



MARKSCHEME

November 2004

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 *at least two* river basins, discuss the extent to which management schemes create both benefits and problems. *[20 marks]*

Management of river systems should incorporate strategies, which are multi-purpose, integrated or single purpose. A variety of responses could be expected depending on the choice of examples and approach. Good responses will discuss the ways in which such schemes bring benefits and problems and the choice of examples should reflect this by illustrating such contrasting effects. In the case of benefits these could include – flood control through the construction of dams, barrages, river straightening, deepening, wing dykes, levées and other appropriate strategies. It might be appropriate to discuss the effectiveness of flood control schemes in urban areas like Singapore or to examine the benefits of the central Valley scheme in California. There are a number of problems: large dams can impede the flow of sediment and exacerbate the erosion hazard. In the case of the Mississippi it is possible that engineering works have increased the recurrence intervals of floods and their magnitude. Management in countries like Israel, where there are shortages of water, can have political implications for the surrounding countries. Irrigation schemes, which are often part of integrated projects can cause salinization (Aral Sea). There is a movement in the US to remove large dams and many future projects may focus on eco-management. Rivers may be allowed to follow their own natural regime or soft management practices like afforestation may be employed.

Responses that fail to focus on the benefits and problems associated with such schemes may not move beyond band F.

Responses which discuss only benefits or problems may not move beyond band E. Where only one river basin is referred to, the response may not be awarded marks beyond band E.

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) Evaluate the accuracy of the information shown in the diagram. [6 marks]**

In the upper course responses should note that, in agreement with the model, the course is steep and there is a lot of erosion **but** that the river only flows quickly intermittently. There are lots of convexities in the profile (waterfalls, rapids) and bed roughness levels are high which effectively means that there is lots of water in contact with the bed, hence the average velocity is slow. In the middle course discharge levels are higher and there is still erosion (lateral and vertical) but in general velocity will increase as bed friction is reduced. The river does not start to slow down. In the lower course the river has high levels of discharge, but again the river does not slow. It becomes much more efficient as the channel becomes deeper, wider and there is less friction. There is still erosion here where meanders continually migrate, eroding laterally on the outside of bends.

The model assumes no temporal changes in discharge.

Allocate **[2 marks]** for an accurate evaluation of each stage in the model.

Simple repetition of data from the diagram cannot be awarded more than **[2 marks]**.

- (ii) Describe and explain in detail, one typical fluvial landform located at A and one at B. [6 marks]**

Good responses must describe and explain one landform found typically at A and B. At A responses may use waterfalls, rapids, potholes, V-shaped valleys with interlocking spurs to illustrate their answers **[3 marks]**. At B the descriptions and explanations should focus on levées, floodplains, meanders, oxbow lakes (cut-offs) deltas **[3 marks]**.

- (iii) Using examples, explain how river basin management at A on the diagram can have consequences for people living near B. [8 marks]**

A variety of responses could be expected here, depending on the examples chosen and the approach. Good examples should be chosen to illustrate how people at A may introduce changes, which have consequences for people at B. The nature of the management may bring positive or negative impacts. In the upper course slope management, the development of terracing and afforestation would be appropriate. The Annapurna Conservation Area Project in Nepal is an example and others include endeavours to develop integrated projects. This may result in less flooding downstream and better water quality. Good responses may discuss problems that have arisen with such management – water wars in the Middle East, too many dams as in the Colorado, loss of sediment supply due to dams and subsequent erosion of deltas affecting livelihood – *e.g.* River Nile, River Volta. The chosen examples should be factual and convincing. Where the answer provides only a superficial mention of issues, no more than **[4 marks]** should be allocated.

A2. Coasts and their management

(a) Essay

Using examples of contrasting coastlines, evaluate the different types of strategies that may be employed by humans to manage them.

[20 marks]

Good responses will highlight the contrasting nature of these coastlines. Depositional coastlines are often low lying (but not always) and are characterized by the process of longshore drift, forming drift-aligned beaches, spits, bars, barrier beaches, lagoons, tombolos and cusped forelands. Erosional coastlines are often comprised of cliffs, headlands and bays, swash-aligned beaches, arches, caves, blow holes, wave-cut platforms and stacks. Both coastlines have beaches but they are different in form. The examples chosen may not be readily classified into erosional and depositional – other characteristics may be considered such as high energy and low energy coastlines or emergent and submergent coastlines.

