



MARKSCHEME

May 2008

GEOGRAPHY

Higher Level and Standard Level

Paper 2

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SECTION A

A1. Drainage basins and their management

Either

(a) Essay

Examine how variations in fluvial processes along the courses of rivers affect basin management strategies.

[20 marks]

Answers would be expected to examine the processes that characterize rivers from source to mouth. These may include changes in erosion, deposition, flooding, all of which are related to human development and the ways in which the drainage basin is used. Fluvial processes can include processes related to changes in base level.

Reference may be made to steep sided valleys formed by down cutting which may be utilized for HEP, water storage in dams, recreation, terraced farming and perhaps the need to afforest these areas to protect watersheds and prevent downstream flooding. Rivers prone to flash flooding, as in many mountain areas, may have various damage limitation strategies such as weirs, gabions, channeling used to control the processes of erosion and flooding.

Deposition and floodplain development may lead to protective strategies. The erosional and depositional processes, which lead to meander formation and migration may require the protection of floodplains and settlements with levees, straightening and other flood control strategies. Good answers will recognize that some of these processes create flood plains that are very valuable in many ways (agriculture, settlement, communication) hence the need to implement strategies to protect human interests. Responses that examine processes along the whole course of a river and how they affect management strategies are likely to be credited at bands E/F. A detailed response based on one river is acceptable.

Marks should be allocated according to the markbands.

Or

(b) Structured question

- (i) Describe the characteristics of the hydrograph for the mountain farm. [3 marks]**

Three valid statements *[1 mark]* each and for full marks there must be some quantification. Possible responses might include the short lag time, steep rising limb, steep falling limb, high peak discharge and characteristics of a flashy stream.

- (ii) Suggest possible reasons for the differences between the two hydrographs. [7 marks]**

The mountain farm has a flash or very rapid response due to the fact that the land use is agricultural, hence there will be less interception and infiltration and more surface run-off. The soils may be compacted and may accelerate run-off. The land may be steep and possibly impervious and this will also promote more rapid run-off.

In the undisturbed forest, vegetation will slow down the rate of stream flow response. Greater interception, more evapotranspiration of water from the interception store, greater infiltration due to the vegetation cover and root systems will also contribute to a greater lag time (slower response and lower peak discharge). Other possible reasons might include gradient, rock type and relief rainfall.

At least two differences must be explained in detail for full marks.

- (iii) Examine how urbanization affects the intensity of flooding and how urban flooding can be reduced. Use one or more examples in your answer. [10 marks]**

Due to the impermeable nature of urban surfaces, run-off will be much more rapid hence increasing the frequency of flood events (the recurrence interval is shortened). As there is less interception and infiltration and more drains, water will be channeled quickly into river systems, which also increases the magnitude of events. Both surface and sub-surface drains contribute to flash responses. For example, in urban areas developed on floodplains (where flooding has always been part of the natural regime) the level of engineering may have greatly mitigated against the flood hazard.

The risk of urban flooding may be reduced in many ways: storm drains, porous parking lots, cambered road surfaces, use of vegetation to increase interception and infiltration, holding pools, and flood barriers. To gain full marks, answers should recognize that flood control beyond the urban area also has an influence on the flood risk in urban areas. This includes dams, afforestation, levees, flood barriers, upstream diversions and various other types of engineering. Answers that refer to measures that protect urban areas from coastal floods should be accepted. The marks need not be allocated equally and should be awarded according to the markbands.

A2. Coasts and their management

Either

(a) Essay

Explain the effect of variations in wave energy upon coastal processes and features. [20 marks]

Wave energy is determined by factors beyond the immediate coastal zone and is modified at the interface between land and ocean. Variations may be spatial and temporal.

The characteristics and effects of both high (destructive) and low energy (constructive) waves should be explained. Erosional processes are more important than depositional processes in most high-energy environments and the converse is true in low-energy environments. Temporal variations in energy may lead to episodes of coastal erosion and deposition. Destructive activity may result from high tides, cyclones and tsunamis. Less dramatic temperate winter storms can erode beaches and change beach profiles. Longshore drift and coastal management are not relevant to the discussion.

