



# **MARKSCHEME**

**May 2007**

## **GEOGRAPHY**

**Higher Level and Standard Level**

**Paper 2**

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## SECTION A

### A1. Drainage basins and their management

*Either*

(a) Essay

**Describe the methods used to control floods on *at least one* named river and evaluate their effectiveness.** [20 marks]

This is an open-ended question that will elicit a wide range of answers. The river(s) should be clearly identified and located. One case study may be covered in depth or, alternatively, more than one may be covered more broadly.

A brief account of the causes of flooding or of a particular flood on the named river(s) is valid. The methods used to control flooding in the named river(s) should be described. Evaluation of the success of these methods may allude to flooding in general on the river(s) or to a particular flood(s). (If a particular flood is chosen, it should be identified by its approximate date.)

The marks should be allocated according to the markbands.

Answers that refer to a named river(s) are likely to be credited at markband D and over.

Answers that offer explicit evaluation of the methods used to control flooding in the named river(s) are likely to be credited at markbands E/F.

*Or*

**(b) Structured question**

**(i) With reference to the diagram:**

**(a) state the width of the river** *[1 mark]*

**(b) state the maximum depth of the water in the channel at bankfull.** *[1 mark]*

(a) Width of the river is 16 m.

(b) Depth at bankfull is 240 cm but accept answers up to and including 250 cm.

In both cases the units must be stated.

**(ii) With reference to the diagram and the table, describe and explain the relationship between:**

**(a) depth and velocity** *[3 marks]*

**(b) velocity and bedload size.** *[3 marks]*

(a) Answers should state that there is a positive correlation/relationship between depth and velocity *[1 mark]*. This should be explained in terms of the effect of friction *[1 mark]*. A further *[1 mark]* should be awarded for quantification or explanation of anomalies.

(b) Answers should identify that there is a positive correlation/relationship between velocity and bedload size *[1 mark]*. This should be explained in terms of the competence of the stream and the fact that where higher velocities exist, the smaller material is transported away *[1 mark]*. A further *[1 mark]* should be awarded for quantification or the identification or explanation of anomalies. Answers may use either the descriptive terms for bedload size or actual sizes in mm.

**(iii) Explain how the discharge of a river is calculated.** *[2 marks]*

The area of the cross section of the stream in  $m^2$ , is multiplied by the mean velocity in m/sec, giving the discharge in  $m^3/sec$  (or cumecs) *[2 marks]*. If no units are stated award only *[1 mark]*.

- (iv) **Describe and explain the changes in discharge, velocity and load that occur between the source and the mouth of a river.** *[10 marks]*

Answers should describe and explain changes in discharge, velocity and load from source to mouth. Explanation for increasing discharge relates to the addition of tributaries. An explanation of changes in velocity should relate to changes in gradient, volume, shape of the channel and the effects of friction. Load should include both bedload and the suspended load and refer to the competence of the stream, relating it to discharge and the ability of the stream to pick up, transport and deposit material.

Variations in the main variables related to channel features such as riffles and pools, meanders and braiding may be included. The effects of human interference are also relevant.

The marks should be allocated according to the markbands.

Responses that offer explicit explanations are likely to be credited at markbands E/F. Reference to named rivers is acceptable but not essential to attain full marks.

## A2. Coasts and their management

*Either*

(a) Essay

**Describe and explain the formation and characteristics of coastal landforms that result from changes in the relative levels of land and sea.**

*[20 marks]*

In explaining the formation of these landforms, it is expected that better responses will consider the possible causes of long-term changes in the relative levels of land and sea. Such responses should distinguish clearly between worldwide *eustatic* changes of sea level and local *isostatic* changes of the continental crust. Weak answers may describe and explain features resulting from short term changes in the relative level of the sea and are unlikely to be credited above markband D. The link between sea level change and the named features must be clear, for example tidal change resulting in berms, wave cut platforms and notches

The coastal landforms that result from changes in relative sea level belong in one of two categories. The landforms associated with submergent coastlines are estuaries, rias, fjords and submerged concordant coastlines. The landforms associated with emergent coastlines include raised beaches and abandoned (relict) cliffs.

In all cases, the characteristics (*i.e.* nature and scale) of the landforms must be made clear in the explanation.

Responses that offer explicit explanation of both an emergent and a submergent coastline are likely to be credited at markbands E/F.

The marks should be allocated according to the markbands.

