



# **MARKSCHEME**

**November 2010**

**GEOGRAPHY**

**Higher Level and Standard Level**

**Paper 2**

26 pages

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## SECTION A

### A1. Drainage basins and their management

*Either*

(a) Essay

**Using examples, examine how erosion and deposition have created distinctive fluvial landforms.** *[20 marks]*

Candidates are likely to choose landforms such as waterfalls, rapids, ox-bow lakes and meanders for erosion, and deltas, flood plains, levees and braided channels for deposition. Note that some, such as meanders and ox-bows, are the result of both erosion and deposition.

Candidates could use annotated diagrams to show how landforms have been created. They should also comment on the distinctive nature of the landform. This should include a detailed description of the features.

A detailed examination of a limited number of landforms might be as successful an approach as looking at a larger number of landforms in less depth. Alternative approaches such as organizing the essay by processes are equally acceptable.

Answers that only examine either erosion or deposition should not move beyond band D. Candidates that cover erosion and deposition, and refer to the “distinctive” nature of the landform and include examples, are likely to be credited at bands E/F.

Marks should be allocated according to the markbands.

*Or*

**(b) Structured question**

**(i) Identify the place (A, B or C) where each of the following impacts occur and justify your choice:**

**(a) reduction of flood risk, [2 marks]**

Reduction of flood risk at C – since excess water is stored in the reservoir behind B.

**(b) hydro-electricity (HEP). [2 marks]**

HEP at B – as there is a large head of water and a large volume of water to drive the turbines.

**(ii) Explain two of the six disadvantages of dam construction shown on the diagram. [3+3 marks]**

Increased downstream erosion is one such disadvantage. This occurs because the river deposits its load in the reservoir behind the dam. Downstream of the dam the river has very little load and so it has the potential to pick up more material. This increases rates of erosion downstream from the dam.

Increased coastal erosion may occur as less material is carried by the river (a high proportion is deposited in the reservoir). Therefore there is less material entering the coastal system (less input of sediment). If coastal erosion continues, the coastline will retreat as there is less input to balance the material lost to coastal erosion.

Credit any two of the six disadvantages explained.

**(iii) Referring to specific case studies, discuss how drainage basins can be managed to provide water for different types of users. [10 marks]**

There are many types of users, including urban domestic users, recreational users such as swimming pools and golf courses, industrial users, hydro-electric power stations, farmers and navigators.

There are many management options. These include construction of large-scale dams; terraces; check dams and diguettes in poor countries; afforestation schemes; groundwater recharge; mixing of fresh water and salt water for non-potable uses of water; desalination; different types of irrigation such as drip-irrigation; metering in urban areas; recycling of water; increased water collection and storage.

The number of users and management options discussed will depend on the case studies chosen. A minimum of two case studies is required to move beyond band D.

Marks should be allocated according to the markbands.

**A2. Coasts and their management***Either***(a) Essay**

**Referring to one or more examples, examine the physical and human factors that determine the management strategies adopted in a coastal zone. [20 marks]**

The answer should identify several management options; these will range from ambitious and costly schemes involving structural engineering to a passive approach of doing nothing. The type of scheme adopted is dependent upon the urgency and scale of the problem and its expected outcomes. Both physical and human factors should be identified, and a good answer accessing markbands E/F will examine several physical and several human factors.

Physical factors include:

- The level of risk of erosion and flooding
- The resilience of the coastline, which is determined by its geomorphology, geology and exposure to climatic hazards
- Wave energy and direction
- The current rate of recession
- The natural processes and the extent to which they can be controlled
- Natural resources potential
- Environmental outcomes of protection schemes.

Human factors include:

- Population density
- Coastal land value
- Coastal land use
- Amenity value of coastal features
- Recreational value
- National/regional priorities in spending
- Cost benefit analysis.

Examples are a specific requirement, hence they would be expected in those answers achieving band D and above.

Marks should be allocated according to the markbands.

*Or*

**(b) Structured question**

- (i) Referring to the photograph, briefly describe *two* physical factors that have affected this cliff-face. [2+2 marks]**

Award [2 marks] for any two of the following, with a brief description of the effect of each on the cliff-face [2 marks]:

Geology, weathering, mass movement, undercutting and erosion.

There may be other valid factors, but there must be photographic evidence.

- (ii) Describe and explain the variation in the size of particles found on beaches. [2+4 marks]**

The description should cover a range of particle sizes from coarse to fine [1 mark] and may refer to variation within one beach or between several [1 mark].

