

MARKSCHEME

May 2005

GEOGRAPHY

Higher Level and Standard Level

Paper 2

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SECTION A

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]

Answers should emphasize the importance of balancing water supply and demand. This issue is common to all scales. Answers could discuss water utilization issues at two or more scales: local, river basin, national (or regional) and international and include a range of issues.

Major issues that might be common to all scales include the costs associated with obtaining water, the degree of sustainability, pricing issues connected to the supply of water to particular users, pollution issues, and issues connected with multiple use, such as conflicting demands for water from agriculture, hydro-power, industry, recreation and domestic users. Issues that might apply only to the international scale could include conflicts between countries over shared water resources.

Any response that does not make adequate reference to more than one scale may not move beyond band E. Purely descriptive accounts, even if they include different scales, that fail to make any assessment of the extent to which there are common issues associated with water utilization may not move beyond band F.

Marks should be allocated according to the markbands.

Examiners should be aware that candidates may take a different approach which if appropriate should be fully rewarded.

Or

(b) Structured question

- (i) State the name for the drainage pattern of Basin B. [1 mark]**

The drainage pattern is dendritic [1 mark].

- (ii) Define bifurcation ratio. [1 mark]**

The bifurcation ratio is the ratio between the number of streams of a particular order and the number of streams of the succeeding order [1 mark]. For example, the Basin A drainage system has a bifurcation ratio of 11 (11 first order streams: 1 second order stream).

- (iii) Explain which of the two basins is more likely to flood at its lowest point. [4 marks]**

Although both rivers may be likely to flood for a given amount of rainfall, Basin B is more likely to flood [1 mark], because more of the water in the basin will reach the exit point in a shorter time period, (*i.e.* the peak discharge will be higher but relatively short-lived) [1 mark]. In Basin A, the arrival of water at the exit point will be spread over a longer period of time and the peak discharge will be lower [2 marks].

Responses that rely entirely on factors other than shape of basin and bifurcation ratio may not be awarded more than [2 marks].

- (iv) Analyse three factors that influence the drainage density of a region. [6 marks]**

Drainage density should be explained in terms of factors that relate to runoff. A number of factors affect drainage density. They include:

- rock type
- climate
- slope angles
- vegetation type and cover
- soil depth
- human activity
- infiltration capacity
- time

A simple list of factors is not sufficient to be awarded more than [2 marks]. For [6 marks] responses are expected to analyse three factors and state the nature of the relationship between each factor and the drainage density (*e.g.* “drainage density will be lower on permeable surfaces because more water will infiltrate”).

- (v) Evaluate the part played by human activity in causing rivers to flood. [8 marks]**

Responses are expected to recognize the balance between natural and human factors that cause flooding. Many aspects of human activity may heighten the risk of floods becoming more frequent and/or of greater magnitude. The more obvious possibilities derive from changing the vegetation of the drainage basin (such as by forest removal, cropping to the edge of stream channels, downslope plowing leading to silting of streams, the removal of wetlands), changing the nature of the surface (*e.g.* urbanization), and changes to the channel involving straightening, deepening and levee construction. Better answers may include examples but these are not essential. Evaluative responses may refer to human activities that have reduced the flood risk or recurrence interval (*e.g.* flood prevention schemes) but it is acceptable that the main part of the answer will be devoted to ways in which human activity increases flood risk.

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]

There is a large variety of approaches to this question, but it requires an understanding of the relationships between natural processes and land use as well as the ways that they change over time. A broad interpretation of “land use” is acceptable and might be interpreted as an activity devoted to specific area. There are many possibilities, including recreation, aquaculture, wildlife conservation, wave energy production as well as the construction of smaller structures such as sea defences. Strong answers will recognize that changes in natural processes may result in coastal advance or retreat with resulting changes in land use. Local governments may designate coastal areas for defence or managed retreat depending on their value. The answer should identify a named section of coastline, and the scale could range from a few kilometres to a regional scale.

The natural processes operating on the coast could include erosion, transport and deposition, wave action, mass movement, isostatic and eustatic changes. In the case of erosion, the formation of features such as cliffs, coves and caves might become tourist attractions. Transport by longshore drift may result in losses of beach material and recession of coastlines both of which might necessitate the building of defences. Deposition may produce features such as spits, bars, dunes and saltmarshes which may create new opportunities for recreation and wildlife conservation.