*Or*

**(b) Structured question**

- (i) Describe the changes in this coastline between 1903 and 1965. [2 marks]**

Erosion has occurred at each end of the coastline, with deposition in the middle section [1 mark]. [1 mark] for quantification or recognition that the highest rates of deposition have been in the middle of the bay.

- (ii) Provide two possible reasons why some parts of this coast have experienced erosion while others have experienced deposition. [4 marks]**

The map suggests that material eroded from either side of the main bay has been added to Kujukuri beach in the bay. Possible reasons include differences in rock type; differences in exposure to direction of wave attack; fetch; differences between processes operating on bays and headlands; the convergence of longshore currents, differences in relief/gradient/vegetation cover or other characteristics of the coastline. Any other valid suggestion should also be credited. Allow up to [2 marks] for each valid reason, provided the reason is developed.

- (iii) Using annotated diagrams, explain the formation and characteristics of swash and drift aligned beaches. [6 marks]**

Swash aligned beaches are smoothly curving concave beaches, orientated parallel to the fronts of the dominant waves. Swash aligned beaches “face” the waves, and often have low gradients and long wavelength waves. Wave refraction tends to dissipate the sea’s energy as it strikes the beach. Drift aligned beaches have an oblique alignment to the dominant wave fronts, meaning that longshore drift will be significant. They tend to have steep gradients; waves tend to have shorter wavelengths. Allow [1 mark] each for the basic description/definition of each kind of beach. The remaining [4 marks] should be reserved for explanation. Where the answer discusses processes of long shore drift only, a maximum of [3 marks] should be awarded.

Responses that do not include any diagrams may not be awarded more than [2 marks].

- (iv) Describe the management strategies adopted to stabilize a named coastline and evaluate their effectiveness. [8 marks]**

To stabilize coastal areas, numerous strategies may be employed. Some strategies will be designed to reduce or eliminate erosion on exposed headlands and cliffs, other strategies may attempt to restrict the longshore drift of material along the coastline. The coastline must be named and briefly described [2 marks]. [4 marks] may be awarded for describing at least two distinct strategies and [2 marks] for their evaluation.

### A3. Arid environments and their management

*Either*

(a) Essay

**With reference to examples, explain why desert and semi-desert environments can be difficult to manage.**

*[20 marks]*

Answers could examine a range of possible reasons why arid and semi-arid areas are difficult to manage. These could include:

- the need to manage scarce water resources through adequate water collection and distribution
- the problems of evaporation loss from water surfaces and irrigation schemes
- problems of water allocation with conflicting demands from domestic users, industry, irrigation and recreation
- the problems of salinity caused by intense evaporation in irrigated areas
- the choice of the type of irrigation used to provide the most efficient water utilization
- the need to manage groundwater supplies in order to prevent their depletion, as in artesian basins
- problems caused by increasing population in some arid areas
- problems caused by overgrazing leading to possible desertification in semi-arid areas
- problems of soil erosion caused by high rainfall intensity and land mismanagement.

It might also be relevant to mention sustainable strategies that are difficult to implement.

Answers need not refer to all of the above reasons. Valid alternatives should also be considered.

Responses that offer examples are likely to be credited at bands D and above.

The marks should be allocated according to the markbands.

*Or*

**(b) Structured question**

- (i) Stating examples, describe the distribution of desert areas (arid environments) shown on the map. [4 marks]**

Answers should note the location of the world's major hot deserts on or near the Tropics of Cancer and Capricorn [1 mark] and name examples [1 mark]. Reference should also be made to the location of the cooler deserts that lie in temperate zones [1 mark] and name examples, such as the Gobi and Patagonia deserts [1 mark].

- (ii) Select one desert area and, with the aid of diagrams, explain the reasons for its aridity. [6 marks]**

The answer depends on the desert chosen and factors must relate to that desert. Possible explanations may include descending air at the poleward edge of the Hadley Cell, offshore winds, rain shadow, distance from the sea, cold ocean currents offshore. Answers that do not contain diagrams should not be awarded more than [3 marks].

- (iii) Using examples, examine why the demand for water is a major concern in arid or semi-arid regions. [10 marks]**

Answers could refer to arid or semi-arid regions, but not both. The focus should be on increasing demands and consequent deficiency in supply to meet the needs of the population.

Increasing demand may arise from:

- growing population numbers
- increasing standard of living and water consumption per head of population
- irrigation from commercial agriculture
- mining development
- urbanization
- tourism.