Coastal management techniques aimed at protection should consider cliff-face, cliff-foot and beach strategies. These should distinguish between hard engineering techniques (cliff-pinning, revetments, groynes, gabions, rip-rap and armouring) and soft techniques (beach nourishment, reef-building, mangrove protection and managed retreat). Candidates could also look at management on a broader scale covering a range of management strategies concerned with protecting coasts where there may be conflicts. These might include coasts of ecological interest (sand-dunes, salt-marshes, coral-reefs) and coasts vulnerable to hurricane and tourist impact. They might also consider particular developments such as marine parks, national parks, reclamation projects and recreation schemes. A range of different strategies employed on specific coastlines should be covered with the emphasis on evaluation. Where examples are missing or very thin the response may not move beyond band E. Where the account is purely descriptive, the response 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) Using the map of West Africa, describe and explain the natural processes operating along this section of coastline and the resultant coastal features. [6 marks]**

The responses would be expected to show an understanding of the processes operating along a coastline. The description and explanation should focus on the processes of longshore drift or beach drift (swash and backwash) and the resultant transport of materials from west to east. Good responses will observe that many of the rivers which enter the Bight of Benin have had their courses deflected as a result of deposition at their mouths. A description and explanation of the features shown on the extract, and additionally those which could potentially be formed, would be appropriate. The landforms shown on the map include spits, drift-aligned beaches, lagoons and barrier beaches and cusped forelands. Mention of the Volta delta, which has been formed as a result of the Volta losing its momentum and dropping its load to form an arcuate delta should also be credited. A description limited to either processes or features should merit a maximum of **[3 marks]**.

- (ii) Explain how the action of humans has altered natural processes operating on this section of coastline. [6 marks]**

In this case responses must refer to the evidence from the extract. There are three major ways in which humans have modified the coast resulting in the alteration of natural processes. The construction of the Akosombo dam, which has cut off sediment supply to the coastline. This has caused recession of the delta and limit the amount of material, which can be sourced from here and transported east by longshore drift **[2 marks]**. The sand extraction industry – this directly removes material from the coastal system. When there is less material for the waves to carry more energy can be expended on erosion **[2 marks]**. The construction of the jetty, which is a part of Lomé’s port, acts as a huge groyne, trapping sediment on the updrift side and causing erosion (the waves have more energy) on the downdrift side **[2 marks]**.

- (iii) Using examples, evaluate the various methods that can be used to protect depositional coastlines from erosion. [8 marks]**

To gain full marks responses should cover a number of mitigation techniques appropriate to a depositional coastline. More than one example should be used and the techniques used may include seawalls, breakwaters, rip-rap, gabions, groynes, and armouring techniques. Credit should be given for distinguishing between hard management methods (those mentioned above for example) and soft management techniques like nourishment, recycling, reef building and mangrove management. A maximum of **[4 marks]** should be given for responses which include only one example of a location, or examples which lack appropriate detail.

A3. Arid environments and their management

Either

(a) Essay

Referring to an area of your choice, examine the causes and consequences of desertification. *[20 marks]*

The strongest answers would recognize the complex nature of desertification and go further than simply explaining its causes in terms of overpopulation, overgrazing, overcultivation and deforestation. They would recognize that a number of additional factors also play their part: for example inappropriate government policies, political instability and war, the loss of mobility of nomadic tribes people, international trade that encourages a switch to cash crops, and weak environmental controls. However, the causes should be specific to the example chosen.

Similarly, the consequences would also vary depending on the area under discussion, but responses would be expected to comment on land degradation (loss of topsoil, soil infertility, salinization, erosion following the removal of the vegetation cover), the loss of economic and biological productivity reducing the carrying capacity of the environment. This in turn would lead to hunger and possible out-migration as agricultural practices become unsustainable.

It would not be necessary for an equal weighting of marks to be given to the causes and the consequences – up to *[3 marks]* can be transferred from one part to another. Purely descriptive responses that fail to provide explanations may not move beyond band F. In the absence of a specific example, the response may not move beyond band E.

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) Identify, by naming or describing, *three* of the landforms shown in the diagram. [3 marks]**

The landforms shown are: 1. gorge, canyon, wadi, 2. alluvial fan, 3. mesa, 4. butte, 5. inselberg, 6. dried lake bed, or playa [3 × 1 mark].