Ideally, answers should show an appreciation of the interaction of marine and land-based factors, by recognizing that wave energy can be modified by coastal configuration, exposure and materials. High energy environments tend to be dominated by erosional features, such as retreating beaches or cliffs. Estuaries, marshlands and bays are typical of low energy coasts where deposition dominates. A good answer will recognize that energy levels vary over time and can transform existing features. To access markband D candidates could concentrate purely on erosional / depositional features with little relationship to energy.

To access markband E candidates are expected to acknowledge the relationship between energy and features, but the attention given to each may vary.

To access markband F candidates would be expected to cover energy variations in **time** and **space** and to explain the links between processes and features on coastlines.

Marks should be allocated according to the markbands.

Or

(b) Structured question

- (i) Explain the sediment transfers marked A and B. [2+2 marks]**

A – sediment is eroded from the headland [1 mark], which although relatively resistant is nevertheless exposed to higher wave energy than the bay adjacent to it [1 mark]. Other valid reasons can be credited.

B – sediment is transported from the offshore zone [1 mark]. There are several possible explanations including currents, onshore waves and human activity such as dredging for beach nourishment [1 mark]. Other valid reasons can be credited.

- (ii) Suggest why it is important to maintain a balance between the inputs and outputs of sediment in a coastal system such as this one. [6 marks]**

Answers should show an understanding of the origin, movement and destination of sediment inputs, transfers and outputs within this open coastal system. The role of longshore drift should be included. Reference should be made to this diagram or a specific stretch of coastline.

Responses should explain the importance of maintaining a balance in sediment input and output in an open coastal system. Not only does this protect cliffs and other coastal features, but the deposition of sediment is essential to the maintenance of ecologically valuable features such as salt marshes and sand dunes. The maintenance of sediment supply in any low-lying coastal area is fundamental to many management strategies, especially on coasts where tourism is important [6 marks].

- (iii) Explain the development of either salt marshes or sand dunes and the reasons why they should be managed. [10 marks]**

The explanation should cover the conditions necessary to initiate the process of formation, their typical location and features. For sand dunes, a supply of sand, onshore wind and a low-lying coast are essential, whereas salt marshes develop only under conditions of low-wave energy and a steady supply of fine fluvial sediment, such as in estuaries and behind spits. In both cases, annotated diagram(s) clearly explaining the formation and features may substitute for text.

Both sand dunes and salt marshes have biotic, recreational and aesthetic value, but management priorities differ. Salt marshes may act as buffer zones able to absorb wave energy and adjust to rising sea levels. They may be part of a low-cost “soft” coastal-defense strategy protecting coastal areas from flooding. In the case of sand dunes recreational activities can easily degrade them, resulting in erosion and encroachment with rising sea levels. Sand dune management is designed to stabilize dunes, minimize erosion and conserve natural habitats.

Answers that adequately cover both aspects of development and management are likely to be credited at markbands E/F.

A3. Arid environments and their management

Either

(a) Essay

“The factors responsible for the formation and location of deserts are always the same”. Discuss this statement, with reference to examples.

[20 marks]

Answers should examine the range of factors that contribute towards aridity. These include rain shadow effects, ocean currents, offshore winds, distance from the sea and permanent high-pressure cells. Desertification caused by human activity is acceptable as a factor but should not receive much credit.

It is expected that responses may recognize the factors that are common to many of the world’s deserts, especially those located on the poleward edge of the Hadley cells in the northern and southern hemispheres or locations on the western edges of land masses in the tropics where winds are offshore.

Answers should also refer to local factors that contribute to aridity such as the rain shadow effect in the western desert areas of the USA or the Atacama in South America, continentality as in the Gobi, Sahara or Australia and the effects of cold offshore currents as in the Namib. Responses that use annotated maps or diagrams in addition to text should be credited.

Responses that refer to well chosen named and located desert while discussing the respective influences of global and local factors are likely to be credited at markbands E/F.

Marks should be allocated according to the markbands.

