

# **Geography A**

Advanced GCE **A2 7832**

Advanced Subsidiary GCE **AS 3832**

## **Mark Schemes for the Units**

---

**January 2007**

**3832/7832/MS/R/07J**

OCR (Oxford, Cambridge and RSA Examinations) is a unitary awarding body, established by the University of Cambridge Local Examinations Syndicate and the RSA Examinations Board in January 1998. OCR provides a full range of GCSE, A level, GNVQ, Key Skills and other qualifications for schools and colleges in the United Kingdom, including those previously provided by MEG and OCEAC. It is also responsible for developing new syllabuses to meet national requirements and the needs of students and teachers.

This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by Examiners. It does not indicate the details of the discussions which took place at an Examiners' meeting before marking commenced.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the Report on the Examination.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.

© OCR 2007

Any enquiries about publications should be addressed to:

OCR Publications  
PO Box 5050  
Annesley  
NOTTINGHAM  
NG15 0DL

Telephone: 0870 870 6622  
Facsimile: 0870 870 6621  
E-mail: [publications@ocr.org.uk](mailto:publications@ocr.org.uk)

## CONTENTS

**Advanced GCE Geography A (7832)**

**Advanced Subsidiary GCE Geography A (3832)**

### MARK SCHEMES FOR THE UNITS

<b>Unit</b>	<b>Content</b>	<b>Page</b>
2680	The Physical Environment	1
2681	The Human Environment	15
2682	Geographical Investigation	29
2683	Options in Physical and Human Geography	37
2684	Synoptic Geography: People and Environment Options	59
*	Grade Thresholds	83



**Mark Scheme 2680  
January 2007**

**Additional Guidance**

- 1 All scripts are liable to outside scrutiny or a re-mark following a Result Enquiry. It is therefore essential that the marking and comments on the scripts are clear to an observer, sample marker or any re-marking after the grading. Please keep to the conventions outlined by the Principal Examiner and avoid individual idiosyncrasies. Mark in red biro or red ink. (Team leaders mark in red and re-mark in green). Useful abbreviations include:  
K knowledge  
U understanding  
E explanation

Fill in the boxes on the front page of the script.

- 2 Please add helpful comments where they help to explain your decision, but do not express your frustrations, views on the candidate's ability or the competence of their teacher! Under no circumstances should you put sarcastic or derogatory comments on the scripts. Where levels are used you should indicate the highest level achieved and where appropriate the achievement of lower levels.
- 3 Please do not cross out text.
- 4 Add comments where appropriate to indicate the dialogue you are having with the script. Research has identified ticks as a sign of rushed or casual marking so please do not use them.
- 5 Every section of an answer must show evidence of having been read. Do not think that you can 'skim' through irrelevant patches. They may be worthy of some credit. Sometimes candidates add a few lines on extra sheets or at the back of an answer book. If this additional piece gains no marks make sure that you indicate that it has been read. If you get to a marginal decision, at the end of a longer piece of writing, eg is it worth full marks (10) or (9) then take a positive stance and award 10.
- 6 Where the rubric has been infringed you need to mark all of the work and to select the best answer within the rubric. Cancel with a single line any marginal marks that you have to exclude. Make a note of the infringement on the front of the script.
- 7 If you suspect dishonest practice contact your team leader to discuss the issue and then follow the guidelines provided.
- 8 Your checker must follow the instructions on the reverse of the Checker's claim form.

**Thank you for following all of these procedures accurately.**

**Generic Descriptions for Levels Marking**

- 1 On the 2680, 2681 and 2682/01 papers you will see that questions are marked out of the following maximum marks.

2  
4  
6  
10  
20

- 2 For most questions we will use **LEVEL MARKING** based on **generic descriptors** with clarification on the specific content requirements given on a question-by-question basis. Level marking will always be used for questions marked out of a maximum of 6, 10 and 20 and usually (but not always) for questions marked out of a maximum of 4.
- 3 On the following pages are the generic descriptions for the various maximum marks. Please use these when marking the level marked questions in conjunction with the main mark scheme document.
- 4 You will see that in the generic descriptions there are clear progressions in the standards expected. For example:

'High level' answers tend to be:

'detailed'  
'good'  
'effective'  
'developed'  
'clearly present'

'Middle level' answers tend to be:

'clear'  
'sound'  
'reasonable'  
'present'  
'some'

'Low level' answers tend to be:

'basic'  
'little or no'  
'lacks substance'  
'limited'

The descriptors for 'middle level' answers could include the top of Level 1 in answers marked using only two levels.

