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# **MARKSCHEME**

**May 2004**

## **GEOGRAPHY**

**Higher Level and Standard Level**

**Paper 2**

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**SECTION A**

**A1. Drainage basins and their management**

*Either*

**(a) Essay**

**Discuss how changes in base level of a large meandering river affect the physical and human landscape.**

***[20 marks]***

The effects of a change in base level on the physical landscape will depend on whether the change is a lowering of base level (leading to rejuvenation and the formation of incised meanders, knickpoints and terraces) or a raising of base level which would result in the flooding of the lower part of the river valley, possibly forming a ria or fjord.

There are numerous implications for human activities. For instance, incised meanders may influence the location of settlements and may pose transport difficulties, while river terraces, being safe from flood risk, may be ideal locations for agriculture and/or settlement. Changes of base level might also result in navigation hazards (such as knickpoint waterfalls on rivers), communication difficulties (cost of bridging), sheltered harbour sites, increased tourist potential. The range of possible suggestions for impacts (both negative and positive) is very great and suggestions should be treated on their own merit, with appropriate credit awarded for any reasonable response.

Responses that do not include discussion of both lowering and raising of base level may not be awarded more than ***[12 marks]***.

Responses that do not include discussion of both physical and human effects may not be awarded more than ***[12 marks]***.

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 the patterns of rainfall *and* run-off in Tasmania as shown on the map. *[4 marks]***

In general, there is a positive correlation between the distribution pattern of rainfall and run-off. In both cases, values in the west and south are higher than values in the east and north. However, there is also an important difference since run-off in the west represents a significantly higher percentage of rainfall than it does in the east. Some quantification is essential for full *[4 marks]*.

- (ii) With the aid of a diagram, examine the factors responsible for determining the amount of run-off. *[6 marks]***

Rainfall amount (total) is one key determinant of run-off, but many other factors are also important, including rock type, soil type, the regimes of rainfall and temperature, intensity of precipitation, slope angles, depth of regolith, vegetation, surface storage, antecedent weather conditions and human activity. For the award of full *[6 marks]*, it is expected that responses must examine at least four distinct factors, though some answers awarded full marks may not examine each of these factors in equal detail. If no diagram is included, no more than *[3 marks]* may be awarded. An accurate, fully annotated diagram can be awarded full marks, but only if it incorporates elements of explanation, as well as description. Candidates should not be penalized for more than one diagram, or if the diagram illustrates only one or two factors and the remainder is text. There could be a variety of types of diagrams – these might include spider or flow diagrams

- (iii) A consultant is preparing a flood-prevention plan for a town situated close to a large river. Apart from rainfall and run-off, discuss the other geographical information that would be useful. *[10 marks]***

Responses would need to consider some of the following: physical characteristics, flood recurrence intervals, the river regime, response times, channel efficiency, geology, relief and basin shape. Human characteristics could include the navigability of the river, land use, population distribution and transport routes. As the question asks for reference to “close to a large river”, no credit should be given for proposals that apply primarily to a coastal location where no river is involved.

The marks should be allocated according to the markbands.

## A2. Coasts and their management

*Either*

### (a) Essay

**Describe and evaluate the different strategies used to cope with the hazard of coastal flooding.** **[20 marks]**

The types of strategies used against the hazard of coastal flooding are “hard” and “soft” engineering although these terms may not be used. The former include constructions to protect low-lying areas from erosion and flooding such as seawalls, dykes, embankments, board walks, barriers. Soft approaches might include dune fixing, the conservation or planting of mangroves and flood management schemes that could involve improved flood warnings or the evacuation of threatened population and managed relocation. Candidates would be expected to show some knowledge of both of these types of strategies. In addition, strategies to control sea level rise would be acceptable if they were not the focus of the essay.

In the evaluation, candidates would be expected to consider a number of criteria, including cost, sustainability and effectiveness. Cost would be a major consideration in LEDCs, but even in MEDCs there should be a realization that some expensive “hard” engineering schemes are not permanent or sustainable and could have major environmental consequences. In LEDCs, limited access to funding would mean that effective schemes would have to be based on cheaper alternatives, such as better early warnings, escape routes and refuge centres.

The marks would not necessarily have to be evenly divided between the description and the evaluation, but where there is no evaluation, no more than **[12 marks]** should be awarded.