Or

(b) Structured question

- (i) Identify the landform labelled A on the photograph and, using only an annotated diagram (or diagrams), describe and explain the formation of this landform. [1+4 marks]**

The landform should be identified as an alluvial fan [1 mark]. Explanations of alluvial fan formation should only be credited if an annotated diagram(s) is (are) used [4 marks]. Diagrams that are only labelled accurately and not annotated should be credited with a maximum of [2 marks].

Annotations should refer to the source of water and sediment from a single canyon (wadi), the sudden decrease in gradient causing water and sediment to spread out forming a broad fan shape with numerous distributary channels, the concave surface profile.

- (ii) Explain the role of intense but infrequent rainstorms in the formation of one other fluvial landform found in arid and semi-arid areas. [5 marks]**

The chosen landform must be identified and must be fluvial in origin [1 mark]. Suitable landforms include canyons (arroyos/wadis), mesas, buttes, bahadas, playas, pediments and washes.

The role of infrequent high energy conditions that last for only a short period resulting in vigorous erosion and transport and followed by subsequent deposition of sediment [2 marks] should be related to an explanation of the formation of the selected landform [2 marks].

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

Responses may choose to discuss urbanization **or** tourism in depth, or **both** of them in less depth.

Conflicts resulting from urbanization arise from competing demands for water. These include demands for domestic, industrial, and recreational activities.

Conflicts may arise from the subsequent contamination of scarce water resources, effects on local water tables, overuse and pollution of exotic rivers, dam construction in areas of natural beauty and the changes in the natural landscape caused by urbanization itself, including power production and transport. The construction of wind farms or large-scale solar collection systems and power cables may also be included in terms of their effects on the landscape. Tourism conflicts may include the construction of modern hotels that are out of character with the local environment, the increased demand for water from tourists for showers, pools, golf courses, recreational demands that make water more expensive and divert it from traditional uses such as irrigation systems or oasis farming. Social conflicts may also be considered as long as they are relevant to arid areas.

Answers that cover either urbanization **or** tourism would be expected to refer to more in depth examples than those that cover both.

Marks should be allocated according to the markbands.

A4. Lithospheric processes and hazards

Either

(a) Essay

“Volcanic eruptions are easier to predict but more difficult to respond to than earthquakes”. Discuss this statement, with reference to examples. [20 marks]

Candidates may choose to agree or disagree with this statement. Answers should examine the relative predictability of volcanic eruptions and earthquakes and should include some of the techniques used to monitor both hazards. Distinctions should be drawn between the more reliable and more easily measurable precursors such as volcanic earthquakes, changes in gas emissions, swelling of the sides of the volcano, changes to the magma chamber and minor eruptions and the much less reliable and more difficult to understand precursors of earthquakes, such as animal behavior, radon emissions, low frequency radio waves, electromagnetic abnormalities.

Answers should also examine the different human responses to each hazard and draw conclusions regarding the relative effectiveness of measures taken to mitigate the effects of earthquakes and volcanoes through strategies such as monitoring, engineering solutions, warnings, evacuation and preparedness.

Answers that only cover either prediction or response should not move above band D. Answers that offer explicit discussion are likely to be credited at bands E/F.

Marks should be allocated according to the markbands.

Or

(b) Structured question

(i) Identify factors A and B.

[2 marks]

Factor A could be precipitation, sudden thaw of frozen ground or presence of vegetation **[1 mark]** and factor B could be building construction, mining, quarrying, road cut and fill **[1 mark]**. Allow any other logical suggestions that either increase or decrease slope instability.

(ii) Select *one* natural and *one* human factor from the table (excluding factors you chose for A and B) and explain how each contributes to slope instability.

[2+2 marks]

Answers depend on the factors chosen but should clearly explain the processes that cause a reduction in the stability of the slope **[2+2 marks]**.

(iii) Explain how biological factors influence weathering.

[4 marks]

Answers should explain how biological action can aid chemical weathering through the production of humic acids that assist rock decomposition **[2 marks]** and mechanical weathering where plants and animals break up rocks through growth and movement **[2 marks]**. Both types of weathering should be mentioned for full marks but the allocation of marks need not be even. Alternatively references to anthropogenic acid deposition are also valid.