If the focus of the answer is upon physical processes and coastal defence strategies alone, it should not move beyond band E. Accounts which focus only on physical processes or on land use or do not make reference to a specific stretch of coastline may not move beyond the bottom of band F. To access the higher markbands G and H, responses should make an assessment of change over time.

The marks should be allocated according to the markbands.

Examiners should be aware that candidates may take a different approach which if appropriate should be fully rewarded.

Or

(b) Structured question

- (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. [2 marks]**

The data shows a direct (positive) relationship. Describing a positive relationship is acceptable for [1 mark] even if the phrase “positive relationship” or “direct relationship” is not included. This is probably because as the cliffs are eroded, so the beach is extended (and reduced to a shallower angle) [1 mark]. Credit should be awarded for any plausible explanation that fits the numbers and the general principles of geomorphology.

- (b) vegetation cover and the angle of cliffs. [2 marks]**

They show a negative relationship [1 mark]. This may be because there is less soil present to support vegetation on steeper cliffs. Alternatively, (and equally valid), cliffs are eroded faster where there is less vegetation helping to protect the cliff (lack of roots holding it together) [1 mark].

- (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]**

Even though the basic rock type is similar (unconsolidated glacial till), there may be significant minor structural differences between the two sides that affect water retention properties or promote weaknesses causing mass movements. Using lithology to explain the differences is acceptable (because there is no mention of it in the table, only above it). A key factor is aspect and length of fetch, that may be greater on one side (*e.g.* the southern side) resulting in differences in wave energy potential. Other possibilities include local differences in climate (such as rainfall being greater on one side), prevailing wind directions that affect the frequency of destructive waves, the location of offshore rocks, sandbanks or shoals that might protect one side from wave attack and human activity (land use), such as the presence of buildings that add weight and pressure to the cliff increasing instability, beach replenishment that might reduce erosion or removal of beach material that might have the reverse effect, and the time frame involved.

A simple list of relevant factors should not be awarded more than [2 marks]. Not all of these factors are required to gain full marks but it is important that the factors are briefly analysed and not just stated. It is acceptable for a good answer to analyse two factors in detail or several factors in less detail [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]**

The hazard must be clearly named for *[1 mark]* and located *[1 mark]*. A further *[3 marks]* may be awarded for a convincing description of the hazard and *[5 marks]* for appropriate management strategies.

A range of relevant coastal hazards could include storm surges and tropical storms, tsunamis, erosion, coastal mass movements.

Varied management strategies relevant to coastal erosion and flooding may be mentioned, including (in order of increasing degree of human intervention and likely initial costs):

- managed realignment (*e.g.* allowing sea to take some farmland, while building a dyke to protect areas further inland)
- soft protection – such as beach recharge, vegetation-linked structures, vegetation planting, re-grading
- hard protection inclined or vertical structures such as sea-walls
- non-intervention.

Any responses that fail to include evaluation may not move beyond band F.

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]

Central to the answer is the idea that arid or semi-arid environments are not always remote areas of hazard and hardship. They present an environment with a diverse range of opportunities. Examples could include agriculture, settlements, mining, research, communication infrastructure, tourism, urbanization and recreation. It would be expected that responses discuss and highlight the differences between LEDCs and MEDCs in terms of the opportunities that the arid environments provide. For example, MEDCs have more capital and access to technology to take advantage of more opportunities in these environments. The emphasis of the response should be on the opportunities (not the challenges and management issues). To obtain full marks it is not necessary that equal treatment is given in a discussion of LEDCs and MEDCs.

Any response that does not give examples or only refers to examples in either MEDCs or LEDCs may not move beyond band E. Responses that fail to make any evaluation may not move beyond band F.

The marks should be allocated according to the markbands.

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Or

(b) Structured question

- (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]**

Landforms formed mainly by water processes: mesa, butte, canyon, playa lake, salt pan, gibber plain, inselberg, alluvial fan.

For landforms formed by wind processes, the four dunes should be mentioned.

Classifying any four landforms correctly gains [1 mark]; eight landforms classified correctly gains [2 marks]; if more than eight are classified, and any are wrongly classified, then only [1 mark].

- (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]**

One sketch/diagram or a series of sketches/diagrams could illustrate each chosen landform. In each case they should be well labelled in sufficient detail to explain their formation. [4 marks] should be awarded for each landform – [2 marks] for the sketch/diagram and [2 marks] for sufficient detail to explain their formation. There is no need for any penalty if the landform is classified incorrectly in (i), and this error is carried through to the choice of landforms in (ii).