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 diagram, explain how beach material is moved along the coast. [3 marks]**

Responses must explain how long-shore drift operates. Waves break up the beach at an oblique angle (the swash) moving beach material diagonally up the beach [1 mark] while the returning water, the backwash, moves the material back at right angles to the beach [1 mark]. The net effect is the zig-zag movement of the material along the beach. Mention of the importance of prevailing onshore winds, which ensures the continuity of the process, and also the transport of dry sand along the beach, can be awarded [1 mark].

- (ii) Explain why the size and stability of coastal dunes change with increasing distance from the sea. [5 marks]**

Candidates would be expected to comment on the three different dune locations: those closest to the beach (embryonic and fore dunes) which are the smallest and the most fragile as they have little or no vegetation cover [1 mark]; the mobile dunes at intermediate distances which are higher (up to 30m) and are dominated by vegetation such as marram grass, but are still liable to wind erosion and trampling by visitors [2 marks]; the fixed dunes which are furthest from the sea and also the most stable with the marram grasses being replaced by shrubs and deeper rooted vegetation and woodland or plantations [2 marks].

If only size or stability is discussed, or no explanation is given, a maximum of [3 marks] should be allocated.

- (iii) Using examples, assess the impact of human activity in coastal sand dune areas. [12 marks]**

Candidates should recognize that dune systems are very sensitive to human activity and provide an important buffer between land and sea. The responses should consider both negative and positive impacts. Negative impacts could include, for example, the effects of recreational activities, military exercises, overgrazing, sand extraction, building and industry. Positive impacts could consider constructing retaining fences, boardwalks, fire beaters, controlling access, environmental educational programmes, conservation zones, and golf courses. However, other valid impacts could also be mentioned.

The strongest responses would attempt to assess the relative impact, with reference to specific examples.

A maximum of [8 marks] should be allocated if there is no use of examples or if there is no attempt at assessment.

The marks should be allocated according to the markbands.

### A3. Arid environments and their management

*Either*

(a) Essay

**“When humans interact with the environment in hot arid areas, land-use issues often arise. How vulnerable countries are to these issues will depend on their level of economic development.”**

**Discuss this statement with reference to desertification.**

***[20 marks]***

Answers referring to semi-arid areas should be accepted. A variety of responses could be expected, depending on the choice of examples/case studies and the approach taken. Responses should describe the role of human interaction with arid and semi-arid areas and the environmental impacts. For example, with desertification, human practices contributing to the issue could include: overgrazing, improper soil and water resource management, cultivation of land with unsuitable terrain or soils, deforestation, and increased intensity of land use associated with high population densities.

Stronger responses would discuss the vulnerability concept and its relationship to the countries' level of economic development. For example, LEDCs are often more vulnerable through their inability to adopt or afford remedies and this is exacerbated by poverty and famine. LEDCs also need to exploit the lands beyond what is normally to be regarded as a sustainable level of use. In addition deforestation associated with increasing populations and the collection of fuelwood (the main source of energy for cooking and heating) is a major contributing factor. Stronger responses may acknowledge that war and civil unrest (as in several African countries) contribute both to massive refugee problems in fragile arid lands. In these countries resources may also be misallocated to support military activities as opposed to environmental problems. MEDCs are often vulnerable through their mismanagement. For example, tourism in arid environments disrupts the ecosystem by the trampling of vegetation, disturbing wildlife and creating new tracks, roads and infrastructure. Land-use issues often arise due to conflict of interests (*e.g.* mining in areas with indigenous populations and/or national parks).

Responses which discuss the first part of the statement (and not the vulnerability concept), should be awarded a maximum of ***[12 marks]***.

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) Name any *two* of the arid areas labelled A to F. [2 marks]**

A = California, B = Atacama, C = Sahara, D = Namib (Kalahari), E = Thar, F = Australia.

Responses must state the letter and correct arid area for any **two** of the above for [2 × 1 mark].

- (ii) Describe the world location of hot arid areas shown on the map. [2 marks]**

Responses should acknowledge that the location of hot arid lands is in the centre or on the west coast of continents [1 mark] and between 15 and 30 degrees north or south of the equator [1 mark].

- (iii) One of the causes of aridity is the rainshadow effect. Explain, with the aid of a diagram, how the rainshadow effect contributes to aridity. [6 marks]**

The rainshadow effect should be illustrated by a clear and well-labelled diagram. This could show a mountain range with rising air and precipitation on the windward side and dry descending warm air on the leeward side (in the rainshadow area) [3 marks]. The remaining [3 marks] should be allocated to the explanation. This should include the following: where winds meet mountain ranges, the air is forced to rise. As the air rises it is cooled, causing condensation and clouds to form. If the air continues to rise, orographic (or relief rainfall) results on the windward side. On the lee-side, the air descends and warms adiabatically preventing further precipitation and creating a rainshadow effect. Better responses may also refer to lapse rates.