(iv) Using a specific case study, examine the causes, consequences and responses to a rapid mass movement influenced by human activity.

[10 marks]

The human-induced rapid mass movement should be named and located. The human causes should be analysed, though relevant natural factors may also be included. The consequences should be explained. These may be effects on humans or on the natural environment. The human response to the event should be critically examined.

Answers that do not refer to a human-induced mass movement but which examine the causes, consequences and responses should be credited but should not be awarded more than markband D. Answers that cover all three aspects, causes consequences and responses to a rapid mass movement influenced by human activity are likely to be credited at markbands E/F.

Marks should be allocated according to the markbands.

A5. Ecosystems and human activity

Either

(a) Essay

With reference to a specific ecosystem, examine how human activity has affected the relationships between climate, vegetation and soils.

[20 marks]

A specific ecosystem may be chosen at any scale, for example from a dune ecosystem to a rainforest biome. Specific knowledge relating to the vegetation type(s) and how it is specifically adapted to the climate and soils should be incorporated. Answers should focus on the inter-relationships that exist between the three variables. For example in a rainforest ecosystem there should be reference to structuring and particular adaptations, such as buttress roots, epiphytes, and the role of lianas. Some answers may use Gersmehl diagrams to show interlinkages. In each case the strength of the response will be dependent on looking at the relationships between vegetation, climate and soils in the context of a specific ecosystem.

The ways in which humans have changed these relationships should focus on analysis of the changes brought about by human activities. Good responses will recognize that these may be both negative and positive. These may include impacts related to deforestation, drainage, harvesting of coral, depletion of fauna, recreation in dunes and eutrophication. Answers should also draw attention to the fact that humans may be proactive in restoring equilibrium through good environmental management – reforestation, removal of non-endemic species, reintroduction of fauna, creation of parks, marine reserves, managed hunting, integration of local communities so that they benefit economically. Omission of a specific ecosystem or lack of analysis of the changes in relationships will be self limiting and answers may only achieve a maximum of markband D. Good responses accessing bands E/F must analyse how the balance between the three components is changed as a result of human activities.

Marks should be allocated according to the markbands.

Or

(b) Structured question

- (i) Name the two nutrient transfers A and B. [2 marks]**

A – decomposition, B – weathering.

- (ii) Explain how vegetation succession may cause the biomass nutrient store to increase over time. [3 marks]**

The increase in biomass nutrient store during succession results from the improvement in environmental conditions (soil development, less harsh microclimate) over time [1 mark]. This allows for a greater variety of ecological niches/species/stratification/productivity [1 mark]. The biomass and the size of its nutrient store continue to increase until the community reaches climax or a state of equilibrium with its environment. This or any other valid point may be awarded [1 mark].

- (iii) Explain how positive and negative feedback affect the stability of an ecosystem. [5 marks]**

Essentially answers should state that negative feedback maintains the equilibrium in an ecosystem whereas positive may break it down. Negative feedback tends to maintain stability despite external changes [2 marks]. Positive feedback amplifies change and is often the result of extreme events or human influence [2 marks]. The final [1 mark] is reserved for further development of either kind of feedback or of the concept of stability.

- (iv) Examine the human impacts on the structure and processes in one ecosystem of your choice. [10 marks]**

An ecosystem at any scale may be chosen but it is likely that most answers will examine an ecosystem where structure is readily apparent. The rainforest for example has a distinct structure and processes, which act within it and are closely connected. Good answers may look at activities that allow the recovery of processes and revitalization of structures in the system. Shifting cultivation for example may have little real impact on a larger scale and recovery is possible. On the other hand, clearing land for permanent agriculture may change structure and processes irreversibly. Answers that use an appropriate example are likely to be credited at markband D and above.

Marks should be allocated according to the markbands.

A6. Climatic hazards and change

Either

(a) Essay

“Long-term droughts and short-term dry seasons have similar causes and result in similar effects”. To what extent do you agree with this statement?