- (ii) Referring to the diagram, explain the role of water in the formation of the landscape. [7 marks]**

Responses would be expected to explain that, even in arid climates, water plays an important role in the formation of landscapes. Water is a significant factor in weathering processes [1 mark]. The comparative absence of vegetation cover and the heavy nature of the occasional rainfall episodes results in rapid erosion [1 mark]. Responses should note that once the hard capping rock had been breached, downward erosion by running water would lead to the removal of the less resistant lower strata, giving rise to the erosional features such as the gorge, mesa, butte and inselberg [2 marks]. Running water would also result in depositional features, particularly as the ephemeral streams would carry large loads, giving rise to features such as the alluvial fan and the dried lake [3 marks].

- (iii) Using examples of your choice, discuss the conflicts that arise from increasing competition for water resources in arid or semi-arid areas. [10 marks]**

Responses would be heavily dependent on the examples chosen to illustrate the conflicts, but would be expected to cover most of the following.

Conflict in the LEDCs arises from the increasing demand for water resources associated with economic development, rising population and in some cases increasing affluence.

In LEDCs the conflicts tend most frequently to be confined to the demands of traditional versus cash farmers, with the latter withdrawing resources for irrigation schemes. Other examples that could be considered include the larger-scale schemes introduced by governments to ensure water supplies for urban areas or large-scale agricultural enterprises.

In MEDCs the conflicts arise mainly from schemes that are intended to provide water for the growing urban areas and industrial complexes.

Responses could also mention the political conflicts, particularly where the water resources are shared by different groups or nations.

The marks should be allocated according to the markbands. Responses that fail to provide any examples may not move beyond band E. Responses that are purely descriptive may not move beyond band F.

A4. Lithospheric processes and hazards

Either

(a) Essay

Explain the variations in distribution, characteristics and impact of volcanic hazards.

[20 marks]

Responses will need to show an understanding of the nature and variation of volcanic hazards and how they pose a threat to human life and property. They should discuss global distribution by linking the occurrence of particular hazards to different types of volcanic eruption and their associated plate locations. Specifically, they should recognize the association between destructive plate margins and steep sided or composite cones with a range of possible primary hazards – burning gases and pyroclasts ranging in size from bombs to ash and toxic gas emissions. Their secondary hazards might include lahars, landslides, stratospheric pollution. However, the hazard of fluid basic lava found at hot-spots and constructive plate margins tends to be less threatening. The level of impact reflects the characteristics of the hazard and the vulnerability of the society that is affected.

The best responses will show an understanding of the links between distribution, variation and hazard and make connections between them as indicated above. They will also refer to named volcanic eruptions and would be expected to indicate briefly how each hazard affects humans. Credit should also be given for positive impacts. Responses that make weak links between distribution and variation in type of hazard should 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) Using evidence provided by the photograph, identify *three* factors which may have caused this landslide to occur and give reasons in each case. [6 marks]**

The factors include gravity, the steepening of slope gradient for road construction, the weight of the road, the weight of traffic and its vibration, the clearance of slope above the road, snowmelt and recent rainfall. Accept reference to possible undercutting by a river visible on the right of the photograph. [2 marks] should be allocated for each of the three identifiable factors and its explanation.

- (ii) Select *two* types of weathering and explain how they may contribute to slope instability in general. [6 marks]**

It is acceptable for responses to choose any two types of weathering, presenting broad categories of mechanical, chemical or biological or to choose two sub-types such as freeze-thaw and solution weathering. Reference to the photograph is not required. Allocate [3 marks] to each accurate explanation that links the weathering process to slope instability.

- (iii) Explain why the global frequency of hazardous mass movements has increased in recent decades. [8 marks]**

For [8 marks] responses should produce several well-developed reasons for increasing frequency. Explanations might include the primary cause of increasing population and the demand for space and resources. Secondary causes include urbanization, increase in traffic, the occupation of steep slopes, demand for food and the clearance of slopes for agriculture, slope disturbance through mining activities, the encroachment of transport systems and the expansion of the leisure industry in upland areas.