Full marks are possible for a detailed, fully annotated diagram. A maximum of [3 marks] should be awarded if no diagram is present.



- (iv) Distinguish between the effects of aridity and infertility on different land uses in arid areas.**

***[10 marks]***

Responses should demonstrate a clear understanding of the terms aridity and infertility to highlight the differences between the two terms. Aridity implies a lack of water as opposed to infertility which refers to a lack of the necessary requirements for healthy plant growth (minerals, nutrients). Candidates may refer to a variety of land uses such as mining, tourism and urbanization which are affected by aridity, whereas agriculture is affected both by aridity and infertility.

The marks should be allocated according to the markbands.

#### A4. Lithospheric processes and hazards

*Either*

(a) Essay

**“Both the primary and the secondary hazards associated with tectonic activity are more predictable, and therefore less serious, in MEDCs than in LEDCs.”**

**Examine the validity of this statement with reference to *either* earthquakes *or* volcanoes that you have studied.**

**[20 marks]**

Response should include discussion of the following points:

The distinction between primary hazards (shaking ground in the case of earthquakes; lava, ash, in the case of volcanic activity) and secondary hazards (liquefaction, landslides, tsunamis, floods and fires in the case of earthquakes; landslides, lahars, atmospheric impacts in the case of volcanic activity);

The level of predictability depends on the monitoring technology available, financial resources, vulnerability and mitigation of effects. Risk perception, preparation and planning also play a significant role.

How “serious” the hazards are should be examined not only in terms of the injuries and loss of life that may result from tectonic activity but also in terms of economic damage and costs. In this respect, more perceptive responses may suggest that, while tectonic processes result in greater economic losses in MEDCs than in LEDCs, the reverse is often true as far as loss of life is concerned.

Responses should give a clear judgment about the validity of the statement.

The marks should be allocated according to the markbands.

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*Or*

**(b) Structured question**

- (i) Describe how the types of weathering are related to the two climatic variables. [4 marks]**

Responses could identify several distinct relationships. The more obvious possibilities include the links between chemical weathering and warmer, wetter conditions; mechanical weathering and cooler (but not very dry) conditions; the “very slight weathering” in warm, dry environments.

Responses may gain the full [4 marks] either by the accurate description of four distinct links or by identifying three links and adding some quantification to the description of at least one of these links.

Giving a catalogue of details in the graph, with little or no attempt to describe the relationships, may not gain more than [2 marks].

- (ii) Briefly describe at least four factors, other than climate, that affect the type or rate of weathering processes. [4 marks]**

For full marks, responses should mention at least four distinct factors and refer to both type and rate of weathering. Depending on the precise factors chosen, it may be necessary for responses to distinguish between their effects on “type” or effects on “rate”. Among the factors that may be pertinent are: rock type (grain size, chemical composition, structure, permeability, porosity), vegetation (mention of biological weathering is deliberately omitted from the diagram), exposure and elevation of rocks and animals (including humans).

- (iii) **Distinguish how the processes of mass movement differ from processes of weathering. With reference to *at least one case study*, discuss how human activity affects mass movements.** **[12 marks]**

Weathering is the chemical decomposition or physical disintegration of rock *in situ* [1 mark], whereas mass movement involves movement of weathered material downslope under the force of gravity [1 mark].

The remaining [10 marks] are allocated to the discussion, using one or more case studies, of how human activity affects mass movements. The range of human influences discussed will vary according to the case study or studies chosen, but it is expected that stronger responses will demonstrate a sound understanding of slope processes. Possible human actions that are relevant to this answer range from those tending to promote instability and increase the incidence and/or severity of mass movements to mitigating actions tending to promote stability and reduce the magnitude of their effects. Examples of adverse actions include the removal of vegetation, the input of water, the construction of new buildings or highways in inappropriate areas and recreational activities. Examples of mitigating actions include improving the drainage of cliffs, the shoring up of unstable slopes, encouraging vegetation growth to cover and protecting bare slopes.

Responses which fail to make any reference to the case studies may not be awarded more than a total of [7 marks].

The marks should be allocated according to the markbands.