- (iii) Discuss conflicts in arid environments arising from mining, and/or tourism. [10 marks]**

Responses should demonstrate an understanding of the land-use issues resulting in conflicts from mining and/or tourism. Examples could focus on one of these land uses, or conflicts arising from these land uses competing with each other.

If candidates choose to discuss both mining and tourism, they need not apply equal weighting to both. Examples from MEDCs, LEDCs, or both could be used. No credit should be given for conflicts arising from uses other than mining and tourism.

The marks should be allocated according to the markbands.

A4. Lithospheric processes and hazards

Either

(a) Essay

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

[20 marks]

The answer should recognise the relationships that exist between weathering, erosion, and human activity and gravity in producing unstable slopes. It is expected that responses will challenge the statement and argue that many natural slopes are unstable, even in the absence of human activity, but that human activity (for example deforestation, building on steep gradients, road construction, human-induced vibrations and loading of slopes.) can induce mass movements in certain cases.

The role of water (as a lubricant or through pore pressure) changes in temperature and earthquakes are natural factors relevant to slope instability.

If relevant factors from outside the syllabus (*e.g.* basal erosion by rivers or wave action) are included, then full credit should be given.

It is not expected that all examples would be developed in equal depth, but to access the higher markbands G and H, at least one example must be treated in detail and responses without examples may not move beyond band E. Any responses that fail to assess the statement may not move beyond band F.

The marks should be allocated according to the markbands.

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Or

(b) Structured question

- (i) Identify the distribution pattern of areas with the greatest potential for a major earthquake (highest seismic potential). [2 marks]**

Answers should identify that almost all areas of highest potential all lie along destructive plate margins [1 mark] (California is an exception).

[1 mark] should be awarded for any other relevant statement that describes the pattern such as location around the Pacific Rim (Ring of Fire), or the fact that all areas have coastal locations or exceptions to the general pattern such as locations outside the Pacific Rim (Sumatra and the Caribbean)

- (ii) Explain why a major earthquake is more likely in these areas as opposed to other areas on the map. [5 marks]**

Answers should explain why earthquakes are more likely near major plate boundaries, and less likely away from plate boundaries (intra-plate areas). An explanation should be given as to why earthquakes are especially likely where plates are colliding along destructive margins or at conservative boundaries such as in California. Reasons should be given for high seismic potential in areas that have not experienced an earthquake for a long period due to the build up of tension and lower potential in areas that have had more recent earthquakes (due to release of tension).

- (iii) Analyse why major earthquakes of similar magnitude may have different effects in terms of property damage. [5 marks]**

The following factors could be included:

- occurrence in an area where no property exists
- the solid geology of the area in terms of the stability of structures
- susceptibility to liquefaction
- value of structures and material possessions (Compare LEDC and MEDC)
- type of building materials
- the matching of seismic wave and building resonance
- the duration of the shaking
- the provision of emergency services in limiting damage from secondary hazards *e.g.* fire
- investment in aseismic structures
- the awareness of the population in terms of protecting possessions.

Answers should not just list these factors but also analyse them.

Not all of the above need to be included for full marks. Answers may analyse a small range of factors in detail or a wider range of factors in less depth.

(iv) Using examples, examine why people live in areas of high seismic potential.

[8 marks]

The following factors may be included:

- the fact that an earthquake has not happened in living memory
- lack of awareness of the earthquake hazard
- consideration that the benefits outweigh the risks (climate/resources/landscape)
- lack of choice in or the inability to move (financial, health, age reasons)
- inertia – lack of will to move due to family ties or investment in property
- fatalism – earthquakes are the will of God.

Answers must refer to at least two relevant examples.

If no examples are used, up to ***[5 marks]*** may be awarded.

No credit may be given for the negative side of living in such an area.

For the valid inclusion of the advantages of volcanic activity, a link must be made between seismic activity and vulcanicity.

