



MARKSCHEME

November 2008

GEOGRAPHY

Higher Level and Standard Level

Paper 2

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SECTION A**A1. Drainage basins and their management***Either***(a) Essay**

“River flooding has more advantages than disadvantages.” Discuss this statement with reference to named examples. [20 marks]

Answers would be expected to discuss the advantages and disadvantages of river flooding. Candidates can choose to agree or disagree with the statement. Stronger responses accessing bands E and F must discuss both advantages and disadvantages.

The benefits of flooding could include the formation of floodplains, areas of flat land, fertile soils suitable for agriculture, areas for human settlement, and good access. Stronger answers should include examples (such as Bangladesh where the annual floods provide water for rice farming, fertile silt and new land in the form of deltas). Flooding creates opportunities, such as aquaculture. Some cultures and economies are closely connected to flood cycles.

However, flooding is often detrimental. Flash floods may cause loss of life, damage to infrastructure, housing and farmland. In the case of tropical storms where they swell rivers for example, the losses (economic and social) may be substantial. Urban floods can also have particularly devastating impacts.

Marks should be allocated according to the markbands.

Or

(b) Structured question

- (i) Identify and define the processes in boxes A and B. [2+2 marks]**

A – accept evaporation or transpiration or evapotranspiration [*1 mark*], with [*1 mark*] for definition. Evapotranspiration is the sum of evaporation and plant transpiration.

B – baseflow or groundwater flow [*1 mark*] – underground topographic flow of water, because of gravity, to replenish groundwater stores or as a contributor to channel flow [*1 mark*].

- (ii) Explain the impact of human activity in urban areas on infiltration, throughflow and surface run-off. [6 marks]**

Urban surfaces are more impermeable because vegetation has been replaced by concrete and asphalt [*1 mark*]. There is less infiltration [*1 mark*].

Throughflow in urban areas, is limited due to the lack of infiltration [*1 mark*]. However it can also be channelled underground by drainage systems and as a result flows quickly (quickflow) into channels [*1 mark*]. There are other valid possibilities.

Due to the impermeability of urban fabrics surface run-off is much more rapid [*1 mark*]. Urban surfaces are often engineered to facilitate the rapid movement of water to mitigate against the flood hazard. Storm drains, cambering of roads, guttering on buildings all contribute to quick surface run-off [*1 mark*]. Other valid comments should be credited.

- (iii) Describe and evaluate water management strategies (excluding those directed at flood control). [10 marks]**

Responses should describe specific management strategies, such as irrigation, recreation, water supply for domestic and industrial use, navigation or power supply and evaluate their effectiveness. It is acceptable to use one particular case study, which can be at any scale. No credit may be given for those strategies that focus on flooding.

Responses that offer evaluation or make appropriate use of examples are likely to be credited at bands E/F.

Marks should be allocated according to the markbands.

A2. Coasts and their management

Either

(a) Essay

Examine the reasons why some coastlines are advancing while others are retreating. **[20 marks]**

Knowledge of a range of coastal processes and a well-structured answer are required.

Coastal retreat may result from either submergence (a consequence of sea-level rise, isostatic fall, tectonic subsidence) or erosion (a consequence of marine activity and geomorphological susceptibility). Coastal advance may result from either emergence (a consequence of either sea-level fall, tectonic or isostatic uplift) or deposition (the build up of sediment accretion). All four fundamental processes of submergence, emergence, deposition and erosion are important and if covered adequately may allow answers to access bands E/F. Human activity can also cause advance (such as coastal reclamation) and retreat (such as dredging and sediment starvation). Although examples are not a specific requirement of the question, they would be expected in those answers achieving markband D and above.

Marks should be allocated according to the markbands.

Or

(b) Structured question

- (i) With the aid of a diagram, describe the process of wave refraction. [4 marks]**

Wave refraction involves a change in wave direction (and wave energy per unit area) as waves approach a coastline [**1 mark**]. It is caused by variations in water depth resulting in different speeds of approach [**1 mark**]. Allow a further [**2 marks**] for a well constructed, accurate and labelled diagram showing the direction of wave approach and topographic features that influence this. A written description without any diagram may not be awarded more than [**2 marks**].