A5. Ecosystems and human activity

Either

(a) Essay

Explain how human activity can disturb the equilibrium of an ecosystem and describe the strategies humans can adopt to ensure appropriate management. [20 marks]

Responses should refer to a named ecosystem or ecosystems and should show an awareness of the structure of the ecosystem and how it is in a state of dynamic equilibrium. This may be illustrated by a description of the climax community and perhaps the type of nutrient cycling and soil if relevant.

The responses should describe the specific type of activity that has altered the balance within the system and explain how this has changed the functioning of the system in terms of alterations in the structure of the vegetation, soil and, if relevant nutrient inputs, outputs, stores and flows.

Such changes might be caused, for example, by vegetation removal, farming, mining, pollution or the introduction of alien species.

The second part of the question requires answers that apply to the ecosystem(s) mentioned in the first part of the answer. The strategies adopted will depend upon the ecosystem(s) referred to. Responses must clearly describe the management techniques used, how they work and their effectiveness.

Responses that do not refer to a named ecosystem may not move beyond band E. Responses that only discuss disturbances caused by human activity in a general way, and that discuss management techniques in general without reference to specific ecosystems, 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 following terms: *plant succession, pioneer community and climatic climax community.* [3 marks]**

Plant succession – a series of seral stages by which the vegetation of an area develops over time beginning with a pioneer community and ending with the climax vegetation [1 mark].

Pioneer community – the first group of plants to colonize or invade an area [1 mark].

Climatic climax community – the vegetation that is in a state of equilibrium with climate and soil – the natural vegetation [1 mark].

- (ii) Using the diagram, explain how plant successions can be affected by natural and human interruptions. [7 marks]**

In terms of natural interruptions, responses should explain the term subclimax and point out ways in which natural interruptions can occur such as volcanic eruptions, natural fires, temporary climatic changes such as period of drought or longer term climate change such as the onset of colder conditions during ice ages [3 marks].

Human interruptions should be explained in terms of plagioclimax where human activity has permanently altered the vegetation due to deforestation, the plowing up of grasslands, the burning of bush, overgrazing by domestic animals or the effects of pollution such as acid rain [4 marks].

- (iii) Referring to a plant succession you have studied, explain the concepts of invasion, competition and dominance. [10 marks]**

Responses must refer to a named plant succession such as a lithosere, halosere, hydrosere or psammosere. Reference to a succession in an area studied in the field without defining the type of succession is acceptable as long as the concepts mentioned in the question are clearly explained. Responses will depend on the type of succession chosen but should mention the initial colonization of an area by a few highly adaptable species which are small, with a short life, early reproduction and which are highly productive.

Mention should be made of how conditions are improved at each stage of the succession for more demanding species allowing more diverse specialist plants that compete with each other for the same space, so there are smaller numbers of each species but many different species. Competition resulting in the shading out of some species should be included, leading to invasion by dominants that are larger, longer living, less productive and slower to develop but which result in the formation of a stable climax community.

Answers should mention the types of plants that make up each seral stage in the succession to gain top marks. The best answers will most probably include labelled diagrams **[10 marks]**. Responses that fail to name the plant succession may not move beyond band E. Responses that are merely descriptive may not move beyond band F.

The marks should be allocated according to the markbands.

A6. Climatic hazards and change

Either

(a) Essay

Examine the causes of the enhanced greenhouse effect and assess the difficulties in reducing its impacts.

[20 marks]

Causes, impacts and difficulties must all be addressed in this essay, although the attention given to each need not be equally balanced. However, responses which avoid a discussion of one of these three elements should receive a maximum of *[12 marks]*.

Responses should define the enhanced greenhouse effect and explain the atmospheric processes involved in global warming. A well-annotated diagram may substitute for some of the written explanation. They should identify the greenhouse gases, such as carbon dioxide, carbon monoxide, methane, nitrous oxides and CFCs and mention their sources and relative global warming potential.

Responses should identify a range of impacts including global warming, oceanic thermal expansion, ice-melt, sea level rise, coastal flooding and climatic hazards such as droughts and tropical cyclones, and the disruption of ecosystems. Positive impacts should also be credited.