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]

The climatic factors could include a discussion of temperature, precipitation, wind, humidity, light, seasonality and growing season. The soil factors could relate to depth, acidity, texture, structure, organic, mineral, water and air content. The landscape factors could include altitude, aspect or slope while the biotic factors could discuss the effects of vegetation structure and competition from animals, disease, insects and hazardous creatures. It would not be expected that equal weighting is given to each factor, but all should at least be mentioned. The type of human activity could include forestry, farming (arable, pastoral, subsistence, commercial), mining, tourism, and settlement. Discussions should relate the human activity to the factors mentioned above. Any response that fails to refer to a biome may not move beyond the bottom of band E but if more than one biome is discussed, only one should be considered. Any response that fails to evaluate may not move beyond band F. Small scale ecosystems such as sand dunes may not be considered biomes.

The marks should be allocated according to the markbands.

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It is acceptable that an answer might disagree with the statement where the biome offers more opportunities than constraints upon human activity.

Or

(b) Structured question

- (i) State what is meant by the term *climatic climax vegetation*. [2 marks]**

The following definition, or variations of, would be acceptable: the final stage in the development of the natural vegetation of an area, [1 mark] when the composition of the plant community is relatively stable and in equilibrium with the existing climatic conditions [1 mark].

- (ii) Describe and explain the changes in the number of pioneer species and early colonizer species shown on the graph. [2+2 marks]**

The small number of pioneer species (8) decline rapidly [1 mark]. They aid in weathering of rock and formation of soil. This results in larger and faster growing species taking over [1 mark]. A similar trend occurs with the early colonisers. They reach a greater number of species (20) but their numbers also gradually decline [1 mark]. This is due to the competition for nutrients and light from the late colonisers. Furthermore an increase in shade alters conditions and may lead to decline [1 mark].

- (iii) Describe the process of primary plant succession leading to a climatic climax community. [4 marks]**

Primary succession occurs on a new or previously sterile land surface or in water. Responses should show the progression from bare rock (or sand/salt water/fresh water) to a more complex community. Several changes could be highlighted in relation to the vegetation structure (height, layering and spacing) and species diversity. Responses should not be expected to name actual species. Only one example of a succession needs to be included (e.g. lithosere, hydrosere, psammosere or halosere) but answers that refer to more than one should not be penalized.

- (iv) Referring to examples, discuss how human activity can contribute to secondary succession. [10 marks]**

A plagioclimax/disclimax community results when human activity disturbs a climatic climax community. There are several factors which can arrest the plant succession before it has reached equilibrium, or which may alter the climax after it has been reached. This results in secondary succession. Human activities include deforestation or afforestation, overgrazing by animals, cultivation of land, fire, draining wetlands, introduced species, pests, disease. It would not be expected for all factors to be discussed for full marks to be awarded. Responses that fail to include examples may not move beyond band E.

The marks should be allocated according to the markbands.

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]

Responses may refer to detailed case studies or use a variety of examples with less detail. Drought may be defined as an extended period of exceptionally low precipitation. Humans can contribute to drought in a variety of ways. For example, deforestation, land mismanagement on a variety of scales, overgrazing, overcultivation, where removal of vegetation reduces local atmospheric moisture levels. Responses would not be expected to explain all the causes, but should at least acknowledge there are several.

The consequences of drought will vary with countries of contrasting levels of economic development. In MEDCs water restrictions and rationing at a variety of scales may occur. Responses may discuss a variety of examples such as the effects on agriculture, damage to infrastructure, and increased fire risk. In LEDCs water shortages and associated food shortages are more likely to lead to malnutrition, famine, disease and an increase in death rates. Migration of people from rural to urban areas can result causing over-population in towns and refugee camps. People can also become dependent on food aid programmes.

Not all these points need to be covered to gain the maximum **[20 marks]**.

Better responses will acknowledge that overall LEDCs will tend to suffer more. Often the size of a country's population and population growth will affect the demand for water and exacerbate the problem. They may not have the capital and technology available to invest in water management programmes and hence are more vulnerable to the effects of drought.

To access the higher markbands G and H, responses should refer to countries with contrasting levels of development and discuss the consequences.

The marks should be allocated according to the markbands.

Examiners should be aware that candidates may take a different approach which if appropriate should be fully rewarded.

Or

(b) Structured question

- (i) Referring to the diagram, describe the difference in dispersion between dry acid deposition and wet acid deposition. [5 marks]**

Dry acid deposition typically occurs close to the source of emission directly on the earth's surface (where plumes can touch the ground). It can be from 5-25 kms [2 marks]. Wet acid deposition is dispersed over a much larger area and distance from the emission source. It can travel hundreds, even thousands of kms [2 marks]. Full marks may not be awarded if no reference is made to the distances (kms) as shown in the diagram.