- (ii) Suggest possible reasons for the characteristics of the cliffs shown in the photograph. [6 marks]**

The cliffs consist of vegetated upper layer (drift deposits) overlying a vertical face (chalk) that is susceptible to undercutting, weathering and mass movement. They are higher towards the west (right of the photograph) than towards the east. Undercutting by waves leads to collapse of the overhanging rock and results in a vertical cliff face. Where marine forces are strong relative to subaerial processes, the cliff maintains a vertical face and the height is determined by local topography. Small-scale features such as a rock fall and a cave further evidence of instability and susceptibility to weathering and erosion. Allow up to [**3 marks**] for an accurate description of the cliff features and a further [**3 marks**] for plausible reasons including both marine and subaerial processes.

- (iii) Referring to named examples, examine how natural factors make some people vulnerable to coastal hazards. [10 marks]**

Natural factors affecting vulnerability include low-lying land, unconsolidated geology, frequent storms, long fetch, exposed location and other possibilities. Examples and a range of factors (at least four) are expected in a good answer. Coastal hazards, such as tropical cyclones and tsunamis, that are outside this theme are acceptable.

Marks should be allocated according to the markbands.

A3. Arid environments and their management

Either

(a) Essay

Referring to named examples, explain why the natural landscapes of arid areas are so varied. *[20 marks]*

Responses may adopt varied approaches at different scales and could include the differences between areas affected by running water and those affected by the wind. Contrasts may also be drawn between landscapes of erosion and landscapes of deposition.

Variations in the nature of the surface could refer to sandy, stony and rocky desert landscapes. Differences in the surface would also be relevant in terms of the results of evaporation causing salt deposits in some areas and an iron oxide crust in others.

At a macro-scale, the variations in the landscape resulting from different geology and structure could refer to eroded igneous masses, basin and range and mesa and scarp topographies, while at a smaller scale answers might refer to local variations in rock structure that produce features such as yardangs, zeugen and pedestal rocks.

Another approach may be to contrast the abruptness of some arid scenery where inselberg and pediment are the dominant features with less abrupt landscapes such as rolling sand dunes.

Credit should also be given if responses refer to variations in vegetation due to differences in water availability and this could include seasonal changes in the flora of arid areas or the occurrence of oases.

Not all of the above are required for an answer but to access band D and above answers must include examples.

Marks should be allocated according to the markbands.

Or

(b) Structured question

- (i) Briefly describe the regional variations in the contribution of overgrazing to desertification shown on the graph. [4 marks]**

Responses should note the importance of overgrazing as the major cause of desertification in Oceania (where it accounts for 90 %), a significant cause in Africa (around 50 %), and Asia, and less so in Europe and South, North and Central America (where overgrazing contributes to around 10–20 %). Allow **[2 marks]** for quantification of the data. Answers without any quantification should not move above **[2 marks]**. Answers may also use raw numbers rather than percentages to quantify the data.

- (ii) Explain three causes of desertification other than overgrazing. [2+2+2 marks]**

Other causes could include natural factors such as prolonged drought, or climate change resulting in less rainfall, less reliable rainfall or changing rainfall patterns. Human factors might include population pressure resulting in overcultivation leading to reduced fertility and eventual removal of protective vegetation, or deforestation caused by the need for more farmland and/or wood for cooking, heating or construction.

Award **[2 marks]** for each relevant cause that includes an explanation.

If only a list of causes is given with no explanation, award a maximum of **[2 marks]**.

- (iii) With reference to one or more named examples, discuss the measures used to prevent desertification. [10 marks]**

Responses will vary according to the example(s) of areas and measures chosen. The measures discussed might include improved land use and husbandry management to avoid soil erosion and land degradation, protection of existing vegetation and stone barriers. Indirect measures might also be included. Responses that discuss as well as describe and/or evaluate the measures are likely to be credited at bands E/F.

Answers that include examples are likely to be credited at band D and above.

Marks should be awarded according to the markbands.

A4. Lithospheric processes and hazards

Either

(a) Essay

To what extent is the vulnerability of people to earthquake hazards related more to economic factors than to natural factors? **[20 marks]**

The question requires candidates to compare the relative importance of natural factors and the ability of countries to adopt mitigating strategies. Answers should examine how natural factors such as intensity, magnitude, duration, distance from the epicentre, remoteness, time of day and season affect countries or areas at different levels of economic development. Although examples are not asked for directly, better answers might refer to earthquake events of similar magnitude in countries with varying economic resources and compare the effects on people and the built environment. Answers should also examine the level of vulnerability of the population in terms of the ability of the country to employ mitigating strategies. These may include earthquake engineering, monitoring, hazard awareness education, preparedness and training, level of emergency services and risk insurance.