**Level marking - Questions marked out of a maximum of 4****Level 2: 3-4 marks****Level 1: 0-2 marks**

## Level 2

- A **detailed** answer with **good** understanding and knowledge
- Some **development** of ideas
- **Effective** use of geographic terminology
- A **clear** level of written communication

## Level 1

- A more **limited** answer with **basic** understanding and knowledge
- **Limited** or **no** development of ideas
- **Basic** use of geographic terminology
- **Limited** level of written communication

**Level marking - Questions marked out of a maximum of 6****Level 2: 5-6 marks****Level 1: 0-4 marks**

## Level 2

- A **detailed** answer with **good** understanding and knowledge
- **Development** of ideas
- Examples and or data/evidence **clearly integrated** into the answer
- Links are **effectively** made
- **Effective** use of geographic terminology
- **Clear** use of written communication

## Level 1

- A **more limited** answer with perhaps **reasonable** knowledge but **basic** understanding
- **Limited** or **no** development of ideas
- **Limited** or **no** integration or use made of examples or data/evidence
- **Limited** or **no** links are made
- **Limited** use of geographic terminology
- **Limited** level of written communication



**Level marking - Questions marked out of a maximum 10 or 20****Level 3: 8-10 marks / 16-20 marks****Level 2: 5-7 marks / 8-15 marks****Level 1: 0-4 marks / 0-7 marks****Level 3**

- A **detailed** answer with **good** understanding and knowledge
- Both description and explanation **clearly present**
- **Development** of ideas
- Examples/data/evidence are **clearly integrated** into the answer
- Links are **effectively** made
- **Effective** use is made of geographic terminology
- A **clear** use of written communication

**Level 2**

- A **clear/sound** answer with perhaps **reasonable** knowledge but **less convincing** understanding
- Both description and understanding are **present**
- **Some development** of ideas
- **Little use** of examples/data/evidence
- **Some attempt** at linkage is made
- **Some use** of appropriate geographic terminology
- A **reasonable level** of written communication is present

**Level 1**

- The answer **lacks substance** and offers **only basic or unconvincing or no** knowledge/understanding
- **Only one** of description or explanation is present
- **Little or no development** of ideas
- **No use** made of examples/data/evidence
- **Basic or no** links made
- **Little or no use** of appropriate geographic terminology
- **Basic level** of written communication

## Hydrological Systems

1 (a) What is meant by the term 'infiltration'? [2 marks]

- Infiltration is the downward movement of water from the surface (1) into the soil/ground store (1). If rock is identified as the destination, it must be made clear that the rock is at surface.

(b) State and explain two ways in which rock types affect the movement of water in a drainage basin. [6 marks]

**Indicative content:**

- Impermeable, permeable, porosity, will lead to differences in the amount of water that can pass through the rock or be absorbed by it.
- Increased amount of surface runoff in an impermeable rock type (eg granite, clay).
- Through flow, infiltration and percolation will be relatively insignificant hydrological processes in some rock types.
- There will be much reduced surface runoff in other rock types (eg limestone and chalk) and as such the dominant processes will be infiltration, percolation, through flow and groundwater flow.
- Reference to rates is also acceptable under movement
- The difference between porosity and permeability.

**Level 2 (5-6 marks):** candidates state and explain two ways in which rock types affect water movement. At the top of this level there will be accurate geographical terminology.

**Level 1 (0-4 marks):** candidates state one or two ways in which rock types affect water movement. Only one factor explained very well will reach the top of this level, as will two factors with more limited development or explanation. Geographical language is used less accurately.

(c) Describe and explain how a high drainage density might affect the shape of a river's hydrograph. [6 marks]

**Indicative content:**

- High drainage density will shorten the lag time within a drainage basin, because there is a shorter distance for the water to travel before reaching a channel and therefore contributing to the discharge of a river.
- There will also be a higher peak discharge as there is less time for evapotranspiration, less time for infiltration and so more water reaches the channel. Once the water is in the river it moves relatively fast to the gauging station.
- Reference to steepness of rising and falling limbs and flashiness of discharge is worthy of credit under description.
- Effects indicated on diagrams should be credited.

**Level 2 (5-6 marks):** candidates explain clearly how high drainage density affects the shape of the hydrograph by referring to peak and lag. Understanding is clear and there is accurate use of geographical terminology.

**Level 1 (0-4 marks):** candidates describe how high drainage density affects aspects of the hydrograph. Good use of geographical terminology will characterise the top of this level.

(d) Study Fig. 1 which shows the movements of water in a remote rural area and a suburban area of similar size.

- Using Fig. 1, describe and explain ways in which the flows of water may differ between the two areas.