**A5. Ecosystems and human activity**

*Either*

**(a) Essay**

**“If ecosystems are to cope with human impact, management and conservation strategies need to be implemented.”**

**Evaluate this statement with reference to a grassland biome.**

***[20 marks]***

Examples of human impact could include farming, forestry plantations, pollution, urbanization, tourism, and soil degradation. Responses should refer to case studies of a grassland biome and discuss a variety of factors affected by the human impact. They should demonstrate an understanding of the effects on climate, soil, landscape and biotic factors. It would not be expected that all would be included in a response, or that equal weighting would be given to each factor. Better responses will distinguish between the terms of management and conservation and argue to what extent such strategies need to be implemented. Different issues facing LEDCs and MEDCs could also be highlighted. Management could refer to sustainable uses of ecosystems, using case studies to illustrate a variety of measures (*e.g.* culling animal numbers to suit the land’s carrying capacity, contour ploughing, use of windbreaks and shelter belts, and improved irrigation schemes). Conservation issues may highlight the importance of maintaining biodiversity. Such measures could include parks and reserves large enough to protect habitats and allow evolutionary processes to continue. The zoning of reserves to focus on tourism in some areas could also be highlighted. Conservation strategies should reflect environmental rather than political needs and take into account the interests of local people.

If answers discuss only impacts a maximum of ***[8 marks]*** should be awarded. Responses that discuss more than one grassland biome should not be penalized.

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 term *ecosystem*.** **[2 marks]**

The following definition, or variations of it, would be acceptable: an ecosystem involves the interrelationship between plants, animals and their environments **[2 marks]**.

- (ii) Distinguish between the biotic and abiotic components of the ecosystem.** **[2 marks]**

Responses must distinguish between the living (biotic) and non-living (abiotic) components **[1 mark]**. Examples derived from the diagram would include the biotic components of flora and fauna (plants and animals). The abiotic components are the non-living elements of atmosphere, water and minerals **[1 mark]**.

- (iii) With reference to the above diagram, discuss the concept of dynamic equilibrium.** **[4 marks]**

Dynamic equilibrium should be defined as a state in which balance is maintained in spite of continual change **[1 mark]**. The remaining **[3 marks]** should be allocated to a discussion of the concept with reference to the diagram. Responses should refer to components of the diagram, for example, climate, soils, flora and fauna and how they interact. Ecosystems are dynamic, respond and make adjustments involving negative feedback loops to reach a new state of balance.

- (iv) Referring to an ecosystem of your choice, assess the extent to which its vulnerability depends on human activity.** **[12 marks]**

Responses should show an understanding of the term *vulnerability* and how it applies to the chosen ecosystem, then assess the relative importance of natural factors or events and human activities upon it. Human activities can also reduce vulnerability through protection and conservation schemes.

It would be expected that most responses would focus on human activity, and demonstrate the repercussions on the chosen ecosystem. A description of human impact with no assessment should be awarded a maximum of **[8 marks]**. Responses which refer to more than one ecosystem should not be penalized.

The marks should be allocated according to the markbands.

**A6. Climatic hazards and change**

*Either*

**(a) Essay**

**“Human activity modifies the micro-climate of urban areas more than the micro-climate of rural areas.”**

**Discuss the validity of this statement.**

***[20 marks]***

Responses would be expected to consider all the main climatic elements that are affected by human activity. Some understanding should be shown that generally in the urban areas, as opposed to the rural areas, temperatures are higher (heat islands), humidity and cloud cover are higher and precipitation is more intense and heavier (although snow falls are lighter), there is more fog and smog, and mean wind speeds are lower but turbulence is higher. The impact in rural areas of afforested areas on evapo-transpiration rates and on relative humidity should also be recognized. Climate is modified in rural areas through afforestation, wind breaks, hedges, deforestation, reservoirs, agricultural land uses and various transport uses such as airports and motorways.

Some attempt at evaluating the validity of the statement should then be made, with the stronger responses expected to note that other factors may influence the relative differences between the two micro-climates. These could be the time of day, latitude, the size of the urban area and weather systems.

No more than ***[12 marks]*** should be allocated if there has been no attempt to evaluate the statement.

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) Referring to the graph, describe *two* overall trends and *two* anomalous situations. [4 marks]**

Any two of the following characteristics could be identified by candidates: the ENSO events all start in the January to April period; they last for several months; they tend to peak in the period from September to February [2 × 1 mark].