An assessment of difficulties in reducing impacts should recognize the problem of managing the atmosphere as a common resource without international boundaries. Specific difficulties include those of scientific disagreement over the validity of the enhanced greenhouse effect, its gravity, the issue of national responsibility and the international differences in ability to pay for the remedies. This is borne out by the difficulties in reaching international agreements over CO₂ emission controls. Responses that fail to assess most of the difficulties mentioned above, 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 and account for the temperature differences between points *A* (CBD) and *B* (Park) on the diagram. *[6 marks]***

Responses should both describe and give reasons for the thermal contrasts between *A* and *B*. Allocate *[1 mark]* for each description, which includes reference to the data, and *[2 marks]* for each accurate explanation. Explanations for the differences should recognize the underlying effects of contrasting surface features and fabrics in the two areas. Elevated CBD temperatures are caused by the high thermal capacity of buildings and surfaces, low mean wind speeds, and low rates of evapotranspiration. Whereas in the park, the presence of vegetation, instead of buildings will alter these effects and will reduce temperatures.

- (ii) Explain how the following might cause variations in the intensity of this city's heat island:**

- (a) a change in local weather conditions**
- (b) a different time of day**
- (c) a different season. *[6 marks]***

Responses should refer to the city given in this question and the information provided by the preamble. *[2 marks]* should be allocated for each of the three explanations provided that they are accurate and scientific and indicate how the intensity of the heat island is affected. **(a)** A change in local weather conditions would mean a shift from stable, warm, dry and clear anticyclonic conditions to a more disturbed situation with wind and possible precipitation. This would reduce heat island intensity by ventilating the city and dispersing heat-absorbing particulates. **(b)** The heat island effect would be more intense at night due to the high thermal capacity of urban fabrics from which heat stored during the day would be released. The intensity would be less mid-morning when the exposed rural surfaces warm more quickly than urban ones due to their lower thermal capacity. **(c)** The heat island effect would also be more intense in winter when artificial heating systems were operating in the urban area where building density is high.

- (iii) **Using examples, describe and explain how human activities (excluding urbanization) can modify microclimates in rural areas.** **[8 marks]**

Most modifications of rural microclimate are associated with vegetation changes caused by human activities such as agriculture, logging and forestry. Deforestation (as in the case of Rondonia, Brazil) can result in a number of possible modifications including increased wind speed, increased evaporation, reduced humidity and precipitation, higher diurnal temperature range and increased albedo. Whereas afforestation and the construction of shelter belts (as in the case of Great Plains, USA) will tend to produce opposite effects. Other agricultural practices such as overgrazing may increase albedo and reduce soil moisture storage capacity through compaction resulting in reduced air humidity. It would also be acceptable for responses to discuss small-scale modifications produced by glasshouses. Dam construction may cause locally increased wind speeds over reservoirs along with increased evaporation and moderated temperature, depending on prior land use and topography.

For **[8 marks]** responses should discuss in detail the microclimatic effects of at least two human activities although a greater range of activities is also acceptable and breadth may compensate for depth. They should receive no marks for references to urbanization, such as the impact of settlement development on microclimates, but other activities such as airport or motorway construction would be acceptable if set in a rural context. In the absence of examples no more than **[4 marks]** should be awarded.

SECTION B

B7. Contemporary issues in geographic regions

Either

(a) Essay

Using specific examples, examine the problems faced in defining a region.

Evaluate the usefulness of the regional concept.

[20 marks]

Responses should show an awareness of the different types of regions and then discuss the fact that single-feature regions would pose few difficulties, whereas functional or multi-feature regions are more complex and their limits are less easily defined. The concept of distance decay would form an integral part of the process of attempting to draw boundaries in the latter cases, and responses should note that this could make the demarcation of precise boundaries impossible.

The strongest responses, in the examination of the regional concept, probably would make some reference to the growing importance of the value of a region in attempting to make comparative evaluations of levels of development, in understanding the “sense of place” and for political and administrative purposes. However, other assessments could also be accepted.

It would not be expected to allocate the marks equally between the two parts of this question – up to 75 % could be given to either part, if deserved, but any responses that fail to examine the problems, and are purely descriptive, may not move beyond band F.

Responses that fail to use specific examples should not move beyond band E.

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

This question examines the concept of functional regions and the candidate's knowledge of a particular region of their choice.

- (i) Suggest *two* specific economic activities that the linkages might represent. [2 marks]**

The original map actually depicts the links between large banks (in the major central cities) and the smaller “correspondent” banks that they serve in smaller towns. The suggested activities must be economic in nature and must be specific (*i.e.* “agriculture”, or “services” would not be acceptable responses). The range of possible answers is considerable, and might include real estate offices, wholesale/retail outlets and franchise areas. An example of an incorrect suggestion would be airline flights, where many links would be between regions. **[1 mark]** each should be awarded for any two correct suggestions. Please note that these suggestions do not necessarily have to be applicable to the USA or the cities shown, but must be applicable to functional regions, not formal (or homogenous) regions.