There are several possible explanations for variation in size:

Wave energy – coarse particles may be stranded at the back of the beach during storm events when percolation allows only fine material to be transported by the weakened backwash. The result is a graded cross-profile to the beach. This may vary seasonally with finer materials, such as sand, being eroded when high energy waves dominate.

Sediment sources – large particles, such as boulders and cobbles, are often found at the cliff foot where they have not yet been subject to the processes of transport and attrition. Sandy beaches are typical of low-lying coastlines backed by sand-dunes or weak cliffs of unconsolidated geology. Fine fluvial deposits such as silt are found close to river mouths.

For [4 marks] there should be at least two explanations given. Other explanations may be valid and should be credited.

- (iii) Using examples, examine the impacts made by humans upon the natural processes and features of coastlines. [10 marks]**

Coastlines are often zones of intensive human activity and impacts may be deliberate or unintentional. Modification of the coastline by hard defence systems may reduce wave energy and prevent cliff recession, but these structures may also interrupt longshore drift causing down-drift sediment starvation. Other human impacts which expose coastlines to erosion include dam construction and mangrove destruction. Human impacts may also be positive such as beach replenishment, sand dune conservation and land reclamation, all of which maintain natural processes and conserve features.

To achieve markbands E/F, the answer should refer to at least two types of human impact, at least two specific coastal locations and the resulting modification of natural processes and features at each one.

Marks should be allocated according to the markbands.

### A3. Arid environments and their management

*Either*

- (a) **Examine the relationship between vulnerability to desertification and levels of development.** *[20 marks]*

Answers should show an understanding of “vulnerability to desertification” and of the term “desertification” as the degradation of land in arid and dry sub-humid areas, resulting from destructive human activities and influenced by climatic variations.

There are varied definitions and any accurate one should be accepted. Answers that refer to desertification simply as the growth or spread of deserts should not be credited.

An awareness of the types of area and parts of the world that are vulnerable should be shown. The majority of these should be recognized as semi-arid areas, some of which are in LEDCs and some in MEDCs.

Answers might state that many of the causes of desertification are more prevalent in LEDCs, thus making them more vulnerable. Such causes should be stated and explained and may include population growth, farming in marginal areas, overgrazing, deforestation, monoculture, refugee movements, misuse of water, salinization, over-cultivation and other farming practices leading to soil erosion or land degradation. References to impacts are acceptable but not essential.

Not all of these causes are necessary in order to reach the top markbands.

Answers should also examine areas in MEDCs where some of these causes are also leading to desertification. The vulnerability of semi-arid areas to desertification through climate change is relevant but not essential to a good response.

Vulnerability is also related to the ability to counter desertification, and answers should look at variations in the ability of LEDCs and MEDCs to employ prevention, conservation and restoration measures, and could include the ability to respond to changes in climate that exacerbate the desertification process.

Although examples are not a specific requirement of the question, they would be expected in those answers achieving bands D and above.

Answers that do not refer to vulnerability of both LEDCs and MEDCs should not move above band D.

Marks should be allocated according to the markbands.

*Or*

**(b) Structured question**

- (i) Name and briefly describe these *two* arid landforms. [4 marks]**

Photograph A – Accept salt flats / playa / playa lake for [1 mark].

Photograph B – Accept seif dune or longitudinal dune for [1 mark].

The additional [1+1 mark] in each case should be awarded for a valid descriptive statement. Accept also statements that refer to the formation of each feature.

- (ii) Explain the natural processes responsible for the transport of weathered materials in deserts. [6 marks]**

Answers should refer to both wind and water as agents of transport.

A more detailed description of one agent should still be able to access full marks.

Answers that explain the role of only wind or water should not be awarded more than [4 marks] and this only when a full explanation is given.

The role of wind as a transport agent depends on wind velocity, turbulence and grain size, and involves the processes of saltation and creep as well as suspension.

Intense rainfall, resulting in flash floods, should be recognized in terms of its ability to move large amounts of material. These high energy conditions are short-lived in terms of both time and distance. Good responses may distinguish between high energy channel transport in canyons (arroyos/wadis) and successively lower energy zones such as alluvial fans, bajadas and playas in terms of the speed of transport and size of materials. Not all of the above points are required for the award of [6 marks].