Problems in supply might include:

- inappropriate irrigation methods leading to salinization
- contamination of aquifers by pesticides
- increasing cost to consumers, especially for farmers.

Answers that offer examples are likely to be credited at band D and above. Responses that offer explicit explanation are likely to be credited at bands E/F.

The marks should be allocated according to the markbands.

#### **A4. Lithospheric processes and hazards**

*Either*

**(a) Essay**

**Explain how the stability of slopes can be affected by natural and human factors.**

*[20 marks]*

Answers should show awareness that a decrease in slope stability can lead to slope failure which can in turn lead to the occurrence of different types of mass movement. It is acceptable that human and natural factors are dealt with separately but good answers should indicate that human and natural factors often work in tandem to reduce slope stability. Humans may also adopt techniques to improve slope stability.

Some explanation of the factors that increase the effect of gravity on slopes (by undercutting or steepening of slopes, slope loading, freezing, swelling or vibration) should be given, though not all are required for a good answer. These factors act to pull material down slope.

The factors that reduce the internal resistance of slopes should also be explained, (weathering, changes in pore pressure by the addition of water, burrowing animals and the growth of roots).

Several of the above factors have both natural and human causes and good answers should point these out and might examine instances of mass movements where human or natural factors or a combination of both were involved.

As there are several different ways to approach this question, examiners should remain flexible.

The marks should be allocated according to the markbands.

Answers that refer to both human and natural factors and consider both positive and negative human influences are likely to be credited at bands E/F.

*Or*

**(b) Structured question**

- (i) Briefly explain the difference between primary and secondary hazards. [2 marks]**

Primary or direct hazards result during an eruption (such as lava flows and directed blast) while secondary or indirect hazards can occur after the eruption (such as acid rain and lahars) [2 marks].

- (ii) List three primary hazards and three secondary hazards shown on the diagram. [2 marks]**

Any three from each of the following lists:

Primary: lava flow, gas, ash, directed blast, pyroclastic flow, nuée ardente.

Secondary: temperature change, lahars, landslides, acid rain.

Answers must give three correct hazards in the category to gain [1 mark].

- (iii) Select one volcanic hazard and referring to one or more examples, describe and explain its effect on people and the environment. [6 marks]**

Answers will depend on the hazard chosen. Answers must state how both people and the environment are affected. Award up to [2 marks] for a valid description of effects, [2 marks] for explanation and [2 marks] for one or more examples. For instance, ash can contaminate water supplies, destroy vegetation, cause people to suffocate and result in collapsed roofs or ruined crops. Positive effects are also acceptable, but should not dominate the answer.

- (iv) To what extent can the impact of volcanic hazards be reduced? [10 marks]**

Answers should consider prediction of volcanic hazards as a possible method of reducing impacts. This should involve a review of some of the ways that volcanoes are monitored, including the importance of eruptive types and histories. The possibility of modifying the event should also be considered in the light of attempts that have been made to divert or halt lava flows.

Responses to the hazard could include building modifications, such as strengthening roofs to prevent collapse during ash falls, hazards mapping and subsequent land use planning, evacuation plans, provision of emergency services, education to promote awareness and international cooperation.

The marks should be allocated according to the markbands.

Responses that explicitly consider the effectiveness of some of these measures are likely to be credited at bands E/F.

**A5. Ecosystems and human activity**

*Either*

**(a) Essay**

**Explain why some ecosystems or biomes are more easily damaged by human activity than others.**

*[20 marks]*

The level of ecosystem damage relates to its accessibility and exposure to human activity and also its capacity to withstand the pressure of exploitation. Conceptual knowledge of ecosystem resilience/fragility should be evident, although such terms may not necessarily be used.

Explanation should show an understanding of the way that biotic and abiotic components interact and energy and nutrients are transferred through or cycled within the chosen ecosystems. The human causes of damage could include a range of exploitative activities resulting in disturbance of the ecosystem structure and function, and plagioclimax vegetation. In the case of recurrent agricultural exploitation, recovery time is too short for the ecosystem/biome to regenerate. The resource value of the chosen ecosystem/biome may determine its level of damage. It is greatest where intense human activity is superimposed upon a fragile ecosystem/biome.

At least two ecosystems/biomes need to be considered and breadth can compensate for depth. Answers that use more than one ecosystem/biome may be credited at markband D and above.

The marks should be allocated according to the markbands.