- (ii) Explain why the regions shown on the map *either* might or might not be considered functional regions. [3 marks]**

The regions are functional regions **[1 mark]** because the map defines the regions using linkages **[1 mark]**, and therefore the regions cannot be formal (or homogenous) or any other kind of region. Another **[1 mark]** should be awarded for explanations that elaborate on this idea or include evidence demonstrating a clear understanding that “functional” in this context applies to “functions”, as opposed to its everyday meaning of “workable”. A response that does not consider the regions to be functional regions may not be awarded more than **[1 mark]** (for geographical content only) regardless of the explanation attempted.

- (iii) Select a region you have studied. Draw a large, annotated map of this region to locate it and identify its distinguishing characteristics. [5 marks]**

The size of the chosen region might vary, but whatever scale is used, its distinctiveness from surrounding regions should be obvious. Sketch maps should include the following: a title, location, scale and orientation **[4 × 1 mark]**, at least three, clearly indicated distinguishing features with brief annotations **[3 marks]**, a part of each of the adjoining regions **[1 mark]**. In the majority of cases the validity of the example chosen and the information given can be verified. Where authenticity cannot be confirmed, but in every respect the map meets requirements, no penalty should be imposed.

- (iii) Examine the extent to which the contemporary geographical issues of your chosen region result from its physical geography. [10 marks]**

The response should focus upon at least two local geographical issues. An “issue” implies a set of conditions or circumstances that are of local importance and possibly a source of some dispute. An early definition of these issues should be awarded *[2 marks]*. The remainder of the response should examine the relative importance of physical geography upon these issues. “Physical geography” includes climate, relief, soils, natural vegetation and rock type and should be correctly identified. These factors may have consequences for the availability and utilization of natural resources, pollution, and accessibility as well as for human geography of the region. To move beyond band F responses should include a brief examination of the influence of non-physical factors upon local issues. Where physical geography is considered to be relatively insignificant, a full examination is still essential, but the balance of marks may be adjusted with the same maximum allocation of *[8 marks]*.

The marks should be allocated according to the markbands.

B8. Settlements

Either

(a) Essay

Using examples, examine the reasons why re-urbanization as opposed to suburbanization has become a common process in some parts of the world. [20 marks]

Responses should include a clear explanation of the processes of re-urbanization and suburbanization. Both terms should be defined in time and space with suburbanization occurring usually before re-urbanization and the latter process being more typical of the MEDW where urban processes have evolved to an advanced stage.

Very good responses should recognize the link between these two processes using relevant and well-developed examples. Explanation for the evolution and eventual dominance of re-urbanization should cover most of the following points:

The expansion of transport opportunities and the desire of people to leave the congested centre drove the suburbanization process. Prolonged decentralization resulted in depleted and deprived inner city populations, dereliction and poor environments. Re-urbanization has been a response to this inner-city decline and the environmental pressure for redeveloping brownfield sites. Added to this is the overload of transport systems and disillusionment with commuting. The process often involves gentrification and an inflow of private and public investment resulting in regeneration and the creation of prestigious commercial and residential developments. This process is typical of the MEDW where development funds are more readily available.

More sophisticated responses will recognize that there are more anomalies in the succession from suburbanization to re-urbanization and alternative developments such as the edge cities around Los Angeles should be credited. Other valid observations might include the simultaneous occurrence of suburbanization and re-urbanization in one city.

Responses with weak or missing examples should not move beyond band E. Responses that fail to address the sequential links between suburbanization and re-urbanization 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) With reference to the two maps above, describe the shift in the distribution of the world's largest cities between 1900 and 2000. [4 marks]**

In 1900, all of the largest cities in the world were in the northern hemisphere, by 2000, some are also in the southern hemisphere [1 mark]. Europe and North America dominated in 1900. By 2000 southeast and south Asia and South America contained all the top ten cities [1 mark].

In 1900, all the cities lay between 40-60 degrees north. By 2000, many of the cities lie near to or within the tropics [1 mark].