- (ii) Explain the physical processes involved in the development of wet acid deposition. [5 marks]**

The acid is formed in the air from sulphur dioxide (SO₂) and nitrogen oxide (NO) which are emitted by thermal power stations, industry and motor vehicles. A major source is the burning of fossil fuels, particularly coal-fired power stations [2 marks]. These are carried by prevailing winds and converted (oxidized) into sulphuric acid (H₂SO₄) and nitric acid (HNO₃) [1 mark]. These are then dissolved in cloud droplets (rain, snow, mist, hail) and this precipitation may fall to the ground as dilute forms of sulphuric and nitric acid. The dissolved acids consist of sulphate ions, nitrate ions and hydrogen ions (these ions form the acid rain) [2 marks]. Some answers may also refer to the pH scale of acidity.

- (iii) Discuss the effects of either ozone depletion or acid rain and the responses to them. [10 marks]**

In discussing the effects of either ozone depletion or acid rain it would be expected that responses demonstrate an understanding of the effects on human, animals and plants.

In discussing possible responses to ozone depletion or acid rain, answers may range from methods to reduce the damage to methods of prevention and could refer to local, national and international responses.

If answers fail to mention effects or responses then they may not move beyond band E.

The marks should be allocated according to the markbands.

SECTION B

B7. Contemporary issues in geographic 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 examines the fundamental concepts of regional geography. Some regions can be adequately defined by reference to physical landscapes; other regions are essentially economic in nature and can be defined by, for example, the limits of a major industrial area. Most regions are best viewed as combinations of distinctive characteristics, including not only physical and economic attributes, but also cultural, language, social and other considerations. The validity of the statement will therefore depend entirely on the two regions chosen.

The best answers are likely to discuss two regions of similar scale. Responses that include two regions of different scale should not be penalized; their answers will tend to be self-limiting. Any response that does not make adequate reference to two regions may not move beyond band E. Descriptive accounts, even if they include two regions, that fail to make any assessment of the statement may not move beyond band F.

The marks should be allocated according to the markbands.

Examiners should be aware that candidates may take a different approach which if appropriate should be fully rewarded.

Or

(b) Structured question

The question is focused on the core/periphery divide and on its consequences. The map and data actually correspond to Brazil in the year 2000, with the map being shown “upside down” since the correct identification of the country is irrelevant to the question.

- (i) Using the evidence provided, identify and compare *one* core region with *one* region on the periphery. [4 marks]**

Region B is the core region [1 mark]. Either Region D or Region E is acceptable as a region on the periphery [1 mark]. The comparison must make reference to values in the table and should make clear that the core region is where economic activity is concentrated [1 mark]. Economic activities in the large land area of the periphery fail to generate much of the national revenue [1 mark]. Up to [2 marks] may be awarded for a correct comparison of any two regions, even if core and periphery are incorrectly ascribed.

- (ii) Define your local region and explain why it *either* does *or* does not belong to the core of your country. [4 marks]**

The definition of local region can be either by words or by a map. The definition must include a clear name characterizing the entire region [1 mark] as well as clear limits [1 mark]. The remaining [2 marks] should be awarded for the explanation of whether the region does or does not belong to the core. Most local regions for candidates are probably in the core of their country. The reference to “country” is deliberate and only [1 mark] of the possible [2 marks] for this explanation may be awarded if this term is misinterpreted. A variety of reasons may be given. Credit should be awarded for any explanation that is reasonable.

- (iii) Draw an annotated map to define a second region of similar size that you have studied. [4 marks]**

The syllabus requires that candidates study two regions of similar size. Up to [3 marks] may be awarded for locational details (whether place names or longitude/latitude) and/or the clarity and accuracy of regional limits. The remaining [1 mark] is reserved for a suitable scale. Full marks are reserved for the accuracy of the annotated map as opposed to a poor map with written description.

- (iv) To what extent are the contemporary geographical issues similar in the two regions you have defined in (ii) and (iii)? [8 marks]**

The answers to this part will vary widely depending on the regions selected. Description without any evaluation may be awarded up to [4 marks]. Accounts that are unbalanced or limit discussion entirely or mainly to one region or one issue may be awarded up to [4 marks]. Given the wording of the question, answers should not be penalized in any way if they focus on the differences (as opposed to the similarities) of their two regions.