Any two of the following anomalies could be identified: the 82/83 and 97/98 events were unusually strong; 82/83 and 91/92 had delayed double peaks; 57/58 and 91/92 did not show a steady rise to their peaks. [2 × 1 mark]

It would be possible that other trends or common characteristics and anomalies could be presented and these should be accepted if valid.

- (ii) Explain how El Niño southern oscillation (ENSO) occurs. [8 marks]**

Under normal atmospheric conditions, sea surface temperatures in the Asian Pacific are warm (26°C) and pressure is low, but low ocean surface temperatures with upwelling of cold water (21–26°C) and high pressure occurs over the eastern Pacific, producing the Walker cell. This is associated with easterly trade winds over the equatorial Pacific and upper air westerlies, and up-welling cold water off the coast of South America.

ENSO is a disruption of this pattern of atmospheric and ocean circulation, with warm waters accumulating in the East Pacific to the equatorial South American coast. Low pressure occurs over the east Pacific and relatively higher pressure is found in the Asian Pacific.

- (iii) With reference to specific areas of the world, explain how these areas can be affected by an El Niño event. [8 marks]**

Responses would be expected to consider events mainly off the west coasts of the Americas, but some mention should be made of events in other parts of the world for full marks.

The main events could include: abnormally heavy rainfall along the South American west coast in September to December, causing floods and mudslides and affecting the fishing industry; drought and bush fires in Australia and south-east Asia; delayed monsoons over India; a suppressed hurricane season in the Caribbean; milder, drier conditions in north-west USA; winter storms and flooding in California; wetter and milder winters in the north-east USA (no freezing of the Great Lakes); drought in southern Africa.

The [8 marks] available could be allocated either to brief comments on several effects, or to fewer effects that are considered in depth, and include consideration of their socio-economic impacts.



**SECTION B**

**B7. Contemporary issues in geographical regions**

*Either*

**(a) Essay**

**“Any region falls into one of two categories: it is either a region of success or a region of distress.”**

**Examine the validity of this statement with reference to any *two* regions that you have studied.**

***[20 marks]***

Stronger responses will provide a level of detail that shows a sound knowledge and understanding of both the regions selected. Though there may be some exceptions, most regions should be sub-national in size and should be accurately described and located. “Success” and “distress” may be interpreted in any reasonable manner, and with regard to any significant geographical criterion or criteria, including (but not limited to) physical factors (such as droughts), demographic characteristics (fertility rates, population growth rates), economic levels (income, wealth, employment, trade, exports, tourism) and social indicators (standard of living, education, health). Whether or not the responses agree with the statement, or conclude that the chosen regions are “neutral” (*i.e.* neither regions of success or distress), will depend both on the regions chosen and on the factors focused on in the discussions. The very best responses may comment that this classification is likely to represent only a temporary stage in an ongoing, or possibly even cyclical, process of change.

When only **one** region is discussed no more than ***[10 marks]*** should be awarded.

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) Explain why you think that the diagram *either* does *or* does not apply to your local region. [4 marks]**

Answers should clearly state the location of the chosen region and briefly describe its main characteristics.

Answers would be expected to determine which elements on the diagram apply mostly to the local region chosen, or, if they all apply, which are the most dominant. For example, if the local region was predominantly an agricultural one, the factors such as relief, climate and soils might be the most important elements. In an urban region, the dominant elements may be population, settlement, communications and industry with possible strong political and economic external links.

- (ii) Draw a large annotated sketch map of your local region to locate it and to define its boundaries. [6 marks]**

Besides including clear locational details, responses must define the boundaries of their chosen region on the sketch map to demonstrate awareness of the precise characteristics that help to define it as a region. Up to **[3 marks]** may be awarded for the quality of the sketch map, including locational details such as place names (or latitude and longitude) or a smaller scale locational map. The remaining **[3 marks]** should be awarded for the annotation(s) that define the region's boundaries. The nature of these boundaries will, of course, depend on the region selected. The choice of an inappropriately sized region will be self-penalizing.

- (iii) Identify your chosen region's contemporary geographical issues and examine the extent to which these issues have been caused by external forces. [10 marks]**

While certain external influences are suggested in the resource diagram, responses need not be limited to considering these factors (physical, political, economic, social and cultural), but may use any appropriate framework. The question does not seek to preclude responses from mentioning the significance of internal forces in causing certain contemporary issues, but does call for a clear judgment as to the relative importance of external and internal forces. Up to **[6 marks]** may be awarded for the identification and discussion of the issues, with the remaining **[4 marks]** allocated to the examination of external and internal forces, together with a clear judgment in line with the discussion in the response.