*Or*

**(b) Structured question**

- (i) Define the term *biome*.**

**[2 marks]**

The response must include either two of the following points or one plus any other valid point for **[2 marks]**: it is a large-scale ecosystem; it is defined by global climate zones; it has interacting biotic and abiotic components.

- (ii) Referring to examples shown in the diagram, describe the effect of moisture and temperature on vegetation structure.**

**[4 marks]**

The description should include the following points: high-temperature/moisture results in high amounts of biomass **[1 mark]**, low-temperature/moisture results in low amounts of biomass **[1 mark]**. Award a further **[2 marks]** where there is close reference to the diagram and other valid observations. Alternative terms for biomass are acceptable provided they indicate structure and volume of vegetation.

- (iii) Describe the soil type associated with *one* named biome or ecosystem.**

**[4 marks]**

Description may cover a range of characteristics including colour, structure, texture, depth, acidity, organic, mineral, water and air content. Award **[1 mark]** for each soil characteristic that is specific to the chosen ecosystem/biome. Award a maximum of **[2 marks]** where characteristics are stated, but not described. Award full marks only where the soil type is named and linked correctly to the ecosystem/biome.

- (iv) Referring to *one* biome or ecosystem of any scale, examine the costs and benefits of conserving it.**

**[10 marks]**

Consideration of costs and benefits need not be balanced and a broad range of possibilities is expected. Costs/benefits might be economic, social, cultural, political, and environmental, and the scale might be local to global, but a good response need not cover all of these points. Where only economic costs/benefits are considered a maximum of **[5 marks]** should be awarded.

The marks should be allocated according to the markbands. Discussions which make explicit references to both costs and benefits are likely to be credited at bands E/F. Answers that specify a biome may be credited at band D and above.

**A6. Climatic hazards and change**

*Either*

**(a) Essay**

**Assess the impact of human activities on microclimates.**

**[20 marks]**

It is expected that answers will assess the impact that human activity has on local (micro)climates.

The activities include agriculture, urban construction, transport infrastructure, reservoirs, afforestation and deforestation. The impacts vary in intensity but they may affect temperature, humidity, wind speed, precipitation, insolation and air quality. The intensity of these impacts is most marked in urban areas and is often related to the size of the built-up area and its latitude.

The marks should be allocated according to the markbands.

*Or*

**(b) Structured question**

- (i) Describe the trend shown for the average number of tornadoes per month. [2 marks]**

The graph shows that the number of tornadoes rises sharply from a minimum monthly figure of 14 in January to a peak of 174 in May, followed by a decline to 17 in December. [1 mark] for overall trend, including peak in May; [1 mark] for some quantification.

- (ii) Suggest why the peak value for deaths does not occur in the same month as the peak value for the number of tornadoes. [3 marks]**

The peak in the number of reported tornadoes is in May; the peak number of average deaths occurs in April [1 mark]. This suggests that people are caught unawares each year in the early months (presumably because not many tornadoes have occurred in the past few months). However, after the number of deaths peaks in April, more people take tornado warnings seriously and take better precautions; as a result, the average death toll falls. This or any other logical explanation is worth up to [2 marks].

- (iii) Explain the formation of tornadoes. [5 marks]**

Tornadoes are most often created by giant thunderstorms known as “supercells” [1 mark]. These powerful, highly organized storms form when warm, moist air meets cooler, drier air [1 mark]. As the rising warm air cools, the moisture it carries condenses, forming a massive thundercloud, sometimes growing to as much as 15,000 meters in height [1 mark]. Variable winds at different levels of the atmosphere feed the rotating updraft and cause the formation of the tornado's characteristic funnel shape [1 mark]. The final [1 mark] should be awarded for any further detail of their formation, such as the fact that they are most likely to occur in the afternoon because both differential surface heating and moisture availability are at a maximum at that time. They are also more likely to occur in spring and summer and are predominantly land based. Any mention of the formation of tornadoes around the ‘eye wall’ of hurricanes should be credited. Responses based entirely on hurricanes instead of tornadoes may be awarded up to [2 marks].

- (iv) Discuss the extent to which humans respond in similar ways to the hazards of tornadoes and tropical cyclones. [10 marks]**

This open-ended question is to encourage some critical reasoning about two climatic events of very different scale. Candidates may choose to either agree or disagree with the statement, provided their reasoning and arguments are sound. All kinds of responses (including those connected to prediction, preparation, human safety, property, economic activity, social well-being) may be considered.