Award [3 marks] for identifying three valid changes and [1 mark] for reference to data given for population.

- (ii) Give reasons for this shift in distribution. [6 marks]**

In 1900, Europe was still engaged in the aftermath of the Industrial Revolution and rural-urban migration still dominated urban growth. USA was developing fast into a world power and the seaboard and industrial cities were growing rapidly. By 2000, European cities have matured and the process of counter-urbanization has balanced out the growth. USA cities may still be growing but not as rapidly as elsewhere.

The cities in the LEDCs are now growing very rapidly through natural increase and they are also attracting people from the countryside into the towns. Award up to [6 marks] for well expressed points.

- (iii) Select one environmental, social, or economic problem that has arisen in a rapidly growing city. Evaluate the effectiveness of any solutions applied to the problem you have selected. [10 marks]**

The city must be identified and known to be growing rapidly either in population or areas, or both. It will probably (but not necessarily) be an LEDC. The problem needs to be valid for the particular city chosen. Air quality and water quality and waste disposal are valid environmental problems for many growing cities in the world. Housing quality and under-employment are valid social and economic problems. Give credit for any other valid problem.

Responses that clearly identify problems in a valid, growing city of the world may be awarded up to [5 marks] but those that fail to evaluate the effectiveness of the solutions may not move beyond band F.

Responses that lack discussion of a specific problem and/or city may not move beyond band E.

The marks should be allocated according to the markbands.

B9. Productive activities: aspects of change

Either

(a) Essay

The factor of distance is no longer relevant in determining agricultural land-use patterns from the local scale to the global scale.

To what extent do you agree with this statement?

[20 marks]

Model responses will refer to how land use has been influenced in the past by the friction of distance and would ideally use Von Thünen’s model to illustrate their point. In more recent times, the changes in the cost and increased efficiency of transport over long distances have made distance increasingly irrelevant. Bulk transport, technological change, changing fashions and patterns in eating habits mean that food no longer needs to be grown near to its market.

Responses will undoubtedly conclude that in the modern world distance is of reduced importance. They may however identify the continued importance of proximity to a market for poorer and less technologically advanced societies. Also communities confined by physical barriers or political issues, such as war, find distance significant. Any responses that identify some of the main issues but lack exemplification and depth, may not move beyond band F.

Essays that provide evidence of where the statement is not true will access the highest bands.

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) Identify *three* characteristics that show how the economy of the country in 1970 is typical of a LEDC. [3 marks]**

The main features are: no tertiary industry, a small manufacturing input, a heavy reliance on primary products from farming and mining and a low total value.

Any of these or an alternate, valid point can be used to earn up to [3 × 1 mark]. Award a maximum of [2 marks] if no reference is made to specific data.

- (ii) Suggest reasons why a country, such as the one shown in the diagram, moved into manufacturing industry so successfully. [5 marks]**

The possible answers include: cheap labour, political stability, governments actively attracting international firms with cheap rents and other incentives such as tax free zones, well established infrastructure, *e.g.* communications, good geographical location for export, a history of commerce and/or trading, a well educated or compliant workforce who will easily learn new skills and plenty of land for the development of industrial estates.

Any of the above or appropriate alternatives are acceptable. Award [5 × 1 mark].

- (iii) Using specific examples, examine the reasons why companies in the manufacturing sector choose to relocate at an international scale. [12 marks]**

It is expected that most if not all of the following factors will be identified – resources, market, labour, government support/intervention, impact of globalization, lack of pollution controls and organised unions on the re-distribution of industry.

Responses that fail to provide examples or the examples are poor may not move beyond band E.

Responses that fail to examine the reasons may not move beyond band F.

The marks should be allocated according to the markbands.

B10. Globalization

Either

(a) Essay

Mass tourism always brings social and economic benefits to the host population in the countries of destination.

Evaluate this statement.

[20 marks]

Several different approaches could be expected, but all should address the two main issues: an evaluation of the social benefits and an evaluation of the economic benefits. Marks need not necessarily be equally divided between these two issues, but both should be addressed.