- (iii) Examine the conflicts arising from *either* mineral extraction *or* tourism in specific arid *or* semi-arid regions. [10 marks]**

Answers must refer to specific named and located examples in **either** arid **or** semi-arid areas, though answers that refer to both semi-arid and arid areas should be credited.

If answers refer to both tourism and mineral extraction, then only one of these should be credited (the one to which you would award the highest mark).

Conflicts from mineral extraction may involve 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 mining itself, including power production and transport. Heavy vehicles breaking through the fragile surface of such areas may lead to accelerating wind erosion or rain gullyng.

The conflicts involved are largely dependent on the areas chosen.

Tourist 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, and recreational demands that make water more expensive and divert it from traditional uses, such as irrigation systems or oasis farming, resource consumption and excessive water pollution.

Social conflicts may also be considered in either case as long as they are relevant to the specific arid areas.

Examples are a specific requirement of the question, hence they would be expected in those answers achieving band D and above.

Marks should be allocated according to the markbands.



#### A4. Lithospheric processes and hazards

*Either*

(a) Essay

**Examine how the locations of volcanoes affect human responses to them. [20 marks]**

There are a number of approaches to this question. It is likely that good answers will look at locations in relation to the type of plate margin and also in relation to the level of economic development. In areas where there are effusive eruptions, such as hot spots and divergent margins (fluid or basic lava), the responses will differ from those which are located at destructive plate boundaries. In rift valley zones or hot spots, eruptions are more frequent and tend to be relatively gentle, and responses tend to reflect greater knowledge of impacts and mitigation techniques may be relatively straightforward – diverting flows, such as evacuation from lava flows. The magnitude and explosive nature of volcanoes on destructive margins (acid or viscous lava) requires better management and more radical responses. Examples may be chosen to illustrate this. The nature of the response will also be determined by the level of economic development of the country in which the volcanoes are located. It is likely that stronger answers will refer to specific examples of volcanic eruptions in selected countries and relate response to development levels.

Alternative approaches, such as looking at tourism, types of agriculture, mineral extraction, hydrothermal activity and other reasons, and examining these responses, may be equally valid.

Although examples are not a specific requirement of the question, they would be expected in those answers achieving band D and above.

Marks should be allocated according to the markbands.

*Or*

**(b) Structured question**

- (i) Describe the pattern of the liquefaction hazard shown on the map. [2 marks]**

The greatest risk from the hazard appears to be in coastal areas [1 mark] and decreases with distance inland towards the Hayward fault (or increases with distance from the fault towards the coastline) [1 mark]. One of these points plus some reference to the percentage of the area predicted to liquefy would also gain full marks.

- (ii) Define and briefly explain liquefaction. [4 marks]**

Liquefaction is a decrease in the cohesion and stability [1 mark] of the soil or unconsolidated materials [1 mark] resulting in increased liquidity. As a result of earthquakes, the soil becomes a viscous fluid creating problems with any structures. This phenomenon of liquefaction can cause excessive displacements of the ground. Building foundations can slide or unevenly settle [2 marks]. Alternative approaches, such as focusing entirely on the causes of liquefaction in detail, are acceptable.

- (iii) Distinguish between primary and secondary earthquake hazards. [2+2 marks]**

Primary hazards are associated with the earthquake event itself and occur at that time [1 mark]. They include shaking ground, subsidence and uplift of land, and the collapse of buildings, bridges, freeways and overhead cables [1 mark].

Secondary hazards are a consequence of primary hazards and occur after the event [1 mark].

They include fires, disease, contaminated water, landslides and tsunamis [1 mark].

Some hazards may be justifiably classified as either primary or secondary and include liquefaction, tsunamis and avalanches.

- (iv) Compare human responses to earthquakes in countries with contrasting levels of development. [10 marks]**

It would be expected that candidates use appropriate and relevant examples here to illustrate differences in response. In countries with higher levels of socio-economic development, reference may be made to preparedness or mitigation, response to the event and recovery from the event. Good answers should refer to techniques and planning used. Seismographs, tilt-meters, (a) seismic design in buildings, seismic gap theory, recurrence intervals, evacuation procedures, insurance, education and urban planning are some of the responses which may be cited. In LEDCs the responses are likely to be different. There is less use of modern technology and secondary effects may be longer-lasting. There is often a heavy reliance on outside aid.

Although examples are not a specific requirement of the question, they would be expected in those answers achieving bands D and above. Answers including specific comparison of the responses are likely to be credited at bands E/F.