Responses that offer explicit consideration of “the extent to which” are likely to be credited at bands E/F.

The marks should be allocated according to the markbands.

## SECTION B

### B7. Contemporary issues in geographical regions

*Either*

(a) Essay

**“The boundaries between regions are broad areas of transition. As a result, it is inaccurate to represent regional boundaries by lines on maps.” Discuss, with reference to *at least two* regions you have studied.**

*[20 marks]*

Whether or not candidates agree with the statement will depend on the exact nature of the regions selected. For instance, lines on a map may be perfectly adequate to define some single-feature or some functional regions, but precise boundaries may be more difficult to decide in connection with multi-feature regions. Note that there is no requirement in this question for the two regions selected to share any boundary. Rather, the focus is on using two examples of regions to examine the statement about boundaries. The use of purely political/administrative regions in this response is likely to be self-penalizing since most political divisions are not “regions” in the strict sense in which the term is used in the subject guide. The strongest responses may also consider the value of applying statistical techniques to data in order to derive a clear-cut definition of a particular region.

Responses which consider two or more regions are likely to be credited at band D and above.

The marks should be allocated according to the markbands.

*Or*

**(b) Structured question**

- (i) State whether the regions shown on Map 1 are *single-feature regions, functional regions* or *multi-feature regions*, and justify your decision. [2 marks]**

They are single-feature regions [1 mark]. This is because a single characteristic (agriculture) is the primary defining characteristic [1 mark].

- (ii) Describe the size and distribution of the agricultural regions that lie along Australia's eastern coast. [5 marks]**

The five main agricultural regions on the eastern coast are (from north to south): no significant use; extensive cattle grazing; sugar cane; intensive livestock; forest, grazing. Award [1 mark] each for a pertinent comment about each region.

- (iii) Examine the extent to which the boundaries of Australia's agricultural regions are similar to the boundaries of its natural vegetation regions. [5 marks]**

There are some points of similarity, but most responses are likely to indicate that the boundaries of the regions shown on the two maps are not very similar. Similarities include the location of tropical rainforest with sugar cane growing areas; subtropical evergreen forest (and Mediterranean scrub) with crop and livestock, intensive livestock, and forest grazing. There is little apparent connection between the semi-desert and desert boundaries on the vegetation map and any agricultural region boundaries, though the desert zone is part of the "no significant use" category. Award [1 mark] each for up to five accurate points discussing the similarity or difference of boundaries.

- (iv) Using *only* an annotated map, locate and explain the boundaries of your local region. [8 marks]**

The precise mark balance may be varied at the discretion of the examiner, depending on the region chosen, but up to [4 marks] should normally be reserved for the accuracy of the map, and its definition of boundaries, with a further [4 marks] allocated to the annotations explaining the boundaries. No credit may be given for written material which is not either on (or clearly linked to) the map by arrows, boxes or similar means.

**B8. Settlements**

*Either*

**(a) Essay**

**To what extent can the size and spacing of settlements be explained by central place theory?**

*[20 marks]*

The essay should include an explanation of Christaller's central place theory. References to subsequent theorists such as Lösch and Reilly are relevant but not essential. Some explanation should be given of Christaller's settlement hierarchies, principles of range and threshold population. It is expected that a good response will comment on the limited application of central place theory today due to social change and the development of advanced transport and communications.

A good answer should discuss a range of factors that control the sphere of influence, settlement size and spacing. These factors will include physical features such as relief, coasts and rivers, which have traditionally controlled accessibility. Historical and political factors may also have been important.

Recent technological change and rising urban land values have led to the decentralization of functions from town centres to retail and business parks beyond them breaking down the principles of central place. Population mobility also distorts the relationship between population and number of services in a central place as illustrated by the growth of commuter villages and resorts.

Answers that refer to examples should be credited at band D and above. The marks should be allocated according to the markbands.

*Or*

**(b) Structured question**

- (i) **Describe the changing distribution of and concentration of *two* ethnic groups in Los Angeles County, USA, between 1970 and 2000.** *[5 marks]*

For each ethnic group, award *[1 mark]* for the **changes** in distribution and *[1 mark]* for the level of concentration, for a maximum of *[4 marks]*. An additional *[1 mark]* should be awarded for quantification.