**Indicative content:**

- In urban areas flows include increased surface runoff, increased channelised flows, decreased infiltration and throughflow, pipeflow, leafdrip and stemflow
- In rural areas flows include greater infiltration, throughflow, and groundwater flow.
- Reasons relate to the nature of the surfaces involved. More impermeable surfaces in urban areas allow less infiltration and so less movement through soil and a reduced soil store.
- Reasons also relate to more vegetation (trees and grass) in the rural area leading to greater interception, because there is more of a canopy. This will increase the amount of evapotranspiration and throughfall and leafdrip.
- Some may pick out differences in relief and/or gradient shown.
- Reference to figure should be expected; eg mentions of trees/vegetation, drains, buildings, impermeable surface.

**Level 3 (8-10 marks):** Differences are clearly stated. At the top of this level a minimum of two flows will be clearly described, explained and their differences made clear. There is clear use of the figure. Accurate use of geographical terminology.

**Level 2 (5-7 marks):** candidates describe and explain two or more of the flows, with rural and urban areas considered separately. Only one flow described and explained and the difference made clear can reach the top of this level. There is reasonable detail and reasonable use of geographical terminology. Maximum of 5 marks if there is no use of the figure.

**Level 1 (0-4 marks):** candidates describe one or more flows, but differences are not considered. Candidates might only consider either rural or urban at the bottom of this level. Answers might not refer directly to the figure. Responses are lacking in detail and geographical terminology is used inaccurately.

**Ecosystems**

2 (a) Study Fig. 2 which shows the nutrient cycle of a broadleaved deciduous woodland.

(i) What is meant by the term 'gross primary productivity'? [2 marks]

- The amount of plant tissue/biomass/energy created (1), with development through reference to one of photosynthesis, respiration, total or units (1).

(ii) Name one store and one flow. [2 marks]

**Store:** biomass, soil, litter

**Flow:** uptake, leaf fall/fall out/death, decomposition/decay, leaching, weathering, precipitation, run-off, migrating animals, photosynthesis

(iii) Describe and explain the nutrient cycling shown in Fig. 2. [4 marks]

**Indicative content:**

- Descriptions might identify the three main stores of nutrients: biomass, litter/DOM and soil, or some of the flows. Reference to the size of stores and flows might be expected.
- Explanations might refer to:
  - litter being decomposed by primary decomposers such as bacteria and earthworms, which forms food for secondary decomposers.
  - nutrients being immobilised in the biomass over the long term.

**Level 2 (3-4 marks):** candidates describe and explain nutrient cycling. A detailed description without explanation will be bottom of this level, but be characterised by accurate use of geographical terminology.

**Level 1 (0-2 marks):** candidates describe the nutrient cycle shown, without explanation. Terminology generally will be imprecise. Descriptive answers with no use of geographical terminology in the lower half of this level.

- (iv) Describe and explain two ways in which human activity might modify the nutrient cycle as shown in Fig. 2. [6 marks]

**Indicative content:**

- Accept any reasonable human activities.
- Both stores and flows can both be altered:
  - the source of nutrients can be removed from the nutrient cycle by deforestation leading to leaching due to excessive rainfall and increased surface runoff and washing, both leading to nutrients being washed from the litter store.
  - stores can be modified (eg planting, fires, clearance etc.)
  - flows can be speeded up (eg coppicing) or interrupted.

**Level 2 (5-6 marks):** candidates describe and explain how two human activities modify the nutrient cycle shown. There is a clear sense of understanding and confident use of geographical terminology.

**Level 1 (0-4 marks):** candidates describe and explain how one human activity modifies the nutrient cycle shown or describe how two human activities modify the nutrient cycle shown. The sense of understanding is not convincing and the use of geographical terminology is less accurate.

- (b) For a named and located sand dune ecosystem describe and explain how physical factors affect the plant succession. [10 marks]

**Indicative content:**

- Physical factors include, exposure to wind, dune instability, levels of salinity, changing soil conditions, changing water conditions, rabbits and grazing by wild animals
- Succession includes the change in plants from pioneer species to the climax vegetation, with an emphasis on change
- Explanations may relate to:
  - plant adaptations to the harsh conditions near the coast, including salt tolerance (halophytic) and drought resistance (xerophytic).
  - increasing soil acidity with distance inland
  - changes in soil moisture (including dune slacks)
  - time for development.

1 mark is reserved for a correctly named and located sand dune ecosystem.

**Level 3 (8-10 marks):** candidates describe, explain and make clear how physical factors affect plant succession. More than one physical factor is described and explained. Geographical terminology is used accurately and effectively.