Marks should be allocated according to the markbands.

**A5. Ecosystems and human activity***Either***(a) Essay**

**Examine the relationships between climate and structure, function and human activity in *one* specific ecosystem.** **[20 marks]**

The answers given to this question will be dependent upon the selected ecosystem. The answer should focus on an examination of key relationships between climate and the other variables. The type of climate should be specified, and the salient links to the structure of the ecosystem, how it functions, and the nature of human activity.

It is likely that rainforests may be the ecosystem of choice; however there are many other viable alternatives at a variety of scales. It may be that an ecosystem is chosen at a small scale, perhaps where a candidate has carried out fieldwork – coastal dunes for example. If rainforests or ecosystems on a broader scale are chosen, the answer should show a clear understanding of the relationships. The climatic effects of rainfall and sunlight on the structure of the forest (height of trees, canopies, leaf form, lianas, epiphytes), soils, nutrient cycling and the ways in which humans utilize the forest should be examined.

Not all of the above are required for an answer to reach band F, but answers should examine all of the relationships although not necessarily in equal depth. Answers that cover fewer relationships, such as only structure and human activity, should not move above band D. Answers that offer explicit examination are likely to be credited at bands E/F. Omission of one *specific* ecosystem or weak examination of the relationships will be self-limiting and such answers may only achieve a maximum of band D.

Marks should be allocated according to the markbands.

*Or*

**(b) Structured question**

- (i) Describe the changes in vegetation cover in the area shown. [4 marks]**

Award [3 marks] for three valid points referring to both pattern and trends in vegetation cover. An additional [1 mark] should be allocated for quantification.

- (ii) Explain how the concepts of invasion, competition and dominance may have played a role in the changes which have taken place. [2+2+2 marks]**

**Invasion** of species depends on conditions created by earlier colonists (plant species). In this case, the conditions created by the shrubland (organic matter, shelter), for example, may have modified the environment so as to increase the competitive ability of species which are then able to invade, displace and succeed them – the various types of forests [2 marks]. **Competition** for space, light and nutrients results in some species gaining ground at the expense of others [2 marks]. Succession proceeds toward dominance in terms of number, size, productivity or biomass by longer-lived species and this is clearly seen here by the **dominance** of the woodland species by 1979 [2 marks]. Other valid points may be credited.

- (iii) Discuss the differences in the conservation strategies used in one grassland ecosystem and one forest ecosystem. [10 marks]**

To answer this question, two specific ecosystems (biomes), one grassland and one forest, should be chosen. Contrasting the conservation strategies is central to producing a good response. The strategies may include forest management, reforestation, sustainable tourism, community based initiatives, sustainable logging, species protection and many other viable alternatives. The strategies may contrast in terms of their success but should be explicit and show specific and real knowledge of the chosen examples. A discussion of both ecosystems is required to access bands E/F.

Answers that include relevant and located examples are likely to be credited at band D and above. Answers including specific comparison of the strategies are likely to be credited at bands E/F.

Marks should be allocated according to the markbands.

**A6. Climatic hazards and change**

*Either*

**(a) Essay**

**“Droughts are more predictable, but their impacts are less serious than tropical cyclones (hurricanes).” Discuss this statement. [20 marks]**

This open-ended question should encourage some critical reasoning about two very different climatic events. Candidates may choose to either agree or disagree with the statement, provided their reasoning and arguments are sound. All kinds of impacts (human, property, economic, social, environmental) may be considered.

Stronger answers are likely to discuss the reasons why droughts can be predicted further ahead of time than tropical cyclones, as well as the reasons why the precise path of tropical cyclones can rarely be predicted entirely accurately. The concept of severity of impacts may be discussed either in terms of spatial extent or in terms of human or economic consequences. It may equally be discussed in terms of temporal variations between droughts (the most severe of which are long-term) and tropical cyclones. The strongest answers are likely to consider most of these aspects.

Answers including explicit discussion 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 shown on the map for 1983–85. [3 marks]**

Answers should identify a core area of high acidity [1 mark] (extending southwest from the Great Lakes), surrounded by rings of progressively lower acidity [1 mark]. Award the final [1 mark] for any quantification. Note that the correct identification of places is not required for the award of full marks.