Answers that attempt to evaluate the relative importance of economic and natural factors are likely to be credited at bands E/F.

Marks should be awarded according to the markbands.

Or

(b) Structured question

- (i) Describe the differences in the appearance of the two volcanoes shown in photographs A and B. [4 marks]**

The volcano in photograph A has low gradient slopes with a round crater and numerous, dark lava flows. Credit answers that describe it as a shield volcano though this term is not essential [2 marks].

The volcano in photograph B has steeper sides with the crater open at one end and is covered in light coloured pyroclastic deposits (ash, lahars) [2 marks]. Credit any other relevant observations or alternative approaches.

- (ii) Explain why volcanoes like these have such different landform characteristics. [6 marks]**

Answers should recognize that the volcano in photograph A is a basic lava volcano and that these occur at constructive margins or hot spots such as in Iceland or Hawaii. The gentle sides result from the eruption of dark, fluid lavas that spread quickly before cooling [3 marks].

The volcano in photograph B is an acid lava volcano, formed where the lava is more viscous causing swelling or blocking of the vent, hence the explosion crater and the steep sides. Such volcanoes are usually found at destructive margins. They erupt explosively producing large amounts of ash [3 marks].

- (iii) Compare the effects on people and the environment that result from the eruption of each of these volcanic types. [10 marks]**

Responses should state that basic lava volcanoes rarely erupt violently so they are much less dangerous. The main danger comes from lava flows and in some cases pyroclasts such as volcanic bombs and lapilli (cinders), though these do not affect as wide an area as the lava flows. Answers should refer to the problems of lava flows destroying property and infrastructure, causing fires, destroying vegetation and farmland and blocking harbours. Reference should be made to the difficulties involved in halting or diverting lava flows. Volcanic gases may also be a hazard. Benefits may include the creation of new land, spectacular scenery (tourism) and, eventually, fertile soils and others.

Answers should recognize the more hazardous effects of acid lava volcanoes because of their more explosive nature. Reference should be made to some of the potential accompanying hazards such as pyroclastic flows, volcanic bombs, ash falls, lateral blasts, lahars and volcanic gases. The effects on people and the environment of at least one of these should be included. Benefits may include the fertility of ash deposits and tourism. Major eruptions may also have short-term climatic impacts. The strongest answers may distinguish between short-term and long-term effects.

Good answers should draw attention to the differences in effects between the two types of eruption. Answers that compare the effects are likely to be credited at bands E/F. Candidates who have incorrectly identified the volcanoes in part (ii) should not be further penalized in part (iii) as long as the explanation is consistent with their misidentification.

Marks should be awarded according to the markbands.

A5. Ecosystems and human activity

Either

(a) Essay

Referring to named examples, analyse why and how ecosystems are affected by human activity.

[20 marks]

Good answers should address both sides of the question – “why” and “how” ecosystems are affected by human activity, although the attention given to each need not be equal. Human activity should be regarded as positive as well as negative. Candidates able to present this breadth of analysis and refer to more than one named example should be credited at markband E and above. The ecosystems may be considered at any scale and may include biome(s).

The effect of human activity upon ecosystems depends upon the destructiveness of the activity, the resilience of the ecosystems and their capacity for regeneration. The negative effects may involve total clearance through activities such as agriculture, building, road construction and mining. Ecosystems may also be disrupted through pollution, burning, harvesting and activities which deplete their biodiversity, upset their function and degrade their environments. Very good answers reaching markband E/F are expected to refer to the interruption of energy flows, nutrient cycles and the biotic / abiotic links that allow ecosystems to function.

The benefits derived from human activity should not be overlooked if the answer is to access bands E and F. Effective management of ecosystems may be achieved through sustainable practices which maintain their productivity and structure.

Marks should be awarded according to the markbands.

Or

(b) Structured question

- (i) Referring to the diagram of primary succession, explain the processes taking place at T1 and T3. [5 marks]**

At T1 there is a bare rock surface which is colonized by pioneer species. These may be lichens, mosses or various types of creeper depending on climate. Soil develops and this allows new species to invade and succession to occur.