[20 marks]

The definition and causes of long-term droughts vary globally. The essential characteristic of a drought is that it is a prolonged period of below average precipitation. This can occur in many climatic zones. Short-term dry seasons are predictable, periodic and related to specific climatic zones such as monsoon and savanna. The causes of long-term droughts and short-term dry seasons are clearly distinct, but some of their effects may be similar, even if the impacts vary in severity. Long-term droughts may affect an area for several years, with disastrous human consequences. Short-term dry seasons generally have far less serious effects, since human and natural systems tend to be adapted to their regular occurrence. Stronger responses are likely to examine specific examples of both droughts and dry seasons in some detail.

While the question requires that both causes and effects be examined, it is not necessary for them to be done in equal depth. A strong account of the causes might well compensate for a weaker account of the effects, and vice-versa.

In the context of this question, the distinction between droughts and desertification is an important one. Discussion of desertification in responses should not be credited unless it is explicitly linked to long-term droughts.

While it is likely that most responses will conclude by disagreeing with the statement, this is by no means the only possible conclusion. All responses should be judged strictly on their own merits.

Responses including explicit evaluation of the statement are likely to be credited at bands E/F.

Marks should be allocated according to the markbands.

Or

(b) Structured question

- (i) Describe the pattern of ocean temperatures shown on Map A. [3 marks]**

Ocean temperatures are generally warmer near the Equator [1 mark]; the western Pacific ocean is warmer than the eastern Pacific ocean [1 mark]. The remaining [1 mark] should be awarded for quantification or any other valid point.

- (ii) Name the weather event responsible for the patterns shown on these maps. [1 mark]**

The weather event is La Niña.

- (iii) Using only an annotated diagram, describe the oceanic and atmospheric circulation in the equatorial Pacific under normal conditions. [6 marks]**

The normal circulation in the equatorial Pacific (the Walker Circulation Cell) results from a low pressure area over the western Pacific, due to warm surface ocean temperatures, and a high pressure area over the eastern Pacific, due to the upwelling of cold ocean water. Surface trade winds blow from east to west. High altitude flow is from west to east.

The diagram may be either a map or sketch, and may show conditions either in plan (map) form or as a vertical section through the ocean and atmosphere. The strongest responses may well combine both methods in a single, unified diagram. No credit should be given for any written information which is not either written on the diagram or clearly related to it by means of arrows or a key. As a general rule, [3 marks] should be awarded for the quality of the diagram and [3 marks] for the quality of the annotations, but this balance can be adjusted at the discretion of the examiner in cases where exceptional quality is found in either of these two parts.

- (iv) Discuss the suggestion that the benefits of global warming will outweigh any problems it causes. [10 marks]**

It is likely that most answers will conclude that the probable problems far outweigh any benefits, but each response should be considered on its own merits. Possible problems include habitat change and sea level rise, with resulting impacts for human settlement and a wide range of economic activities. Possible benefits include reduced heating costs at some latitudes, longer growing seasons and increased agricultural production in some marginal areas, as well as a changing distribution of tourist activity as new locations become suitable for resort development or winter sports. It is not necessary for the discussion of benefits and problems to be equal. Answers incorporating both benefits and problems, and arriving at a clear conclusion, are likely to be credited at bands E/F.

Marks should be allocated according to the markbands.

SECTION B

B7. Contemporary issues in geographical regions

Either

(a) Essay

For any *two* multi-feature regions you have studied, compare their geographic similarities and differences.

[20 marks]

The syllabus requires the study of two regions of similar scale. This essay question requires discussion of the geographic characteristics of two regions. Answers should discuss each region in some depth, examining both similarities and differences. It is likely that stronger responses will use sketch maps to show the boundaries and characteristics of the chosen regions. The details of the discussion will vary, depending on the regions selected. Candidates who choose two regions of dissimilar scale will find their answers self-penalizing; in these cases, no special action is required on the part of the examiner.

Responses that offer explicit comparison are likely to be credited at bands E/F.

Marks should be allocated according to the markbands.

Or

(b) Structured question

- (i) Identify the state which has the highest density of population. [1 mark]**

State P has the highest density of population [1 mark] – 718 persons/km² (no quantification necessary).