- (ii) Suggest three reasons for the trend shown by the three maps. [3 marks]**

The trend is one of decreasing acidity. Award [1 mark] each for up to three reasons. Possible reasons include: a reduction in industrial or power output between 1983–85 and 1995–97; Government restrictions on the emissions causing acid deposition; the employment of cleaner technologies reducing the emissions at individual industrial plants; the substitution of polluting raw materials with cleaner alternatives. Other valid suggestions, including possible natural sources of acidity such as forest fires, should also be credited.

- (iii) Explain how a volcanic eruption may cause temporary changes in global climate. [4 marks]**

Volcanic eruptions often eject particulates (aerosols) into the troposphere and stratosphere. These particulates will have several temporary effects on climate, including the formation of dust veils absorbing and back-scattering incoming radiation, and an increase in the availability of hygroscopic particles in the atmosphere, thereby increasing the likelihood of condensation and precipitation. Volcanic particulates are also thought to be responsible for the depletion of ozone in the lower layers of the stratosphere, contributing to the formation of ozone holes. The changes are temporary because eventually the volcanic particulates settle out of the atmosphere and are deposited back on the land or in the ocean. Volcanic dust settling on ice will reduce the ice's albedo and tend to increase its rate of melting.

Award [1 mark] for each valid statement made, reserving the final [1 mark] for some comment about why the changes are only temporary and not permanent.

Marks should be allocated according to the markbands.

- (iv) **Examine the reasons for variations in the intensity of urban heat islands.** *[10 marks]*

The intensity of urban heat islands will vary in time and space, and both aspects should be considered in the best answers. The spatial extent of urban heat islands will change as cities grow and expand, and will reflect areas of high density buildings, the location and size of urban parks, and the number and type of transport used by the city's inhabitants, as well as the city's latitude and local site conditions. Urban heat islands tend to be more significant in winter months than in summer, under anti-cyclonic conditions, and are more pronounced in the early morning than in the late afternoon. There will be a regularity to both their diurnal and seasonal development. Urban heat islands will increase in intensity with time, if cities increase in size.

Answers reaching the higher markbands should examine a range of reasons, though some reasons may be treated more superficially than others. They should also demonstrate a clear understanding not only of the formation of urban heat islands, but also of the reasons why they vary greatly in intensity.

Marks should be allocated according to the markbands.

**SECTION B**

**B7. Contemporary issues in geographical regions**

*Either*

(a) Essay

**“The contemporary geographical issues of regions are usually caused by their physical geography.” Referring to examples, discuss this statement. [20 marks]**

The degree of influence of physical geography on contemporary geographical issues will depend on the examples chosen. The physical geography and contemporary geographical issues of the examples discussed must be described and/or explained accurately for answers to reach bands E/F.

Most contemporary geographical issues are likely to be at least partly due to human, economic or social factors as to physical geography. Some may be due to external factors which the region is unable to control or influence in any meaningful way.

It is equally acceptable for answers to conclude that physical geography is irrelevant to contemporary geographical issues, as for them to conclude that a region’s physical geography is a prime cause of its contemporary geographical issues.

The discussion should be based on more than one region. Answers that discuss only a single example/region may not be credited beyond band D.

Marks should be allocated according to the markbands.



*Or*

**(b) Structured question**

- (i) State how many minutes travel time is required to travel to the hospital from Villarluengo. [1 mark]**

Award [1 mark] for either 43 or 44 minutes (the units are not essential for the mark).

- (ii) Describe the pattern of accessibility to the hospital shown on the map. [4 marks]**

The general pattern is that it takes much longer for places in the northwest than in the southeast of the region because the hospital is located in the southeastern part of the region [1 mark]. Award a further [1 mark] for any example or examples and [1 mark] for referring to the concept of distance decay or to the gravity model. The final [1 mark] is reserved for further development or mention of any anomaly, such as the fact that travel from the south and east is faster (a greater distance can be covered in 15 minutes) than from the north or west.

- (iii) By means of an annotated map only, identify the defining characteristics of your local region and its boundaries. [5 marks]**

The precise mark balance may be varied at the discretion of the examiner, depending on the region chosen, but up to [2 marks] should normally be reserved for the accuracy of the map and its boundaries, with a further [3 marks] allocated to the annotations identifying the defining characteristics of the region and its boundaries. No credit may be given for written material which is not either on the map, or clearly linked to it by means of a key, arrows or similar means.