At T3 plants are well established, soils well-developed and the process of invasion and competition are underway with dominants emerging. Small bushes are transitional to forest.

Allocate **[2 marks]** for two processes occurring in each stage and a further **[1 mark]** for an example or additional valid point.

- (ii) Explain how human activities can cause secondary succession. [5 marks]**

Human activities may alter the climax after it has been reached, resulting in a secondary succession. The types of activities that are likely to contribute to secondary succession are deforestation, afforestation, overgrazing by animals, cultivation of land and the draining of wetlands. To achieve **[5 marks]**, the answer must show an understanding of the concept of secondary succession and explain two or more causes.

- (iii) Using examples, examine how human disturbance of natural ecosystems has brought short term benefits but caused long term problems. [10 marks]**

Good answers accessing markbands E and F are expected to examine both sides of the argument. The short term benefits might include creation of farmland, harvesting of forest products, utilization of soils, creation of fishing from reefs and coral products. Some disturbances may be carried out to create parks and reserves enhancing the image of the “ecosystem” and promoting tourism. The long term problems should deal with the negative impacts such as loss of biodiversity, soil erosion, water loss, desertification, flooding, and the opening of roads allowing pioneer farmers and loggers into primary forest. For example, in the Congo and Central African Republic (CAR) this has led to exploitation of bush meat and depletion of apes.

Marks should be allocated according to the markbands.

A6. Climatic hazards and change*Either***(a) Essay**

Examine the ways in which an urban microclimate differs from that of the surrounding rural area. **[20 marks]**

Microclimates are the climates of small areas which make them distinct from the surrounding area. Microclimates may be caused by small-scale physical variations in topography, hydrology and vegetation. However human settlement, traffic and industrial activity is sufficiently intense to create an urban microclimate. This is distinct from the surrounding rural area and commonly known as the urban heat island.

The following aspects of climate are modified in urban areas:

Temperature is increased by high building density, traffic, manufacturing industry, artificial heating and air conditioning. Suspended particulate matter may also trap outgoing radiant energy. Humidity is reduced by the efficient artificial drainage system and the lack of vegetation and consequent reduction in the evapotranspiration. Wind may increase locally, but overall wind speed is reduced by friction with the built-up area. The lack of wind may also intensify heating. Sunshine is obscured and reduced by high-rise buildings. Cloudiness is more likely because suspended particulate matter is greater. Poor visibility is associated with photochemical smog. Snowfall is reduced, but precipitation may be increased due to more intense convective activity.

Urban microclimates are therefore warmer, less humid, less windy, less exposed, foggier and possibly more cloudy and wet than surrounding rural areas. The differences between urban and rural climates are most marked during winter and at night. However, alternative conclusions may be reached depending on the latitude of the city/urban area concerned. These observations are acceptable if supported by sound explanation.

It is expected that very good answers accessing markbands E/F will present a detailed explanation and depth of understanding of microclimatic processes and features. Answers which concentrate only on urban climate and fail to make comparisons with the surrounding rural area should not be credited beyond markband D.

Or

(b) Structured question

- (i) Describe the trend in the *total economic costs* between 1950 and 2002. [2 marks]**

Total economic losses rise rapidly after the 1970s [1 mark] with numerous fluctuations [1 mark]. Some quantification is required for the full [2 marks].

- (ii) Suggest possible reasons why total costs have increased in recent decades. [3 marks]**

Award [1 mark] for each of three reasons. Possible reasons include the increased frequency of events, perhaps as a consequence of human-induced climatic change, the increase in average loss incurred in each event as a result of rising property values and levels of economic activity, and the fact that more people are exposed to loss because of the global rise in population.

- (iii) Describe the economic consequences resulting from any one climatic hazard of your choice. [5 marks]**

The economic consequences will depend on the hazard chosen, which may include any climatic hazard such as flooding, even if not included in this theme. Up to [3 marks] should be awarded for describing the economic consequences of this hazard and [2 marks] for the use of a supporting case study or detailed example.

