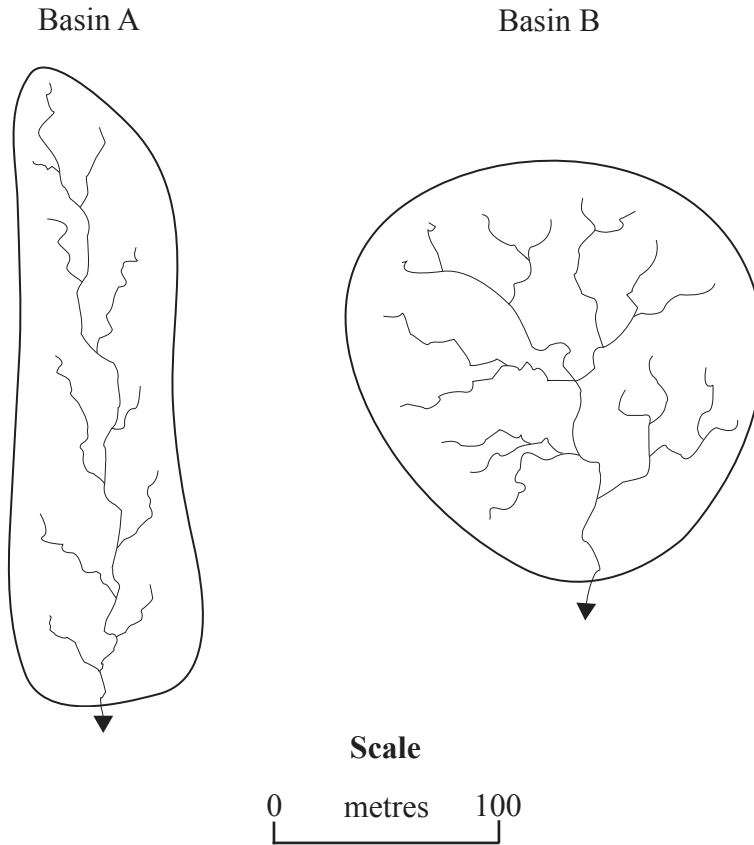
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(Question A1 continued)

Or

(b) Structured question

The diagrams show two drainage basins of similar size.



- (i) State the name for the drainage pattern of Basin B. [1 mark]
- (ii) Define *bifurcation ratio*. [1 mark]
- (iii) Explain which of the two basins is more likely to flood at its lowest point. [4 marks]
- (iv) Analyse **three** factors that influence the drainage density of a region. [6 marks]
- (v) Evaluate the part played by human activity in causing rivers to flood. [8 marks]

A2. Coasts and their management

Either

(a) Essay

With reference to a specific stretch of coast, examine the relationships between natural processes and land use in coastal zones. Assess the extent to which these relationships have changed over time.

[20 marks]

Or

(b) Structured question

The table shows the average values for some important characteristics of cliffs of unconsolidated material on either side of the Llein peninsula, Wales, UK.

	Side A (northern side)	Side B (southern side)
Height of cliffs	20 metres	13 metres
Angle of cliffs (slope)	39.6°	48.1°
Vegetation cover on cliffs	70 %	30 %
Width of beach	80 metres	103 metres
Erosion rate	6 cm / year	25 cm / year

(i) Using the table, identify the relationships between the following factors and suggest a reason for them:

- (a) the erosion rate and width of the beach
- (b) vegetation cover and the angle of cliffs.

[2 marks]

[2 marks]

(ii) Analyse the other factors, not shown in the table, that might explain the differences in erosion rates on either side of the peninsula.

[6 marks]

(iii) Select a coastal hazard and refer to a specific example. To what extent have the dangers associated with this hazard been reduced by the use of appropriate management strategies?

[10 marks]

A3. Arid environments and their management

Either

(a) Essay

“Arid and semi-arid environments present a range of opportunities for land uses and human activity.”

Evaluate this statement using examples in LEDCs and MEDCs.

[20 marks]

Or

(b) Structured question

If you choose to answer this question use the diagram in the Resources Booklet.

The diagram shows the features of an arid landscape.

(i) Classify **eight** of the landforms shown on the diagram into two groups: those formed mainly by wind processes and those formed mainly by water processes.

[2 marks]

(ii) Select **two** of the landforms featured on the diagram, one from each group. Draw annotated sketches or diagrams to explain their formation.