**B8. Settlements**

*Either*

**(a) Essay**

**Discuss the population size, population composition and function of the village in rural areas. Explain what the differences might be between villages in the more economically developed world (MEDCs) and the less economically developed world (LEDCs).**

*[20 marks]*

Responses should comment on the actual population size of villages, possibly noting that the official classification of a village size varies from country to country and may differ from as few as 100 to as many as 6 000 inhabitants. Stronger responses might attempt to show how population size could be a measure of the settlement hierarchy, with villages ranking in the hierarchy above hamlets but below towns. The varied functions of villages should be mentioned (farming, tourism, mining, central place, retirement dormitory).

The responses on population composition would vary, depending whether villages in MEDCs or LEDCs were being discussed. In the former, responses should make reference to most of the following: the out-migration of the young in search of alternative employment opportunities following the decline in the agricultural labour force; the increase in elderly as villages become attractive as retirement centres; the influx of the middle-aged, middle-income groups as villages become commuting settlements or the location of second homes. Responses based on LEDC villages would be expected to refer to most of the following: the continuation of agriculture as the main source of income and therefore the proportionately higher number of young remaining in the villages; the out-migration of some young males in search of employment opportunities; and the continuation of the family as the dominant social unit.

Responses could refer to the changing character of some villages in MEDCs due to an influx of commuters, depopulation, growth of tourism, second homes, retirement, and should mention resulting changes in social structure and service provision. Changes in LEDCs result mostly from the adoption of tourism.

It would not be necessary to allocate an equal proportion of the marks to population size, population composition and functions and the differences between MEDC and LEDC villages, and in-depth comments on a particular aspect could be awarded proportionately more marks. Responses that fail to discuss the differences between MEDC and LEDC villages should score no more than *[12 marks]*.

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) Comment on the number and distribution of different order settlements (Central Places) shown on *Map 1*. [3 marks]**

Larger settlements are fewer in number [1 mark]. Smaller settlements are greater in number [1 mark]. Any description of the pattern, *e.g.* larger settlements are further apart or smaller settlements are closer to each other for the remaining [1 mark].

- (ii) Give *two* reasons why a settlement such as A shown in *Map 2* could have such a large urban field. [2 marks]**

For [2 marks] there must be two different reasons given for the large urban field of settlement A. For example, as the settlement is large with over 40000 people, it is a higher order settlement with many goods and services available. Some responses may also recognize the city is also a port and would therefore have a large urban field. Settlement A could be of administrative importance or good communications.

- (iii) Discuss the ways in which the limits of the sphere of influence of an urban settlement may be determined. [5 marks]**

Award [3 marks] for a simple listing of the techniques used to determine the sphere of influence (travel to work patterns, distance shoppers travel, delivery limit of goods and services). Award the further [2 marks] if there is recognition that a range of methods are needed, the breakpoint between settlements is determined, *i.e.* to investigate the boundary area of the sphere of influence.

- (iv) Analyse why in MEDCs the rural–urban fringe is proving to be more attractive for some retail outlets than CBD locations. Refer to examples. [10 marks]**

Award [4 marks] for including the push factors from the CBD, *e.g.* congestion, high cost of land, difficult access, lack of land for expansion. Award a further [4 marks] for including pull factors of the rural–urban fringe, *e.g.* space, lower land costs, rise in car ownership, accessibility close to ring roads (highways around cities) for supplies and customers. However, this division of marks does not need to be strictly applied as some points may be better developed and will attract [8 marks]. The final [2 marks] are for including appropriate examples.

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

*Either*

**(a) Essay**

**“Major innovations in agriculture have always proved to be controversial.”**

**With reference to recent changes in agriculture, evaluate the validity of this statement.**

***[20 marks]***

Responses to this question could be expected to cover a variety of recent agricultural innovations, including the introduction of genetically modified (GM) crops, the Green Revolution, government subsidies, the agro-industry (including factory farming), large scale irrigation projects, schemes such as “set-aside” in the EU, and the introduction of exotic crops. As “recent” is not defined, any agricultural changes in the past 50 years should be accepted. Responses should show a sound knowledge of chosen innovations to provide a balanced overview. The better responses should show an appreciation that there is always a change in the perception of the value of the innovation, for example from an initial positive evaluation to a later one where the criticism becomes stronger. It would also be valid to mention innovations that were not controversial at the outset but became so later. More than one innovation should be reviewed in order to make a valid evaluation.