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]

Answers should show an appreciation of the differing characteristics of social deprivation in both urban and rural areas and in the case of large cities the issue may be examined at the neighbourhood scale. Reference should be made to examples in both MEDCs and LEDCs (though not necessarily in equal balance) and the issue of its persistence should be explained. Such explanations may relate to lack of funding and government ability to intervene, especially in the case of LEDCs.

Strategies designed to overcome social deprivation should be clearly outlined and related to specific areas. Answers may refer to several strategies in one area such as a city or rural district or alternatively single strategies in a variety of areas. Either approach is acceptable.

Accounts that consider **only** the causes of social deprivation **or** the strategies used to improve such areas, or focus only on MEDCs or LEDCs, may not move beyond the bottom of band F. Those that do not make any evaluation may not move beyond band F.

The marks should be allocated according to the markbands.

Examiners should be aware that candidates may take a different approach which if appropriate should be fully rewarded.

Or

(b) Structured question

- (i) Define the term *urbanization*.** **[1 mark]**

For **[1 mark]**, the definition must refer to the increasing proportion of the population living in urban areas.

- (ii) Describe the population changes shown on the graph.** **[4 marks]**

MEDCS: award up to **[2 marks]** for describing the trends for both urban and rural areas.

LEDCs: award up to **[2 marks]** for describing trends for both urban and rural areas as above.

Responses that do not quantify trends may not be awarded more than a maximum of **[2 marks]**.

- (iii) Discuss the reasons for the changes in urbanization in LEDCs.** **[7 marks]**

Responses should include a range of push factors from the rural areas such as overpopulation, lack of employment opportunities, poverty, **[3 marks]** and pull factors in the cities such as better social employment, perceived better opportunities, health care, and family ties **[3 marks]**, along with high fertility levels within city populations **[1 mark]**.

- (iv) Explain, using examples, why many MEDCs are experiencing counterurbanization.** **[8 marks]**

Responses should include push factors from the city as well as pull factors to rural areas within commuting distance of cities. Electronic communications are allowing some remote locations to experience a slower decline of population, due to counter urbanization. Responses that fail to include examples of counter-urbanization may not be awarded more than **[4 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]

It is likely that candidates may approach this question by examining the concept of sustainability in relation to increased population resulting in issues such as overstocking, overcultivation (mainly LEDC), and economic pressures resulting in the increased use of herbicides, fertilisers, pesticides and factory farming. (mainly MEDCs)

Responses should also show a clear understanding of sustainable agriculture and the evolution of its potential impact. Marks need not be evenly divided between all factors.

Any responses that fail to include examples may not move beyond band E. Any responses that are merely descriptive and do not include evaluation may not move beyond band F.

The marks should be allocated according to the markbands.

Examiners should be aware that candidates may take a different approach which if appropriate should be fully rewarded.

Or

(b) Structured question

- (i) Describe the spatial pattern shown on the graph. [2 marks]**

[1 mark] each for two of following: the relative lack of LEDCs, including Latin America; the dominance of SE Asia; the dominance of NICs; or any other relevant observation.

- (ii) Suggest reasons why high technology exports are important to countries such as those shown on the graph. [4 marks]**

Up to *[2 marks]* for each valid reason. Reasons such as increasing the value of exports, increasing employment, attracting investment, increasing education and skills are all considered valid.

- (iii) Analyse, with examples, how improved electronic communications affect the dispersal of industry. [6 marks]**

Candidates are expected to show that industry has become more footloose *[3 marks]*. This can be examined at a variety of scales with reference to a number of industries (service and manufacturing industry, TNCs *etc.*).

A further *[3 marks]* should be awarded for appropriate examples. The award of the full *[6 marks]* depends on the variety of examples and depth of analysis.

- (iv) Using examples, discuss how governments attempt to influence the location of industry. [8 marks]**

Candidates may choose examples from a number of different locations which may illustrate a variety of scales. Possible strategies that may be discussed could include: Grants, tax relief, low rents, relocation incentives, improved infrastructure, retaining of the workforce *etc.*. Most responses are likely to concentrate on manufacturing but all types of industry may be included.

An alternative approach could be to discourage the location of industry through planning and environmental legislation.

Responses that fail to include examples may not be awarded more than *[4 marks]*.

B10. Globalization

Either

(a) Essay

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

[20 marks]

The answer should show an understanding of the process of globalization and the ways in which it reduces or increases the differences between places. The differences should be identified and may be social, economic, environmental, landscape-related and political. Trade and tourism should be discussed in terms of the way that they influence these processes and outcomes.