- (iv) Discuss the essential differences between a geographical region and a geographical place. [10 marks]**

Answers should discuss the idea that a place is a single geographical entity, whereas a region is an area of places which share some characteristic or characteristics. There are many different kinds of region, and answers may choose to focus on only one kind, such as formal regions, or discuss several different kinds. Either approach may receive full marks provided that sufficient depth of knowledge of places and regions is demonstrated. The best answers may use developed examples to illustrate the main points, but an entirely theoretical approach may also be awarded full marks, if the ideas are clearly expressed and well developed.

Marks should be allocated according to the markbands.

**B8. Settlements**

*Either*

**(a) Essay**

**“Urban areas in countries with different levels of development share similar problems.” Discuss this statement. [20 marks]**

Candidates may interpret “different levels of development” either in terms of rich and poor countries (economic) or in terms of the HDI or other valid ways of distinguishing levels of economic, social or cultural development.

The problems may include the impacts of selective out- and in-migration, formal and informal enclaves (such as shanty towns, slums and edge cities), unemployment, industrial decline, environmental problems (dereliction, congestion, waste disposal and water and air quality), and social inequalities (ghettos, slums and crime). These are not separate problems but are often interlinked.

Candidates should compare and contrast urban areas at different levels of development and identify both similarities and differences. Answers which do this are likely to be credited at bands E/F.

If the cities are chosen from countries that have similar levels of development, the answer may only achieve a maximum of band D.

Marks should be allocated according to the markbands.

*Or*

**(b) Structured question**

**(i) State the minimum urban population of settlement A in:**

**(a) 1970,** **[1 mark]**

200 thousand.

**(b) 2000.** **[1 mark]**

Over 1000 thousand (1 million).

**(ii) Define the following terms:**

**(a) urban growth,** **[1 mark]**

Urban growth – the increase in the number of people living in urban areas *or* the physical growth of the urban area.

**(b) urbanization.** **[1 mark]**

Urbanization – an increase in the *proportion* of people living in urban areas.

**(iii) Using evidence from the diagrams, describe *three* changes relating to urban settlements in South Korea between 1970 and 2000.** **[6 marks]**

Award **[2 marks]** for each of three distinct changes supported by evidence from the map. Changes include an increase in the number of cities, an increase in the size of individual cities, and spatial changes such as increased urban clustering in the north-west and greater dispersal nationally.

**(iv) Referring to located examples, discuss the changes that are taking place on the periphery of cities.** **[10 marks]**

Candidates may interpret “periphery” either narrowly, as the edge of a built up area, or more widely, to include rural-urban fringe, green belts and commuter zones. Either interpretation is equally valid.

Changes on the periphery of cities may include:

- Less open space, forest and cultivated land
- Settlement – edge cities, commuter villages and other forms of residential development, informal settlements (squatter settlements, shanty towns)
- Retailing – out-of-town shopping centres
- Industry – out-of-town industrial estates and science parks
- Recreation – sports grounds, parks, nature reserves, golf courses, plant nurseries
- Transport – ring roads, motorway intersections, junctions, new train stations, bus stations, airports
- Public utilities – waste treatment and disposal.

Candidates need not discuss all of these changes but the approach must be analytical. Answers discussing a limited number of changes in depth can access bands E/F. Examples are a specific requirement of the question, hence they would be expected in those answers achieving band D and above.

Marks should be allocated according to the markbands.

**B9. Productive activities: aspects of change***Either***(a) Essay**

**Using examples, analyse the emergence of high wage core areas and low wage periphery areas at a global scale. [20 marks]**

Answers should show an appreciation of the location of global high wage core regions and some understanding of their emergence, first as major manufacturing areas that monopolized invention, innovation and production by skilled labour. Rising living standards resulted in high wages while industrial processes became more mechanized making the availability of cheaper unskilled and semi-skilled labour a major locating factor. High wage core areas therefore began to emerge concentrating more on research, development and services, all requiring high levels of education and demanding high wage levels. As production methods become more routine and skill requirements drop, industries “filter down” to areas where cheaper labour is available. These areas require high levels of capital investment from the high wage core areas. TNCs have been the main driving force in moving routine production operations to areas where cheap labour is available, resulting in the emergence of low wage manufacturing regions. Improvements in transport, lower relative transport costs, and improved communications have allowed this relocation of industry to take place. The high wage core areas are now the location for the headquarters of the world’s largest TNCs and financial institutions.