- (iv) Examine the different ways in which people reduce the severity of the impacts of climatic hazards. [10 marks]**

People reduce the severity of the impacts of climatic hazards in numerous ways, including prediction, forecasting, warning systems, cloud-seeding, evacuation, insurance, building modifications (building codes), land use and economic activity zoning regulations, and construction of shelters. It is expected that a good response will examine several of these (or similar) possibilities. However, an in-depth examination of a limited number of ways in the response may compensate for a broader examination of a greater number of ways. Either approach is equally valid and may be credited at bands E/F.

Marks should be allocated according to the markbands.

SECTION B

B7. Contemporary issues in geographical regions

Either

(a) Essay

“A region is an area with common characteristics or features which give it unity and distinguish it from surrounding areas.” Referring to *at least two* different regions you have studied, discuss this statement. [20 marks]

The syllabus requires the study of two regions of similar scale. This essay question requires discussion of the concepts of regional geography in the context of any two regions. It is probable that most responses will agree with the definition, but if they choose to challenge the statement, then full credit should still be available. Answers should discuss each region in some depth, examining both the common characteristics that give each region “unity” and how these characteristics distinguish it from surrounding areas. It is anticipated that stronger responses will use sketch maps to show the boundaries and characteristics of their chosen regions. The details of the discussion will vary, depending on the regions selected. Answers that choose two regions of dissimilar scale will be self-penalizing; in these cases, no special action is required on the part of the examiner.

Responses 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) Briefly describe the shape and limits of the French Riviera region. [2 marks]**

The region is long and narrow in shape [1 mark]. This mark should be awarded even if it is not further expanded upon (trending NW–SE; approx 170 km long by 20 km wide). The limits to the region are the coast to the SE and the edge of zones of visible wealth (or any other valid observation) on the landward side [1 mark].

- (ii) Define what is meant by a geographical place. [2 marks]**

A geographical place is a portion of geographical space [1 mark] occupied by a person or thing [1 mark], or other valid responses, such as “centre of felt value or emotional value”.

- (iii) Using map evidence only, identify two characteristics of this region which are common to all places within it. [4 marks]**

Award up to [2 marks] each for any two different characteristics in common. Acceptable responses include proximity to coast, proximity to wealth and location within France, but other valid suggestions may also be made. For the award of full [4 marks], map evidence must be offered for each characteristic.

- (iv) Distinguish between a multi-feature region and a functional region. [2 marks]**

A multi-feature region is defined by several characteristics, usually a combination of physical and human [1 mark]. A functional region is defined by a combination of economic activities [1 mark]. Functional regions are also sometimes defined as the non-overlapping spatial “territories” of a particular service. (For example, the functional regions of certain real estate companies are non-overlapping areas, each served by a particular office or franchise.) Either definition of functional region is equally acceptable for this part of the question.

- (v) Compare and contrast the characteristics of any two regions you have studied. [10 marks]**

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

B8. Settlements

Either

(a) Essay

Analyse the factors which determine the size and shape of a settlement's sphere of influence. *[20 marks]*

An understanding of the sphere of influence should be evident in the answer even if it is not defined. However, a detailed discussion of central place theory is not required. Answers are expected to cover the issues of both its size and shape.

Analysis of its size may include factors such as population numbers, the hierarchy of services, accessibility, competition with other settlements, season (tourism), aesthetic appeal and other factors such as the cost of transport and parking. Analysis of its shape may include factors such as topographical features (valleys and coastlines) and the communications network.

Answers accessing markband E and above would be expected to cover most of the factors mentioned above and to analyse their effect thoroughly. Consideration of the effect of time / day of the week / season would also be expected at this level. Answers that offer explicit analysis are likely to be credited bands E/F.

Marks should be allocated according to the markbands.

Or

(b) Structured question

- (i) Referring to the diagrams, describe the differences in access to sanitation between the rural and urban populations. [4 marks]**

A full description of changes in each region is not required. Urban populations have greater access, a slower rate of growth in access and less variability in access than rural populations. A minimum of three valid points is required for **[3 marks]** with quantification for full marks.

- (ii) Suggest reasons for the distribution of areas of social deprivation in large urban areas. [6 marks]**

In MEDCs, poor residents tend to be concentrated in and around the centre and in peripheral housing estates. In most LEDCs social deprivation in cities is widespread, and spontaneous squatter settlements occur not only at the edge where new immigrants first settle, but also around the centre in more permanent slums. Socially deprived areas tend to coincide with areas of disamenity and relatively low value with the city. This question does not require reference to both LEDCs and MEDCs for the award of full marks.