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) Name an industry that might be located at *A* and justify your choice.** ***[3 marks]***

The naming of any resource-based industry, such as copper or bauxite refining or the iron industry, should gain ***[1 mark]***. The remaining ***[2 marks]*** should be allocated to a justification showing an appreciation that the industry would require large volumes of the main resource and that the industrial process involves a weight-loss.

- (ii) Suggest reasons why this industry might wish to relocate to location *B*.** ***[3 marks]***

Several reasons could be given but any three of the following should be accepted for the ***[3 × 1 marks]***: the importing of the resource (or the use of a substitute resource) following exhaustion at the original location; changes in technology that involve smaller weight-loss processes and allow the industry to become market-based; improved transport links reducing the cost of the transfers; and a change in the market/demand. It is possible that other reasons could be suggested and these should be accepted on their merits.

- (iii) Using named examples, explain why an industry decides to relocate to another country.** ***[6 marks]***

Again, a number of explanations could be given for ***[4 marks]***. These could include some or all of the following: the relocation encouraged by cheaper or non-unionized labour; government incentives at the new location or government disincentives at the original location; weaker environmental laws; removal of trade barriers; the exploitation of new resource locations and new markets. The remaining ***[2 marks]*** should only be awarded if a response is based on a good choice of examples.

- (iv) **Examine the changing role of women in the non-agricultural workforce.**

***[8 marks]***

Responses should draw the distinction between patterns in MEDCs and LEDCs. In the former, as a consequence of the raised status of women and a change in attitude associated with their decreasing domestic responsibility, more are now involved in the manufacturing workforce, mainly in jobs that are not physically demanding but do require dexterity, such as in micro component assembly and packaging plants. The largest proportion still remain in the service sector. In LEDCs, particularly in the Far East, women are becoming an increasingly important part of the labour force in the manufacturing sector, especially in low-paid, repetitive jobs in the processing and assembly industries (“sweatshops”). A significant number are also employed in the service sector, especially as domestic help. Their labour is available because of the migration from rural areas and the natural growth in urban areas. The strongest responses would be expected to comment on most of these factors and be aware of the difference between MEDCs and LEDCs and most of the marks for this question should be allocated to such an examination. A general, incomplete survey should not gain more than ***[4 marks]*** especially if it is merely descriptive.

## B10. Globalization

*Either*

(a) Essay

**Choose *one* significant economic and *one* significant cultural impact of globalization. Examine how these impacts may be seen as *both* positive and negative.**

***[20 marks]***

There are about ***[10 marks]*** allocated to economic impacts and about ***[10 marks]*** to cultural impacts. Responses may cover any economic or cultural impact so it is impossible to provide a detailed breakdown of marks. However, it is expected that candidates would include a definition of globalization (*e.g.* the spread of economic, social and cultural ideas across the world with corresponding dilution of the differences between countries). They must also give both positive and negative aspects of the economic impact, and the cultural impact.

For example, if transnational corporations were chosen as the significant economic impact, positive elements would include: provision of local jobs in LEDCs; trickle down effect of economic expansion; introduction of new technology to LEDCs; opening of new markets for MEDCs; reduction in cost of goods for MEDCs. Negative impacts may include: sudden loss of jobs in MEDCs as TNCs relocate overseas; exploitative labour practices in LEDCs (*e.g.* in some “Enterprise Zones”); pollution of environments in LEDCs where controls are less stringent; lack of high level jobs for local population as TNCs often bring own personnel. Thus TNCs often tend to benefit the MEDCs at the expense of LEDCs. The best responses will refer to examples in specific countries.

Cultural impacts could include the influence of the media, language, food, morals, religion, dress and communications technology

It is not necessary that the ***[20 marks]*** are divided evenly between the two impacts. The depth of understanding and quality of answer should be judged against the generic banding, given the wide range of responses possible.

Examiners should be aware that candidates may take a different approach which if appropriate should be fully rewarded.



*Or*

**(b) Structured question**

- (i) Suggest appropriate titles for *Stages 2 and 4*. [2 marks]**

The Butler model refers to the two stages as Involvement and Consolidation [2 marks], but answers should also be accepted if they imply an acceptance of tourism or the presence of a basic tourist infrastructure for stage 2, and that tourism has become an important industry with all the necessary infrastructure for stage 4.

- (ii) Describe what happens during *Stage 3*. [2 marks]**

Any response showing an understanding that this is a stage of development should be credited with [1 mark] allocated to any two of the following features: inward investment in the industry, the growth of the industry into big business, the control and organization undertaken by firms from outside the country, the increase in package tours, the decline in local involvement.