Answers should include examples of high wage core areas such as North America, Western Europe and Japan, and low wage manufacturing regions such as South and South East Asia, in order to reach bands E/F. Examples of individual TNCs that operate in both types of area are also valid.

Answers that refer to other advantages for TNCs and their host countries as reasons for the emergence of low wage manufacturing regions should be credited. Answers which focus on primary activities are likely to be self-limiting.

Marks should be allocated according to the markbands.

*Or*

**(b) Structured question**

- (i) Describe *one* similarity and *one* difference in the value of agricultural production for the world and LEDCs from 1965 to 2005. [2+2 marks]**

Similarities include:

- rising value of agricultural production
- fluctuations over time

Differences include:

- accelerating rate of increase in LEDCs

Award [1 mark] for each valid similarity and difference and [1 mark] if each is correctly identified.

- (ii) Explain *three* reasons for the rise in agricultural production in developing countries. [2+2+2 marks]**

Award [2 marks] for each of any three valid reasons, but in each case a brief explanation as to how it has caused production to rise should be given. Valid reasons could include land reform, the Green Revolution, improved irrigation and water management, soil conservation measures, the use of appropriate technology, improved access to markets, training of farmers, and better credit systems.

- (iii) Evaluate the need for more sustainable agriculture in MEDCs. [10 marks]**

Some understanding of the term *sustainable agriculture* should be demonstrated.

Answers should mention examples of practices that are not sustainable and that result in environmental degradation. These might include the use of chemical fertilizers, monoculture, over-emphasis on productivity and profit, intensive animal farming, and agribusiness. Answers should judge the severity of the effects of such practices and evaluate whether more sustainable methods, such as organic farming, should be introduced. It is also acceptable to conclude that sustainable methods might cause a fall in production or a rise in prices and therefore reject the need for more sustainable agriculture. Examiners should be flexible in view of the wide variety of possible approaches. Answers that simply describe unsustainable practices and sustainable solutions without evaluation should not move above band D.

Marks should be allocated according to the markbands.

## B10. Globalization

*Either*

(a) Essay

**“The growth of international tourism in LEDCs brings short-term benefits, but long-term problems.” Discuss this statement with reference to examples. [20 marks]**

The approach, structure, and argument may vary, and credit should be given for a comprehensive answer covering a range of benefits and costs. The classification and distinctions between long and short-term are flexible.

The short-term economic benefits of tourism in LEDCs include an influx of foreign currency and tourist revenue which boost the local economy. In the longer term, tourism may be used as a development strategy in LEDCs and may contribute significantly to GDP.

The socio-cultural benefits of tourism are generally long-term and typically involve the learning of language skills, the preservation of indigenous cultures and heritage attractions.

There are a limited number of environmental benefits and these include reinvestment of tourist revenue to promote local initiatives, such as ecotourism, and other projects such as nature reserves and national parks.

Short-term economic loss may result from loss of tourist confidence and falling demand in the wake of the natural hazard event, a terrorist incident or a pandemic. Long-term economic problems result from leakage of tourist revenue by foreign owned hotels, airlines and imported food. Tourism may also result in the development of economic disparities with local rich tourist enclaves and poor peripheries. Most serious is a long-term decline in tourist demand for a destination relating to changing tastes and competition from new ones.

Long-term environmental damage usually results from tourist impact exceeding carrying capacity. Where fragile environments combine with fragile economies, high-impact mass tourism is unsustainable. Long-term problems of resource depletion (water in particular), soil erosion, ecosystem destruction, and all types of pollution and waste overburden are typical of many LEDC tourist destinations where remedial practices are limited and short-term financial gain is a necessity.

Examples are a specific requirement of the question, hence they would be expected in those answers achieving band D and above. A good answer attaining markbands E/F should include a range of ordered short-term benefits and long-term problems, but thereafter the emphasis will depend upon the direction of the argument.

Marks should be allocated according to the markbands.

*Or*

**(b) Structured question**

- (i) State the *two* languages which show the greatest difference in ranking between the two graphs. [2 marks]**

Arabic and English. No other answer is acceptable.

- (ii) Suggest *two* reasons why the rate of growth of some languages used on the internet is greater than others. [4 marks]**

The reasons might include the differences in population growth rates of different nations, initial level of internet use in 2003 in individual countries, rates of economic development, education developments, population structure and acceptance of technology. There may be other valid reasons.

Award [2 marks] for each developed reason.