It would be expected that social benefits would include the exposure of the host population to different cultures, values and customs, all of which could be of benefit in broadening horizons. Economic benefits could include increased investment, greater employment opportunities, improvement of the infrastructure and an increase in foreign exchange. However, the negative aspects should also be considered (such as the dilution of local cultures and traditions, the increase in crimes such as prostitution and drug addiction, the restriction of access to local beaches, environmental pressures and pollution, the hike in prices and the transfer of profits offshore). Responses would be expected to conclude whether, on balance, the positive elements outweigh the negative elements. The strongest responses would examine this issue with reference to different examples or case studies. Candidates may come to the conclusion that, where mass tourism occurs within the economically developed world, the social impacts would be minimal, whereas the economic impacts would be important but with fewer negative aspects. Cultural impacts may be more important in the less developed world.

Responses that fail to attempt any evaluation would not move beyond band F but no penalty should be imposed if a strong case is presented, either for or against tourism provided both sides of the argument are considered.

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) Refer to the diagram. Explain why the *total* value of cultural imports is greater than the combined total values of the “big four” countries (USA, UK, Germany and France) and the LEDCs. [2 marks]**

Candidates would be expected to note that only a selected few of the MEDCs are shown, which would account for the discrepancy [1 mark]. Some examples of countries left out would account for the remaining [1 mark].

- (ii) Describe the trends shown in the diagram. [3 marks]**

The trends indicate an overall increase in imports [1 mark], but there is an anomaly in the recent decrease in imports of the LEDCs [1 mark]. Any quantification of the trends should be allocated the remaining [1 mark].

- (iii) Provide an explanation for these trends. [5 marks]**

A number of reasons for the trends could be given, but would probably include most of the following: an increase in disposable income, greater leisure time, more and easier access to computers and televisions, the growth of the Internet, increased advertising and also the growing adoption of English as a universal language. A detailed explanation of some, but not necessarily all, of these reasons should be allocated [4 marks]. The remaining [1 mark] should be given for some explanation of the anomaly noted in LEDCs, namely that their relative purchasing power has declined.

- (iv) Referring to examples, discuss the positive *and* negative impacts of imported cultural goods on LEDCs. [10 marks]**

The responses should consider both the positive and negative aspects of importing cultural goods into the LEDCs. Positive factors that could be discussed would be the spread of computer technology and software that has created employment in the processing of information and elsewhere in the tertiary sector, the ability to “out-source” work into the LEDCs where costs are lower, and the globalization of English through software, films and music. Negative factors could note the way in which traditional values, cultures and societies are challenged by access to western films and media.

While both aspects should be mentioned, a strong argument presented either in favour of, or against the import of cultural goods, should be accepted as a valid response, but purely descriptive accounts may not move beyond band F. Responses that fail to provide examples may not move beyond band E.

The marks should be allocated according to the markbands.

SECTION C

C11. Topographic mapping

- (a) Calculate the area of the map extract in square kilometres. [2 marks]**

The area shown in the extract is 36 km² [2 marks].

- (b) State the direction the camera was pointing when the photograph was taken and give some indication of the time of day at which it was taken, briefly justifying your answer. [3 marks]**

The camera was pointing south-west [1 mark] and the photo was taken some time between noon and 14.00 and valid justification related to shadow directions should be accepted [1 mark].

- (c) Describe the main relief features of the area and explain the influence they have on communications. [7 marks]**

The area consists of an undulating area with incised valleys and a generally cliff-lined coast with coves and beaches [3 marks]. A further [1 mark] should be allocated to some indication of altitude (for instance, the plain lies at an altitude of 70 to 80 metres). Communication is restricted by steep-sided valleys in the coastal zone and major roads run parallel to the coast further inland on the plain. There are exceptions to this pattern; in the case of the railway which follows the valley of Knightson Brook and the B4318 (road) which follows a ridge. For [3 marks] responses would be expected to note these relationships with some brief explanation.

- (d) Using only evidence from the map and the photograph, consider the possible town planning problems associated with further urban expansion. [8 marks]**

The strongest responses would be expected to discuss the impossibility of additional building in the area already occupied by Tenby (lack of open space; site physically constrained by cliffs on three sides) [2 marks]; the lack of flat ground on the outskirts of the town (except to the south-west where flooding is a danger) [2 marks]; the problem of access to the centre of Tenby with increased traffic (only three roads entering the town; very narrow roads within the town) [3 marks]. The remaining [1 mark] can be given for an elaboration of these points or any other valid comment. It is also possible, however, that other valid problems could be covered and these should be rewarded, but it is important that the reasoning is based solely on map and photographic evidence.