- (ii) **Explain why social segregation occurs in many large towns and cities around the world.** *[5 marks]*

The process of segregation should be explained in terms of separation of the urban population into discrete areas. The pattern may be influenced by social, demographic (age), economic, political and other factors. Land values will often determine the socio-economic status of an area with wealthy populations choosing the most desirable areas in the MEDC city and poor populations occupying areas of disamenity in LEDC cities. Ethnic segregation may be driven by repelling or attracting forces resulting in the separation of social extremes or the close proximity of similar groups. The level of concentration and segregation depend upon the immigrant population's inclination to assimilate with the host population and to be accepted by them. Religious enclaves and ghettos would result from social and ethnic dissimilarity. Several of the above reasons with some examples are expected for a full *[5 marks]*. Answers that refer only to ethnic social groups should be awarded up to *[2 marks]*.

- (iii) **Explain the changes in social structure in rural settlements in *either* MEDCs or LEDCs in the last 30 years.** *[10 marks]*

Social structure should be interpreted broadly to include age, gender, ethnic background and socio-economic status. The changes in rural settlements will depend largely upon the choice of world region. In MEDCs social change often reflects a shift in population from urban to rural areas involving relatively affluent newcomers who commute or have retired. There will be changes in social structure corresponding to these population movements. In the case of many rural settlements in LEDCs, out-migration of younger reproductive groups, mostly men, is typical. Changes in age and gender balance would be the usual outcomes.

The marks should be allocated according to the markbands but examples should be provided in responses awarded the full *[10 marks]*.

**B9. Productive activities: aspects of change**

*Either*

**(a) Essay**

**Referring to examples, examine the reasons for the shift in manufacturing employment from MEDCs to the newly industrialized countries (NICs).**

*[20 marks]*

Candidates would be expected to comment on the rise of TNCs and the movement of manufacturing processes away from the older industrialized countries to NICs. Here the overall costs of production are lower as a consequence of the plentiful availability of cheaper labour and the weaker regulation of labour and often ineffective environmental constraints, in contrast to the North with higher wages, strong trade unions and tighter environmental legislation. Reference should also be made to the comparatively cheap transport costs and the reduction in trade restrictions, which overcome the friction of distance in NICs. Examples should be fully described and be relevant.

The marks should be allocated according to the markbands. Responses that offer developed examples are likely to be credited at band D and above.

*Or*

**(b) Structured question**

- (i) Identify and describe how the following factors, A and B, might affect this farmer's choice of farming activity, and C might affect the output:**

**factor A – a positive environmental condition**

**factor B – a behavioural factor**

**factor C – a negative chance event.**

**[2+2+2 marks]**

Suitable responses might include the following, but there are other valid possibilities. For each factor, allocate **[1 mark]** to correct identification and **[1 mark]** to short description.

Factor A – adequate rainfall, gentle relief, fertile soil.

Factor B – age, experience, education, personality (innovative or risk minimizing).

Factor C – a price fall due to a glut on the market; disease, pests and natural hazards.

- (ii) Explain how the farmer might respond to the outputs (outcomes) X and Y.**

**[2+2 marks]**

**X** – innovate, invest, diversify, continue as before. **Y** – switch activities, seek credit, leave farming. There are other valid responses for both.

- (iii) Referring to examples, discuss government involvement in agriculture.**

**[10 marks]**

Answers should discuss the role of government in manipulating several aspects of agriculture. These might include interventions over production techniques, yields, land use, land ownership and trade. Traditionally, governments have supported agriculture as a strategic industry providing domestic food security. In many richer countries farming is protected due to its susceptibility to environmental problems such as drought, frost, flooding and disease. Government intervention has also sought to protect farmers from market fluctuations.

Governments have employed various protective measures to maintain farm prices and incomes. These have included tariffs or import levies, import quotas, export subsidies and direct payment to farmers. Recently, government policy in some richer countries has moved towards limits to production for environmental protection through quotas, set-aside, diversification and countryside stewardship schemes. In some poorer countries, cash crop production and the operation of agribusiness have been promoted by governments as a lever to economic progress. Land reform has also been an important part of many government strategies.

Overall, the marks should be allocated according to the markbands.

## **B10. Globalization**

*Either*

**(a) Essay**

**Explain why sustainable tourism is necessary but difficult to achieve, referring to *one or more* examples.**

**[20 marks]**

A clear understanding should be shown of the meaning and value of sustainable tourism along with consideration of whether it can be achieved in one or more tourist destinations.