[4+4 marks]

(iii) Discuss conflicts in arid environments arising from mining **and/or** tourism.

[10 marks]

A4. Lithospheric processes and hazards

Either

(a) Essay

“Slope instability is entirely due to human activity.” Using examples, assess this statement.

[20 marks]

Or

(b) Structured question

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

Study the map which shows areas of seismic potential.

- (i) Identify the distribution pattern of areas with the greatest potential for a major earthquake (highest seismic potential). *[2 marks]*
- (ii) Explain why a major earthquake is more likely in these areas as opposed to other areas on the map. *[5 marks]*
- (iii) Analyse why major earthquakes of similar magnitude may have different effects in terms of property damage. *[5 marks]*
- (iv) Using examples, examine why people live in areas of high seismic potential. *[8 marks]*

A5. Ecosystems and human activity

Either

(a) Essay

“The climatic, soil, landscape and biotic characteristics of a particular biome will limit the extent of human activity.”

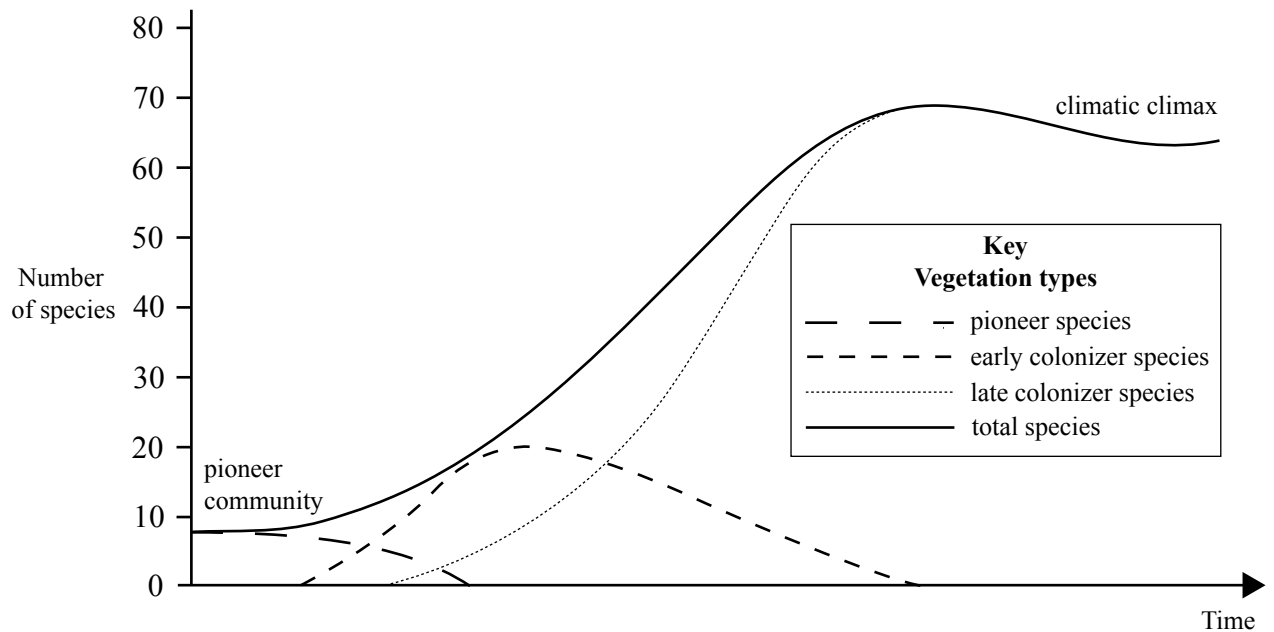
Referring to **one** biome of your choice, evaluate this statement.

[20 marks]

Or

(b) Structured question

Study the graph below which shows the number of plant species in an area during a period of colonization.