- (ii) Using Map A (administrative areas and population density) draw a map of the country, dividing it into a minimum of four distinct regions, based on population density. [5 marks]**

The map must have four regions or more. As a general rule, [1 mark] should be awarded for the neatness of the map, [3 marks] for the division into population density regions, and [1 mark] for a clear title and labeling. However, this balance can be adjusted at the discretion of the examiner in exceptional cases.

- (iii) Analyse the relationships between the population density regions you have drawn in (ii) and the relief regions shown on Map B. [4 marks]**

While the precise details of the analysis will depend on the map drawn in response to (ii), it is expected that at least four distinct points will be made, for [1 mark] each. For example, [1 mark] should be awarded for recognizing that the highest population densities coincide with the central area of the coast; [1 mark] for recognizing the relatively high population density along the northern coast; [1 mark] for observing that states in the eastern highlands have a wide range of population densities; and [1 mark] for linking the lowest population densities to the interior plains and highlands, or any other valid observation.

- (iv) Examine the importance of physical geography in defining the boundaries of a local region you have studied in detail. [10 marks]**

It is expected that responses will clearly identify and define a local (*i.e.* small-scale, sub-national) region. This need not be the region where the candidate resides. Stronger responses are likely to include sketch maps to show the limits of the local region. The boundaries of the region must be clearly defined by one or more factors. The importance of physical geography should be examined not only in terms of possible clearly defined barriers such as mountain ranges, but also in terms of the influence(s) of physical geography on other defining factors, such as soils, vegetation or economic activity.

Marks should be allocated according to the markbands.

B8. Settlements

Either

(a) Essay

Referring to examples, describe and explain the problems found in one or more LEDC cities and evaluate the strategies designed to solve them. *[20 marks]*

The description should cover a range of problems along with the underlying cause of rapid urbanization. The problems should include both socio-economic and environmental issues and a good response is likely to include some of the following: overcrowding, housing shortages, inadequate transport systems and infrastructure, air, water and land pollution and inequality of wealth distribution and unemployment.

Strategies for solving these problems may be designed by international, national and local bodies and some may be unofficial and spontaneous. In many cases such strategies have not been in place long enough for their success to be evaluated. It is therefore quite acceptable for responses to comment only upon the expected outcome and merits of such strategies.

Solutions are likely to cover some of the following:

- Population management through family planning, medical care and the development of satellite settlements to reduce inner-city overcrowding.
- Improved accessibility and reduced traffic congestion through the development of public transport and restricted use of the car in the city centre.
- Pollution control through the improvement of sanitation, domestic and industrial waste disposal and air pollution.
- Reduction of unemployment through education and diversification of the economy.
- Housing schemes including self help initiatives.

Answers that effectively evaluate the strategies are likely to be credited at markbands E/F. Examples chosen from MEDCs are not relevant and should not be credited.

Marks should be awarded according to markbands.

Or

(b) Structured question

- (i) Referring to two of the areas (A–D) shown on the map, name and explain the location of one different functional zone in each area. [2+2 marks]**

Answers may include the following:

Area A – Residential development due to cheaper land and room for expansion.

Area B – Retailing and tourism due to easy access through pedestrianization and central car parks. Several tourist attractions including galleries, museums and theatres.

Area C – Industry due to relatively cheap land, room for expansion, access to transport systems are all possible reasons.

Area D – Administration and tourism due to proximity to CBD. Manufacturing due to proximity to transport/railway and easy accessibility.

Other valid functional zones and reasons may be given for each area.

- (ii) Using *only* a labelled diagram, describe the core-frame model. [6 marks]**

The diagram should show the following features: the core, the frame, an area of assimilation and an area of discard [4 marks].

Allow [2 marks] for further detail. Any combinations of labeling and annotations are acceptable to support the diagram.