- (iii) Discuss the success of specific strategies that have been adopted to relieve housing problems in large urban areas. [10 marks]**

Urban housing problems include the lack of ownership, illegality, poor infrastructure, overcrowding and crime. They are found in most cities irrespective of development, but their intensity is highest in large LEDC cities.

In LEDCs some government-led schemes have been relatively unsuccessful due to their inappropriate location, and their distance from employees' work, encouraging more internal commuting. Some ambitious projects such as Cairo's satellite towns are not always supported by migrants.

Assisted self-help schemes have been more successful because legal status is given together with other incentives to improve housing by migrants themselves. Squatter settlements are now recognized as economically productive and socially supportive.

Answers that offer an evaluation of specific strategies are likely to be credited at bands E/F.

Marks should be allocated according to the markbands.

B9. Productive activities: aspects of change

Either

(a) Essay

Examine the reasons for, and the effects of, government intervention in agriculture.

[20 marks]

Answers would be expected to cover a range of reasons and these might be economic, social, political and environmental. These include most of the following: environmental protection, reduction in price fluctuation, a rise in farm income, protection of rural communities, self-sufficiency in food production, or political motives. The interventions that have direct environmental, economic, social and possibly political implications should be considered. Interventions affect production and rural incomes. This is done through subsidies and guaranteed prices for crop and animal production, or by implementing quotas, reducing or eliminating of subsidies and taking land out of use (set-a-side). Many other factors may also be considered. The marks need not be allocated equally between the reasons and effects.

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

Marks should be allocated according to the markbands.

Or

(b) Structured question

- (i) Identify the impact that needs to decrease by the greatest percentage from 2000 to meet its 2010 sustainability goal. [1 mark]**

The impact that has to decrease the most is acidification [1 mark].

- (ii) Referring to the diagram, describe the overall progress made by 2004 towards meeting the 2010 sustainability goals. [3 marks]**

Answers should note that three of the goals had already been met by 2004 [1 mark] with a further [1 mark] given to any example. The remaining [1 mark] should be given to any development or quantification.

- (iii) Examine the role of appropriate technology in making industry more sustainable. [6 marks]**

Some understanding of appropriate technology should be shown. Important aspects of appropriate technology include its affordability by local people, its use of local methods and its minimal environmental impact [3 marks]. The examination of the possibilities of using such technology to reduce waste includes the use of recycled materials to increase energy efficiency, and to implement substitution through actual or theoretical examples [3 marks].

- (iv) Evaluate the need for sustainable agriculture. [10 marks]**

Answers should show a clear understanding of most of the elements involved in sustainable agriculture (a secure living for farmers; maintenance of the natural environment and resources; reduction in the use of artificial fertilizers; support for the rural community; fair treatment of farm workers; and animal welfare). The need arises from the degradation of the environment through intensive agriculture and agricultural practices and the pressure of population which requires a reliable food supply. One approach could be to focus on some of these aspects and show the need for them, or another could evaluate sustainable agriculture as an alternative to the more traditional commercial farming.

Answers that offer explicit evaluation are likely to be credited at bands E/F.

Marks should be allocated according to the markbands.

B10. Globalization

Either

(a) Essay

Discuss the view that globalization reduces international inequalities. [20 marks]

Initially, a definition or understanding should be shown of the nature of globalization. Other important considerations should be the identification of inequalities; in this case they would be mainly social and economic. Methods of measuring both international inequality and globalization would also need to be considered.

One approach would be to examine the evidence for the success of globalization in the NICs. The basis of their success might possibly be a large labour force, education, TNC involvement, labour mobility, resources availability and accessibility. Many less developed countries which are non-globalized suffer from a range of social disadvantages such as debt, poverty, exclusion from world trade and neocolonial dependence. These perpetuate inequality and result in falling income, continuing poverty, social disadvantage and the widening of the gap between rich and poor.

Other approaches may be equally valid. Discussion must involve consideration of both sides of the argument to access markband E and above.

Marks should be allocated according to the markbands.