[Source: *Geography success at A level*, K Spencer, Oxford University Press (2000)]

- (i) State what is meant by the term *climatic climax vegetation*. [2 marks]
- (ii) Describe and explain the changes in the number of pioneer species and early colonizer species shown on the graph. [2+2 marks]
- (iii) Describe the process of primary plant succession leading to a climatic climax community. [4 marks]
- (iv) Referring to examples, discuss how human activity can contribute to secondary succession. [10 marks]

A6. Climatic hazards and change

Either

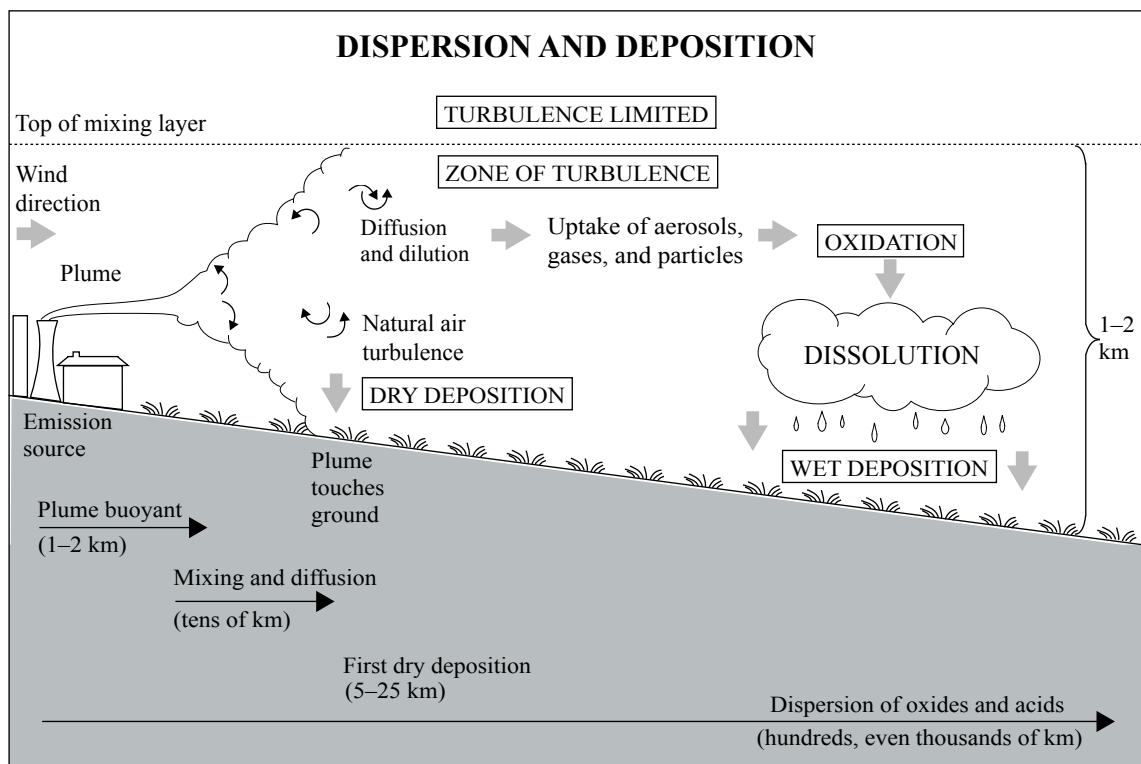
(a) Essay

Explain how humans can contribute to the causes of drought. Discuss the consequences for countries with contrasting levels of economic development. [20 marks]

Or

(b) Structured question

The diagram below shows acid deposition.



[Source: *Advanced Geography through diagrams*, G Nagle & K Spencer, Oxford University Press (2001)]

- (i) Referring to the diagram, describe the difference in dispersion between dry acid deposition and wet acid deposition. [5 marks]
- (ii) Explain the physical processes involved in the development of wet acid deposition. [5 marks]
- (iii) Discuss the effects of **either** ozone depletion **or** acid rain and the responses to them. [10 marks]

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SECTION B

*Answer at least **one** question from this section. If more than one question is chosen from this section, each must be selected 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

“By looking only at physical landscapes and economic statistics, the character or personality of a region cannot be fully explained.”

Assess this statement referring to **two** regions that you have studied.

[20 marks]

(This question continues on the following page)

(Question B7 continued)

Or

(b) Structured question

The map shows an unnamed country and the table shows selected data for the five regions of that country.



(Scale and orientation are deliberately omitted.)