- (iii) Referring to one or more examples, describe and evaluate the strategies designed to regenerate inner-city areas in MEDCs. [10 marks]**

Regeneration may be defined as the investment of capital and ideas into an urban area to revitalize economic, social and environmental conditions. Most of the strategies focus on inner-city areas experiencing deindustrialization. In some cities the regeneration process began in the 1960s and it is acceptable for responses to mention these earlier strategies. Specific strategies may include slum clearance, housing renewal gentrification, industrial growth and development; improvements to transport systems, and environmental improvement. Responses which describe and evaluate several strategies referring to one or more MEDC cities are likely to be credited at bands E/F.

There may be regional variations in the interpretation of “inner city”. These alternatives should be accepted.

Marks should be awarded according to the markbands.

B9. Productive activities: aspects of change

Either

(a) Essay

“Local factors are more important than regional factors in determining the location of industry”. Discuss this statement.

[20 marks]

Answers would be expected to examine the comparative importance of the meso- and micro-factors affecting the location of an industry. This should involve a discussion of most of the following regional factors: access to raw materials and energy, the quality of transport links, availability of capital, the proximity to the market and government inducements. The local factors to be considered would be site, the skill level and supply of labour, and local linkages. It is possible that there may be debate as to whether some of these factors (such as industrial inertia) are local or regional, and this should be accepted.

It is not necessary for local and regional factors to be treated in equal depth. A strong account of one may compensate for a weaker account of the other.

Industry includes primary, secondary and tertiary activity. Local and regional factors may be common. The words “local” and “region” may be interpreted on a variety of scales.

Answers that are discursive rather than descriptive are likely to be credited at bands E/F.

Marks should be allocated according to the markbands.

Or

(b) Structured question

- (i) Describe the changes in the proportion of female labour in different sectors of industry in Country C. [4 marks]**

The main changes show the shift to service employment [1 mark] at the expense of industry [1 mark] and particularly agricultural employment [1 mark]. The remaining [1 mark] should be allocated to some quantification. Answers which describe percentage changes in each sector, that is, without relating them to other sectors are acceptable.

- (ii) Identify the *most* and the *least* economically developed country and justify your choice. [2+4 marks]**

The most economically developed country is A [1 mark], the least economically developed is country B [1 mark]. Some candidates may not refer to the diagram and cite specific countries. This approach is acceptable.

In justifying the choices (A and B), answers should explain why MEDCs have a low agricultural and industrial female workforce, with most females being employed in the service sector [2 marks], whereas, in LEDCs the majority of females are still employed in agriculture but an increasing proportion are employed in industry [2 marks].

- (iii) Explain why transnational firms may relocate their industrial processes. [10 marks]**

The main reason is the lower cost of input factors (cheap labour, energy and raw materials). Other factors may include different labour, health, safety and environmental standards, market changes, improved accessibility, tax concessions provided by governments and the different levels of political freedom. Push factors that may cause the firm to move from its original location should also be considered. Better responses would be expected to make a reference to the advantages of the shrinking of “economic distance” which allows transnational firms to relocate.

Marks should be allocated according to the markbands.

B10. Globalization

Either

(a) Essay

“The growth of international tourism has brought global benefits, but local problems.” Discuss this statement. *[20 marks]*

The following aspects are relevant to the question and a good response could include most of them, but the emphasis of the discussion and the direction of the argument may vary.

Global benefits may include:

- Improved economic interdependence through the inclusion of less developed countries into the world economy.
- The stimulus to economic take-off in some LEDCs.
- Improved cultural exchange and understanding.

Global problems may include:

- The spread of disease.
- Atmospheric pollution through increased travel.
- Cultural antagonism and the growth of nationalism.
- TNC domination, Terrorism.

Local benefits may include:

- Employment.
- New language and IT skills.
- The local multiplier effect.

Local problems may include:

- Cultural dilution and moral degradation.
- The creation of homogenous landscapes and the disappearance of local distinctiveness.
- Environmental pollution where the number of visitors exceeds carrying capacity.
- Domination of the tourist business by foreign-owned TNCs leading to economic leakage.

The discussion need not be balanced with respect to the benefits/problems or the scales, but all should be addressed if the response is to access markband E. A very comprehensive response which includes socio-cultural, economic and environmental consequences is likely to be credited at markband F.

Marks should be awarded according to the markbands.