Trade agreements can reduce the differences between places within the trade area by economic convergence, whereas those countries excluded maintain their differences. Broader references to the effects of trade in general and its effect of transferring goods should be made. This can express itself in homogenized cultural landscapes and economic systems.

Tourism has a similar effect of spreading cultural, moral and behavioural traits leading to similarities, but it may also result in sharp economic contrasts between tourist enclaves and unattractive peripheries.

The mark allocation need not be equally distributed between the two parts: trade agreements and tourism, but responses that focus only on trade agreements or tourism may not move beyond band E. Any responses that are purely descriptive and fail to assess may not move beyond band F.

The marks should be allocated according to the markbands.

Examiners should be aware that candidates may take a different approach which if appropriate should be fully rewarded.

Or

(b) Structured question

- (i) Briefly explain what is meant by cultural integration. [2 marks]**

A basic definition of the term such as “increasing interaction of people from different backgrounds” gains *[1 mark]*.

Further development of the statement is necessary to achieve *[2 marks]*.

- (ii) Explain how any *two* of the factors shown on the diagram contribute to cultural integration. [2+2 marks]**

Valid suggestions as to how each factor affects cultural integration score up to *[2 marks]* for each factor.

- (iii) Identify *two* factors not shown on the diagram. Suggest how these two factors affect cultural integration. [4 marks]**

Each factor (*e.g.* TNCs/trade/transport) is worth *[2 marks]* provided it is developed to sufficient depth.

Accept the Internet as a separate factor even though it could be assumed to be part of the global media network (unless it has been discussed in part (ii)).

- (iv) Using examples, analyse the social costs of tourism. [10 marks]**

Analysis of social costs must include detailed examination of issues. These could include:

- loss of cultural heritage and tradition
- dilution of language and consequent loss of identity
- prostitution and the other effects of sex tourism
- comparisons with rich tourists lifestyles fomenting discontent
- break-up of families
- disruptive changes in values and/or religious beliefs
- alcoholism and drug abuse
- demeaning jobs serving tourists
- changes in the perceived position of women in society.

Any response that fails to analyse may not move beyond band F. Any response that lacks examples may not move beyond band E.

The marks should be allocated according to the markbands.

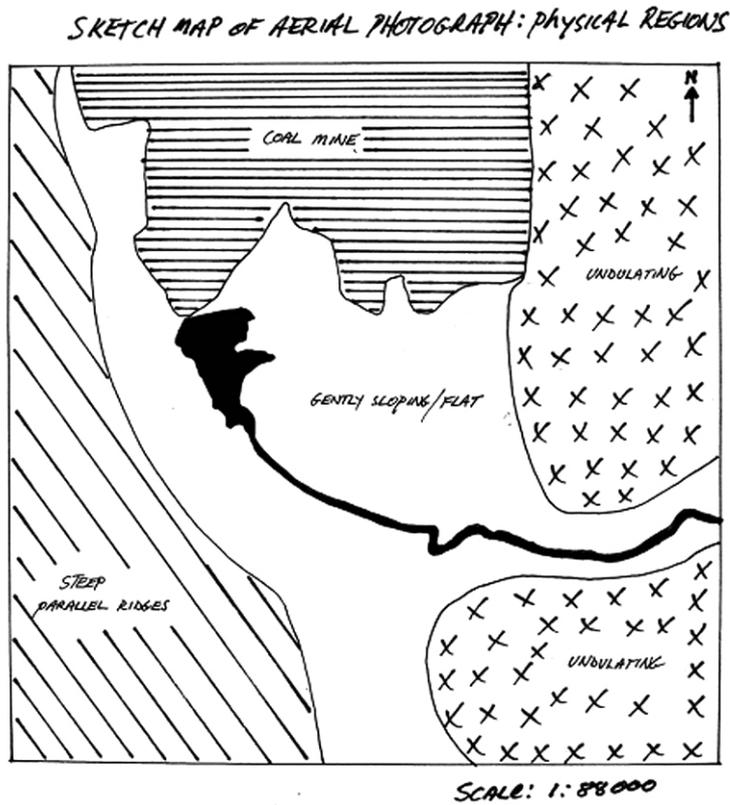
SECTION C

C11. Topographic mapping

- (a) Estimate, to the nearest square kilometre, the area of the proposed lake shown on the map at 500 200. [2 marks]

The correct value to the nearest square kilometre is 4. To gain the full [2 marks] the answer should state 4 km². An answer of 4 (with no units) should gain [1 mark]; an answer of 3 km² or 5 km² should be awarded [1 mark].