(% of national total)

Region	A	B	C	D	E	Total
Area	18	11	7	22	42	100
Population	28	43	15	7	7	100
Total Income	15	60	18	4	3	100
Industrial Production	16	55	22	5	2	100
Industrial Employment	10	70	17	2	1	100

% urban population	88	44	42	48	45	---
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- (i) Using the evidence provided, identify and compare **one** core region with **one** region on the periphery. *[4 marks]*
- (ii) Define your local region and explain why it **either** does **or** does not belong to the core of your country. *[4 marks]*
- (iii) Draw an annotated map to define a second region of similar size that you have studied. *[4 marks]*
- (iv) To what extent are the contemporary geographical issues similar in the two regions you have defined in (ii) and (iii)? *[8 marks]*

B8. Settlements

Either

(a) Essay

Explain why areas of social deprivation persist in both MEDCs and LEDCs.
Evaluate the strategies used to improve such areas.

[20 marks]

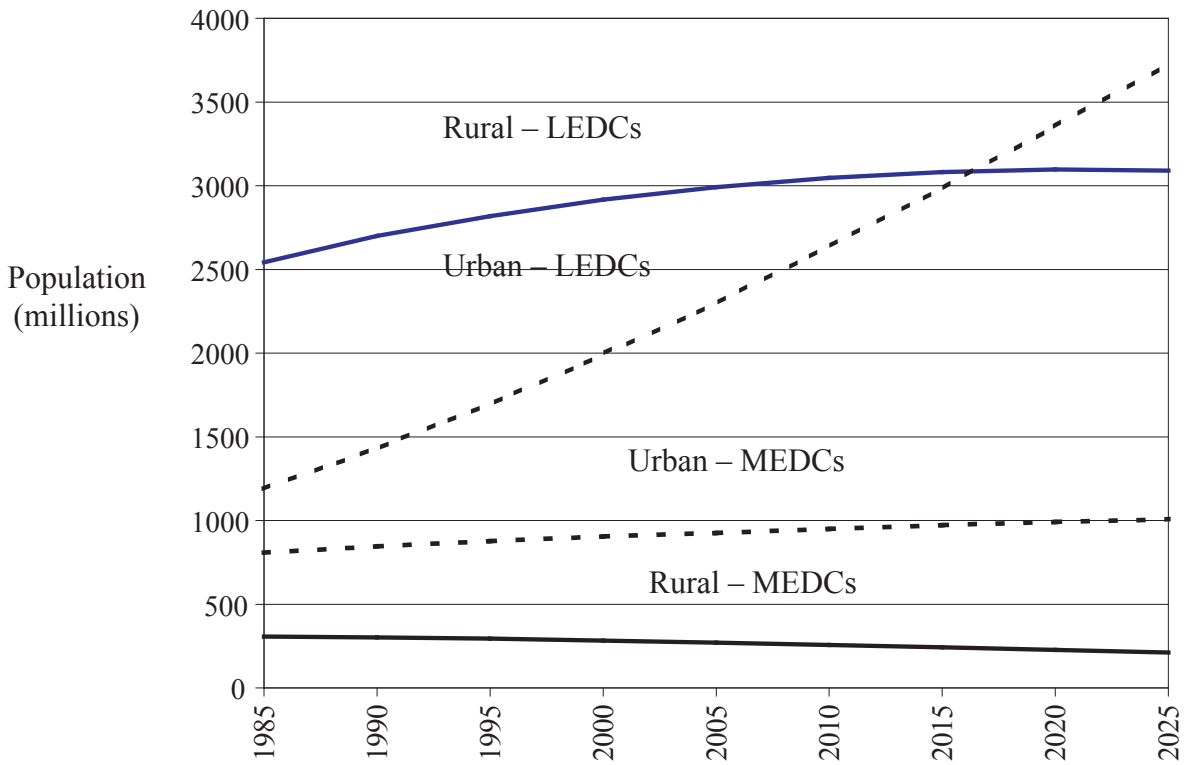
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(Question B8 continued)

Or

(b) Structured question

The graph shows changes in rural and urban population for LEDCs and MEDCs for the years 1985-2025 (predicted).



- (i) Define the term *urbanization*. [1 mark]
- (ii) Describe the population changes shown on the graph. [4 marks]
- (iii) Discuss the reasons for the changes in urbanization in LEDCs. [7 marks]
- (iv) Explain, using examples, why many MEDCs are experiencing counter-urbanization. [8 marks]

B9. Productive activities: aspects of change

Either

(a) Essay

“Inappropriate farming techniques and growing population pressure have led to a need for sustainable agriculture.”