- (iii) Using examples that you have studied, suggest reasons why some resort areas have declined in popularity. [6 marks]**

The reasons given could include economic factors (such as changes in the costs of transport or exchange rates, price wars, or economic recessions in the source countries), political factors (civil war, terrorism) and perception factors (negative images of the destination concerning the environment, crime, the rise of new tourist areas). [6 × 1 mark] should be awarded for each of any six relevant factors. A successful response largely depends on the examples chosen and any answer that fails to discuss precise examples should be allocated no more than [2 marks].

- (iv) Assess the economic advantages and disadvantages of any tourist resort or destination of your choice. [10 marks]**

The choice of an example can be on a range of scales, but the costs and benefits covered should be specific to it. Benefits could include the foreign income derived from tourism, the investment in local services and functions, the employment opportunities, and the demand for local goods and services. Costs could include the development of core areas at the expense of the periphery, the ownership and ultimate transfer of profits to firms located outside the destination areas, the seasonal nature of employment, and the demand for local resources (especially water) at the expense of the local inhabitants. Up to [7 marks] could be allocated to any response noting most of the above, with the remaining [3 marks] being allocated to any attempt assessing the balance between the costs and benefits.

Failure to discuss a specific example should limit the mark allocation to [5 marks] only.

The answer could also refer to advantages / disadvantages to the tourist, tourist operators, the hosts, the region or the nation.

SECTION C

- C11. (a) Determine whether an airplane that requires a runway of 1 600 metres would be able to land safely at Kingscote aerodrome (airport). Give a reason for your answer. [1 mark]**

An airplane could not land safely. Using the scale, responses must state that the runway is not long enough.

- (b) State the geographical term used to describe the drainage pattern on Mount Marsden (in the north of the extract). [1 mark]**

Radial

- (c) Name and locate:**

**(i) two landforms formed by coastal deposition**

**(ii) two landforms formed by coastal erosion. [4 marks]**

Depositional landforms are beaches or bay head beaches (numerous locations), the spit (off Cape Rouge or in the Bay of Shoals).

Erosional landforms are wave cut platforms/shore platforms (White Point, North Cape), cliffs, headlands (numerous locations).

Responses should identify the landform and locate it (by noting its location relative to other features or by giving a grid reference) **[4 × 1 mark]**.

- (d) (i) Referring to the aerial photograph of the town of Kingscote, explain why it is not possible to give an accurate scale for the photograph. [2 marks]**

This is because it is an oblique aerial photograph and therefore foreground scale is larger than background scale. Alternatively candidates may refer to the fact that it has been taken at an angle and not at 90 degrees, as in a vertical aerial photograph.

- (ii) Draw a labelled sketch map of Kingscote and the surrounding area as shown on the aerial photograph. Clearly mark on it any land uses that are *not* shown on the map extract. [6 marks]**

**[3 marks]** should be awarded for the sketch map with some indication of scale, general impression and accuracy. The remaining **[3 marks]** should be for the additional land uses located on the sketch map. These could include additional urban areas (residential and/or industrial) immediately north and south of the Oval. Another large area is east of the Oval and adjacent to the silos. An area of newer settlement exists on the south western outskirts of the town. Large buildings are also located north of this newer residential area. A few newer roads also exist, the most obvious in the north eastern section of the photograph. Other possibilities exist and responses should be awarded marks accordingly.

- (e) **Select a suitable site to establish a new eco-tourism<sup>1</sup> camping site. Give the grid reference of your chosen location and, using map evidence, justify your choice.**

**[6 marks]**

Responses could discuss their choice in terms of accessibility to natural attractions (beaches, cliffs, reefs, conservation parks, wildlife park, scenery, trees and scrub<sup>2</sup>), cultural attractions (ruins, historical reserves, yacht club, existing facilities), availability of water, ease of construction. Some responses may focus on the types of eco-tourism activities such as walking, swimming, diving, boating, bird watching, photography *etc.*. **[1 mark]** should be awarded for an accurate grid reference of a suitable location. The strongest responses, gaining up to **[5 marks]** would acknowledge minimal environmental impact of the camp site in the discussion.

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<sup>1</sup> Eco-tourism – nature-based tourism that involves education and interpretation of the natural environment and is managed to be ecologically sustainable.

<sup>2</sup> In the key, scrub refers to bushes.

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