Or

(b) Structured question

- (i) Referring to specific regions, describe the relationship shown on the graph. [4 mark]**

There is a negative relationship between the percentage share of international tourist arrivals and the percentage growth in their numbers [1 mark]. This means that regions such as North America have a high share, but a low rate of growth and regions such as South Asia have a small share, but a high rate of growth [2 marks]. Award [1 mark] for further comment including the recognition of anomalies.

- (ii) Explain the rapid growth in tourist demand for one world region or country. [6 marks]**

There are general factors that explain the rapid growth in demand that might apply to all tourist destinations. These would include improved accessibility through technological advances in communications and transport; holiday promotion by the media; greater disposable income and the availability of cheap package holidays. Allow up to a maximum of [3 marks] for three developed general reasons and the remaining [3 marks] for factors specific to the region or country. These factors might include natural attractions such as warm climate, sandy beaches and unspoilt scenery and cultural attractions such as heritage sites and indigenous people. Growth in demand may also be explained by the relative novelty of the destination and improvements in infrastructure and accommodation to meet tourist expectation. To achieve maximum marks the answer should be factually accurate and include some place names and statistics.

- (iii) Referring to one or more case studies, describe and evaluate the strategies which have been adopted to ensure a sustainable tourist industry. [10 marks]**

The answer should show an understanding of principles of sustainable tourism. These include the protection and conservation of tourist destinations for future generations through minimising environmental damage, preserving natural resources and heritage attractions. In addition the culture of indigenous people should be respected and they should be involved in the tourist industry and benefit from it.

The chosen case study or case studies should refer to the need for sustainable management and the way that such strategies are implemented. Where it is too soon for their success to be judged, it is quite acceptable for the candidate to comment on their likely success, or otherwise.

Marks should be allocated according to the markbands.

SECTION C

C11. Topographic mapping

- (a) **State the compass direction towards which the camera was pointing and the approximate time when this photograph was taken.** **[2 marks]**

The camera was pointing towards the SSE (accept S and SE) **[1 mark]**. The photo was taken at 19 00 hrs. Accept times between 15 00 hrs to 21 00 hrs. Mid or late afternoon are also acceptable **[1 mark]**.

- (b) **Draw an annotated sketch map to show the relationship between the physical geography and the pattern of communications in the whole area shown on the map.** **[4+4 marks]**

Award up to **[4 marks]** for a large, well-drawn sketch map with a scale, a north point, grid references, road numbers and place-names. It should include clearly defined features of relief, drainage, vegetation and the road network. The description should be contained within the frame of the map or linked to specific features by arrows. A separate description below the map which makes no direct link should be awarded no more than **[2 marks]**. The description should focus on the relationship between physical geography and communications by emphasising the attraction of low and accessible areas.

The alignment of main roads along sides of R. Durdent flood plain avoids flood risk and the impracticality of construction on steep valley sides. Elsewhere road sinuosity reflects relief such as at Veulettes. Bridges and road junctions have been constructed at Vittefleury (0515) where a tributary joins the main valley of the Durdent. The road network is limited outside the main valley and in the south-west consists of minor roads connecting small villages and hamlets on undulating low land. Roads also take a detour round the nuclear power station (0519) and avoid the unstable cliffed coastline.

- (c) **Describe and evaluate the location of the nuclear power station (Grid reference 0519).** **[2+2 marks]**

Description: award up to **[2 marks]** for two valid points.

The power station is in a depression or truncated valley. The area covers approximately 1 km². It is located away from major strategic sites *i.e.* large towns and cities.

Evaluation: award up to **[2 marks]** for two valid points.

The benefits of the site include its obscurity for reasons of safety and security. A risk is its exposure to coastal erosion.

- (d) **Using photograph and map evidence, explain the location of different economic activities in this area.** **[6 marks]**

Arable farming dominates the flatter areas away from the steep-sided valleys and built-up areas. Tourist activity focuses on physical attractions such as the coast at Veulettes-sur-Mer where there is camping and a beach patrol. Vittefleur in the south-east of the map also attracts a range of tourist activities including water sports on Le Lac de Caniel (0413). A small industrial zone is located south of Vittefleur (046145) outside the town centre where land is possibly cheaper and there is ample space. Nuclear power generation is also relevant. This zone is also accessible to the local labor force. For **[6 marks]** three types of economic activity should be described and their location explained. Alternatively, a more detailed answer on tourism and farming would be acceptable. Other types of economic activity may also be relevant.