Using examples, evaluate this statement.

[20 marks]

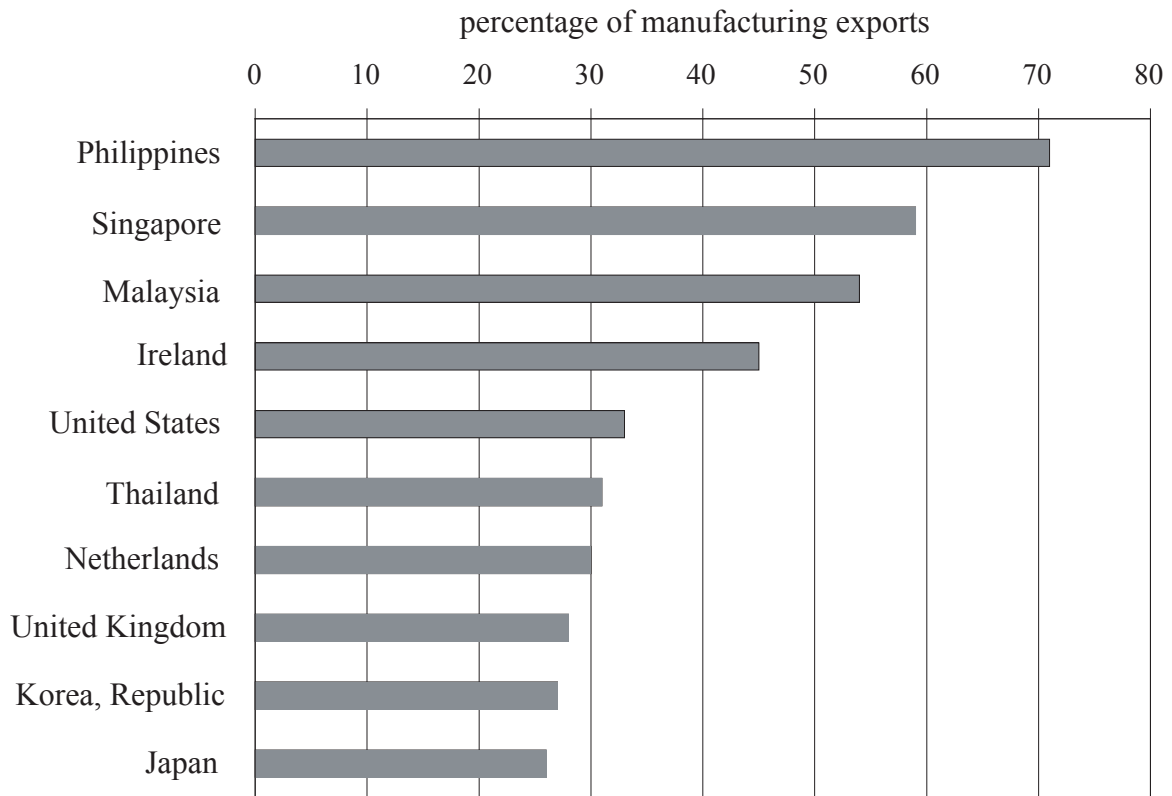
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(Question B9 continued)

Or

(b) Structured question

The graph below shows the top ten countries which rely heavily on exports of high technology products (hardware, software, electronics, *etc.*).



[Source: based on *World Development Report 2001/2*]

- (i) Describe the spatial pattern shown on the graph. [2 marks]
- (ii) Suggest reasons why high technology exports are important to countries such as those shown on the graph. [4 marks]
- (iii) Analyse, with examples, how improved electronic communications affect the dispersal of industry. [6 marks]
- (iv) Using examples, discuss how governments attempt to influence the location of industry. [8 marks]

B10. Globalization

Either

(a) Essay

Referring to trade agreements and tourism, assess how far globalization reduces the differences between places.