Or

(b) Structured question

- (i) Describe the global pattern of telephone traffic. [4 marks]**

Award *[1 mark]* for each valid statement up to *[3 marks]* and *[1 mark]* for some quantification or indication of relative call volumes (these may be approximate).

- (ii) Suggest three factors which influence the volume and pattern of telephone traffic between countries. Justify your choice of each factor. [3+3 marks]**

Award *[1 mark]* for each valid factor and *[1 mark]* for correct justification.

Factors may include total population, population density, demand, wealth, technological advance, language in common, level of industrial development, physical influences on landline construction, proximity, and accessibility to the global network.

- (iii) Examine the effects Information and Communications Technology (ICT) may have on the processes of cultural integration. [10 marks]**

Relevant types of technology would include fixed line phones, cell-phones, e-mail and the Internet. Also acceptable, but not essential are television, cinema and transport. Agents of diffusion include TNCs, tourist companies, media operators and others. The process of diffusion would involve expansion and relocation. The process of integration involves adoption or adaptation. The effects of ICT promote time-space convergence, cultural convergence/homogenization and loss of diversity. Not all these types of technology, processes or effects need to be included for a good answer.

Answers should include a definition (or understanding) of culture in terms of language, customs, dress, music, habits and trends in the consumption of manufactured goods and the use of services.

Marks should be allocated according to the markbands.

SECTION C

C11. Topographic mapping

- (a) (i) Explain what is meant by a scale of 1:25 000. *[1 mark]*

1 unit on the map represents 25 000 units in reality. (A distance of 1 cm on the map *[1 mark]* represents 25 000 x 1 cm or 250 m or 0.25 km in reality.)

- (ii) State the area of land in square kilometres represented by each complete grid square. *[1 mark]*

Each square is 1 km² *[1 mark]*.

- (b) Describe the relief and drainage of the area north of northing 12. *[3+3 marks]*

The principal topographic feature is Mt. Pelée; a volcano with its crater and concave slopes. The slopes of the volcano are dissected by many intermittent streams. The drainage pattern is radial (or dendritic) and dominated by the streams of Coulee Rivière Blanche.

Allow upto *[3 marks]* for three valid statements about relief and upto *[3 marks]* for three valid statements about drainage.

Accept other valid observations.

- (c) Name the main settlement shown on the photograph and describe its situation. *[1+3 marks]*

Name – Fond Corré, but accept Périnelle *[1 mark]*.

Situation means its location relative to its surroundings. This is likely to include proximity to specific features such as Mt. Pelée, the coast and other settlements. Accurate distances and directions are expected for a maximum of *[3 marks]*. If the settlement is incorrectly identified, but its situation is described appropriately, award a maximum of *[2 marks]* for this question.

- (d) Referring to map evidence, explain how physical features have influenced

- (i) the road network; *[4 marks]*

The road network is limited by difficult topography. Steep gradients and dense forest on the upper slopes of Mt. Pelée hinder access by road. Only minor roads follow the lower and more accessible valley routes such as those of Rivière Roxlane from Quartier du Fort, Rivière des Peres from La Galère and the valley of La Rivière Seche and La Rivière des Peres; some have dead-ends. The narrow coastal strip allows easier road construction for the main road (N2) and secondary road (D10). The wider coastal plains of St. Pierre and Quartier du Fort allow for urban development and well-developed internal road networks. Responses may recognize other physical influences which are equally valid.

Answers that are generalized and fail to refer to specific places should be allocated a maximum of *[2 marks]*.

(ii) the pattern of land use and human activity.

[4 marks]

The steep slopes and deep valleys limit plantation agriculture to the lower interfluves, where better physical conditions and access to the coast make commercial production viable. For example, banana and sugar plantations extend up-slope east of St. Pierre.

Close to the coast, the town of St. Pierre is sufficiently large for the development of commercial and residential land uses, although tourism is the only land use evident on the map. Coastal features such as extensive sandy beaches and water sports at Fond Corré are likely tourist attractions. Responses may recognize other physical influences which are equally valid.

Answers that are generalized and fail to refer to specific places should be allocated a maximum of ***[2 marks]***.