- (b) Draw a sketch map of the area shown in the aerial photograph. Mark on the map the main physical regions. [5 marks]

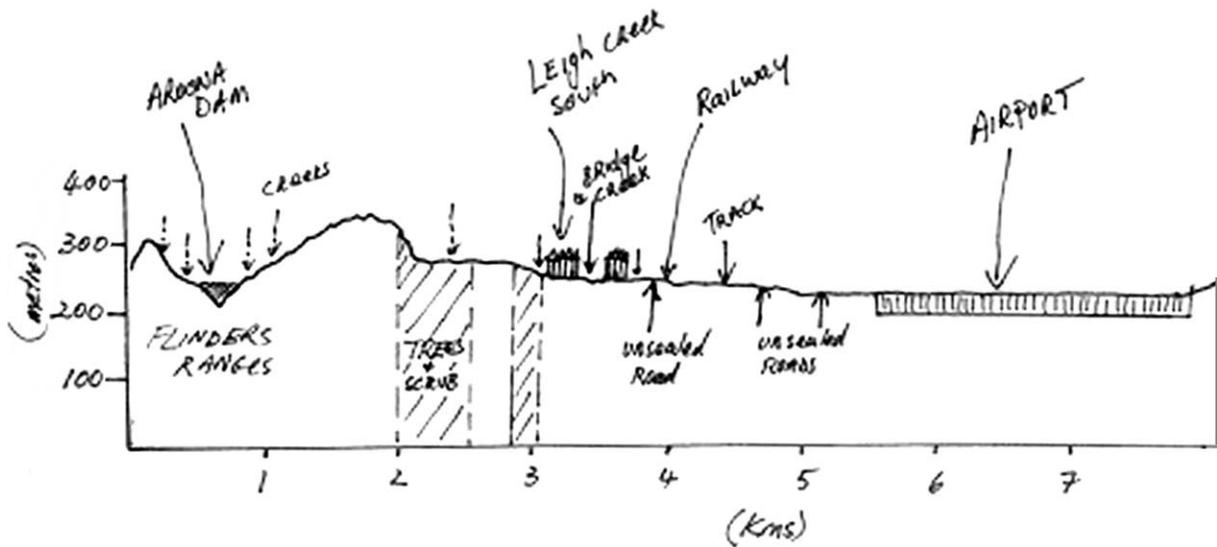


The sketch map should identify three distinct regions. The SW section should show the region of highest ground where there is a regular alignment of ridges running NW to SE. The NE and SE sections are an undulating region. The more central region is relatively flat land. The lake should also be identified.

Award [2 marks] for basics (shape, etc.), [1 mark] for including physical data (rivers or mountains) on the map, and the last [2 marks] for labelling regions.

- (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]

Sketch section between 470 120 and 550 120



Answers should maintain the original horizontal scale or be close to it. The main physical features include the Flinders Ranges (or steeper topography up to 350m), a broken area of trees and scrub and low flat land around 250m. The human features include the Aroona Dam/reservoir, Leigh Creek South township, bridge, communications and an airport. [2 marks] should be awarded to the section outline and [4 marks] for accurate labelling of the features.

Do not award marks for a sketch map instead of a section.

- (d) Referring to the map, describe and explain the relationship between the pattern of communications and the main human and physical features. [7 marks]

The main communication features tend to avoid the major physical constraints of the environment. Consequently there is an obvious absence on the western section of the map extract (to avoid the parallel ridges of the Flinders Ranges). (Tracks are mainly found in the steepest topography where it is more difficult and expensive to build roads). The road network displays a hierarchy: one major sealed road (providing access to the mine) a few double and single lane unsealed roads and numerous tracks. They link the various small settlements and a radial pattern is noticeable around Copley. A railway runs in a north-south direction past the coal mine. It is likely that the rail is used for the transportation of coal. An airport is located on flat land and easily accessible to the township (for the transportation of workers and goods). The absence of major communication networks could also be linked to the low population density of the area. It is not necessary to divide the marks evenly between the two parts of the question, but where there is only a description and no explanation, a maximum of [3 marks] should be awarded.