- (iii) Explain how the actions of government can limit cultural integration. [4 marks]**

Governments may attempt to restrain the process of cultural integration by the adoption of a variety of cultural controls. There is a large range of possible controls and they might include some of the following: media restrictions to limit the diffusion of foreign cultural traits, immigration restrictions to limit the influx and movement of foreigners, regulation and control of TNC activities, strategies to educate the public and limit consumerism, and restrictions on the consumption of cultural imports such as fast food, dress and music. The answer should be more than a list and should explain at least two actions of a government to reduce cultural dilution.

- (iv) Examine the importance of economic agreements and trading blocs in the integration of world economic activity. [10 marks]**

An understanding should be shown of economic integration meaning the merging of economic systems and the increase in international flows of goods and finance. Economic agreements usually focused on trade, are encouraged by individual nations and global institutions such as the WTO, IMF and the World Bank. Such agreements have led to trading blocs such as EU, NAFTA, LAFTA and COMECON.

Other important factors might be considered briefly, besides economic agreements and trading blocs in the integration of world economic activity. These are the growth and dominance of TNCs associated with new international division of labour (NIDL) and increasing flows of Foreign Direct Investment. In addition, the improvement in global communications networks facilitates the easy flow of people, goods, services, capital and ideas, resulting in time-space convergence.

Answers examining the importance of economic agreements and trading blocs compared with brief mention of other factors that encourage economic integration are likely to be credited at bands E/F.

Marks should be allocated according to the markbands.



## SECTION C

## C11. Topographic mapping

- (a) Using the map, identify point A on the photograph. [1 mark]

A is Leopold II Dam [1 mark].

- (b) The scale of the map is 1:50 000. Estimate the scale of the photograph. [1 mark]

The scale of the photograph is 1:25 000 or 4 cm:1 km [1 mark].

Allow 1:20 000 to 1:30 000.

- (c) Describe and suggest reasons for the pattern of settlement shown on the map. [6 marks]

There is almost continuous urban development to the west (Blankenberge) and to the east (Knokke Heist) of the port of Zeebrugge. There is evidence of suburbanization with linear extensions of settlement leading in a south-easterly direction from Blankenberge and Knokke Heist. These areas of dense urban settlement may be explained by the economic pull of this coastline which provides employment associated with port activities and tourism. This physically attractive coastline is also likely to attract retirees.

The settlement pattern on the rest of the map away from the coastline is scattered and consists of many isolated hamlets and farms. The flat and open landscape with ample (excessive) water supply has allowed for settlement dispersion.

Both the coastal and rural patterns need to be recognized and described [3 marks] with valid reasons being given to explain the pattern [3 marks]. This balance can be altered in exceptional cases at the discretion of the examiner.

- (d) Describe *three* advantages of the aerial photo over the map in showing human geography. [2+2+2 marks]

Advantages of the photo include:

- The photo shows road and sea traffic, whereas these are absent on the map
- Field boundaries are evident on the photo, but not so distinct on the map
- Different agricultural land uses for individual fields are evident on the photo, but not on the map
- Building height can be ascertained through the appearance of shadows on the photo. No such three-dimensional features are evident on the map.

The **relative** advantages should be stated throughout.

Other valid advantages may be credited.

- (e) **Compare the advantages and disadvantages of sites X and Y for the location of a large shopping centre.** **[6 marks]**

A good answer achieving **[6 marks]** should recognise at least three advantages/disadvantages and compare the sites with respect to each one. There may be other valid approaches to this comparison.

**Accessibility:** both sites are accessible, but X is likely to suffer from freight and tourist traffic from Zeebrugge. This would be acute during the peak tourist season and the rush hour. This is likely to deter business and annoy locals. Proximity to the port of Zeebrugge is a disadvantage in this respect. Site Y is easily accessible at a major route intersection and would be less affected by port traffic.

**Cost:** X has the disadvantage of being more constricted with a shortage of open space and the land is likely to be more expensive because of competition with other users. Costs of land at Y may also be lower because it is further from the coast. Y also has the advantage of being away from likely areas of coastal flooding which might prove to be costly.

**Environment:** X is a better choice because it may be a brownfield site. Y is likely to be a greenfield site which would involve ecological destruction and increased traffic emissions, congestion and noise in this rural area. Answers may examine advantages and disadvantages to the shopping centre owners as well as shoppers and residents.

Marks should be allocated according to the markbands.

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