[20 marks]

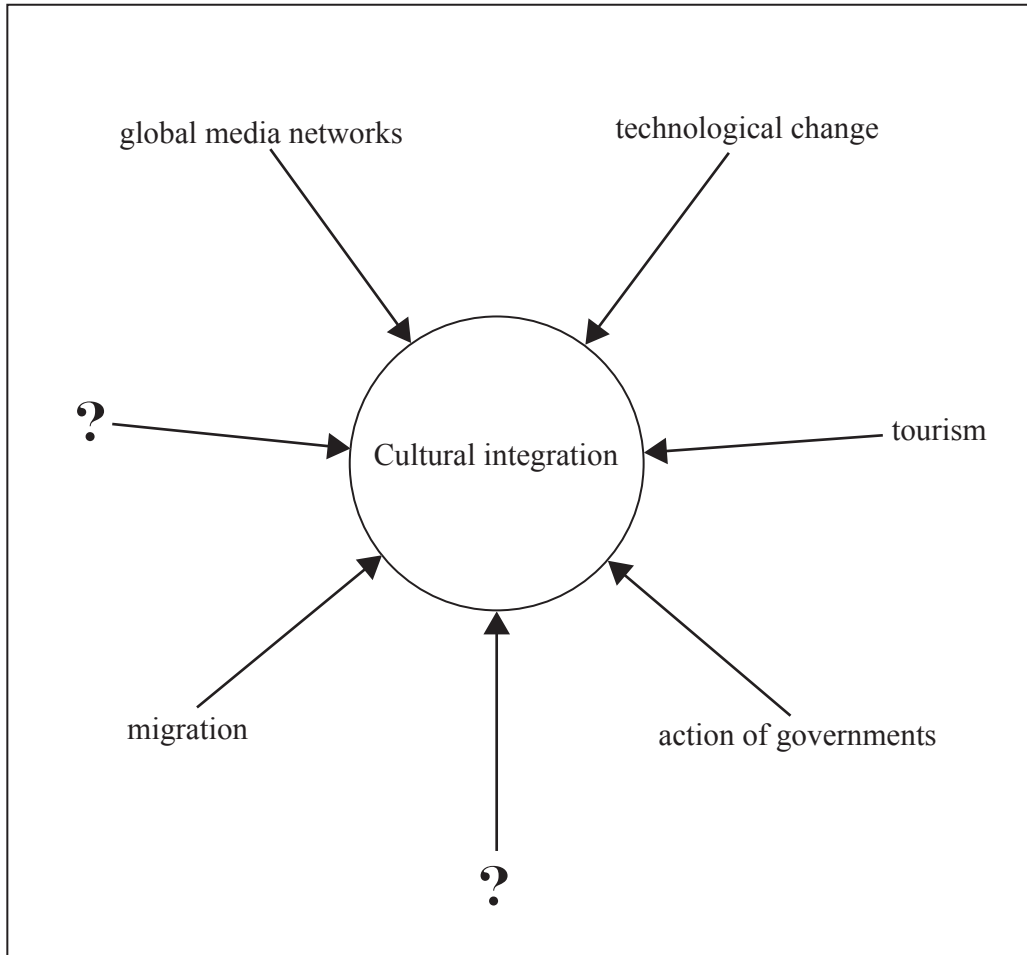
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(Question B10 continued)

Or

(b) Structured question

The diagram below shows one aspect of globalization.



- (i) Briefly explain what is meant by cultural integration. [2 marks]
- (ii) Explain how any **two** of the factors shown on the diagram contribute to cultural integration. [2+2 marks]
- (iii) Identify **two** factors not shown on the diagram. Suggest how these two factors affect cultural integration. [4 marks]
- (iv) Using examples, analyse the social costs of tourism. [10 marks]

SECTION C

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

C11. Topographic mapping

The map extract and aerial photograph show an area in the interior of southern Australia. Leigh Creek South (30.6°S, 133.4°E) is a town with a population of 700. It has a hot dry desert climate with an annual rainfall of 200 mm. It is a company town established in 1981 for the nearby open cast coal mine. Mining and tourism are the main economic activities. The map scale is 1:50 000 and the contour interval is 10 m. The aerial photograph scale is 1:44 000.

- (a) Estimate, to the nearest square kilometre, the area of the proposed lake shown on the map at 500 200. *[2 marks]*
- (b) Draw a sketch map of the area shown in the aerial photograph. Mark on the map the main physical regions. *[5 marks]*
- (c) Draw a sketch section (cross profile) along the grid line from 470 120 to 550 120. Label the section to show the main physical and human features. *[6 marks]*
- (d) Referring to the map, describe and explain the relationship between the pattern of communications **and** the main human and physical features. *[7 marks]*
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