The principles of sustainable management include preserving tourist destinations for future generations, minimizing pollution and involving local people and resources. The necessity should be discussed in relation to the threats posed by the growth of tourist numbers and the resulting pressures. The goal of sustainability is more achievable in tourist environments with a high carrying capacity, but less likely in sensitive environments such as tropical rainforests, coral reefs and the fragile environment of Antarctica. The success of such schemes also depends on the availability of funds, the relative importance of tourism in the economy and national priorities. Examples of sustainable ecotourism projects would be relevant here.

Responses that offer an explicit explanation with suitable examples are likely to be credited at bands E/F. Such responses will also have addressed both the necessity as well as the achievability of sustainable tourism.

The marks should be allocated according to the markbands.

*Or*

**(b) Structured question**

- (i) Describe the changes in the number of McDonald's restaurants shown on the graph. [2 marks]**

The graph shows an exponential increase in the number of restaurants [1 mark]. Award [1 mark] for quantification.

- (ii) Explain the current distribution of McDonald's restaurants. [3 marks]**

The pattern is closely linked to levels of population concentration and affluence with MEDCs dominant and the poorest regions such as the majority of Africa excluded [2 marks]. A further [1 mark] should be awarded for further expansion or any other valid point.

- (iii) Examine the reasons for the global spread of transnational corporations. [5 marks]**

The reasons include technological advances in transport (containerization, bulk carriers and air freight) and developments in satellite communication and the Internet. All of these facilitate business transactions and the flow of investment, information, goods and people. The New International Division of Labour, access to new resources and growing markets are other incentives for TNCs to distribute their operations globally and maximize profits. For a maximum of [5 marks] five developed reasons could be given, or fewer reasons in greater depth. .

- (iv) To what extent do transnational corporations benefit LEDCs? [10 marks]**

The benefits include employment opportunities, improved technology, improved business expertise and linguistic skills, infrastructural development, financial support and taxes, inward investment, improved national balance of payments and local economic growth through the multiplier effect.

The drawbacks include: exploitation of the local labour force, foreign instead of local decision-making, leakage of profits back to the country of origin, redirection of local funds and grants towards TNCs, poor health and safety standards, competition with local industries, increased urbanization leading to overcrowding, and undesirable changes in culture and consumption levels. Responses may also recognize that TNCs can originate in LEDCs.

A very good response would address the benefits and drawbacks covering several of the points given, but the treatment of one may be more detailed than the other. A balanced argument is likely to be credited at band D or above.

The marks should be allocated according to the markbands.

**SECTION C**

**C11. Topographic mapping**

- (a) **Give the six-figure grid reference for Point A on the photograph.** [2 marks]

The correct answer is 338 529 or 337 530 [2 marks], but [1 mark] should be given to a correct easting or northing. If the eastings and northings are reversed, only [1 mark] should be allocated.

- (b) **State the length in kilometres of Sydney harbour tunnel (underwater section only).** [2 marks]

The length is 0.825 kilometres or 0.95 kilometres (because there are two possible interpretations over where the tunnel starts at the underwater section of the northern end) [2 marks]. If the answer is 0.80–0.85 or 0.92–0.98 kilometres inclusive or 800–850 metres or 925–975 metres award [1 mark].

- (c) **Compare the advantages of the map and the aerial photograph for showing:**

- (i) **communications** [3 marks]  
(ii) **settlement characteristics.** [3 marks]

(i) Responses would be expected to note that the map gives a better indication of the type (importance) of roads [1 mark]. The photograph cannot show the tunnel [1 mark]. The remaining [1 mark] should be allocated to any other valid comment, such as the photograph showing water transport and anchorages.

(ii) Responses would be expected to note that only the photograph gives any impression of the three-dimensional characteristics of areas [1 mark] and the density of housing [1 mark]. The remaining [1 mark] should be allocated to any other valid comment, or to locating areas of tall buildings or high/low density housing.

- (d) **Describe and explain the type and pattern of land uses along the shoreline.** [10 marks]

It is important that broad patterns are identified, described and discussed and that responses are not based on a detailed description of each element as one moves along the shoreline. The main types of land use identified would probably be the following: residential waterfronts, commercial docks and warehousing, and recreational areas (parks and sailing/boating) and the presence of prestige buildings, such as the Opera House, could also be noted [5 × 1 mark]. Explanations should include comment on the aesthetic attraction of the waterway, its value for commercial shipping, and the shelter it provides for recreational boating. The [5 marks] available for this part of the question should be allocated to these three reasons (or any other valid ones) provided they are developed.

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