**Level 2 (5-7 marks):** candidates describe and explain at least one physical factor and its affects on plant succession, or makes clear detailed links between physical factors and succession. To reach the top of this level, the link with successional stages must be clear. Reasonable use of geographical terminology.

**Level 1 (0-4 marks):** candidates describe physical environment or plant succession but there is no link between the two. Inaccurate use of geographical terminology.

## Atmospheric Systems

3 (a) Study Fig. 3 showing variations in the average annual amount of incoming solar radiation reaching the earth's surface.

(i) Describe the pattern shown on Fig. 3. [6 marks]

**Indicative content:**

- Lowest amounts are received in the polar regions, particularly towards the North Pole ( $75 \text{ W/m}^2$ ).
- The highest amount is found over northern Africa and the Middle East ( $275 \text{ W/m}^2$ ).
- A polewards decrease in the amount of solar radiation received.
- The highest values are not along the Equator.
- Variations by hemisphere and between land and ocean

**Level 2 (5-6 marks):** candidates describe the pattern in detail. Figures are quoted from the map. Two anomalies, but no figures can gain top of level. At least one variation on the general pattern is given.

**Level 1 (0-4 marks):** candidates describe the pattern with some attention to detail at the top of this level. There is no reference to anomalies in this level.

(ii) Suggest two reasons for the differences in the values between high and low latitudes. [6 marks]

**Indicative content:**

- The curvature of the earth will lead to greater surface area being covered by the same amount of radiation at higher latitudes.
- There is more radiation lost through reflection or absorbed due to the differences in the thickness of the atmosphere.

**Level 2 (5-6 marks):** candidates suggest and develop two reasons for the differences, with these differences made clear. Knowledge is clear. Accurate use of geographical terminology.

**Level 1 (0-4 marks):** candidates suggest one or two reasons but the development is absent or weak. One reason well explained can reach the top of this level. Inaccurate use of geographical terminology.

- (b) (i) **Identify two ways in which energy can be transferred at a local scale.** [4 marks]

**Indicative content:**

- Energy can be transferred on a local scale by radiation, convection, conduction, advection, latent heat, sensible heat, local wind patterns, reflection.

**Level 2 (3-4 marks):** two local transfers of energy are identified.

**Level 1 (0-2 marks):** one local transfer is identified.

- (ii) **Explain how local energy budgets give rise to frost.** [10 marks]

**Indicative content:**

- There needs to be sufficient cooling of temperatures below freezing.
- There needs to be sufficient moisture that will freeze due to temperature change.
- Calm conditions related to anticyclones/ high pressure are needed so that energy is not transferred and there is no warming. Minimal sensible heat transfer.
- Night time and winter
- Longwave radiation is emitted from the earth and no cloud cover means that the heat escapes from the atmosphere. Longer nights allow more radiation to escape.
- Ground temperature falls to below freezing and so condensation droplets become frozen onto a surface such as vegetation or roads.
- Air frost forms with the same conditions but the air temperature falls below freezing at a height of at least 1.3m above the ground.

**Level 3 (8-10 marks):** candidates explain clearly and with confidence the formation of ground frost. Processes of condensation/sublimation will be present. At the top of this level air frost might be explained. The answer is convincing and there is accurate use of geographical terminology.

**Level 2 (5-7 marks):** candidates explain with some confidence the formation of ground or air frost. An emphasis on the conditions necessary for frost to form will characterise this level. The answer is not wholly convincing and there are some gaps in their knowledge. Geographical terminology is used reasonably well.

**Level 1 (0-4 marks):** candidates describe some of the conditions needed for frost formation. Inaccurate use of geographical terminology.

## Lithosphere

- 4 (a) Study Fig. 4 which shows the major tectonic plates and distribution of active volcanoes.

Describe the distribution of active volcanoes. [4 marks]

**Indicative content:**

- Most volcanic activity occurs in narrow belts and they are closely associated with plate boundaries. Differences between types of plate boundary may be observed.
- There are some exceptions such as Hawaii, which are hot spot volcanoes.
- There are very few away from plate boundaries, although there are some exceptions. Some plate boundaries in some areas have no volcanoes associated with them (eg California, Himalayas).
- Recognition of absence, such as continental interiors

**Level 2 (3-4 marks):** candidates describe in detail the distribution shown. For full marks it is reasonable to expect reference to the overall pattern as well as to particular named boundaries, with variations in patterns or anomalies identified.

**Level 1 (0-2 marks):** candidates make statements about the distribution. At the bottom of the level it will be very superficial whilst at the top there will be more detail but accuracy will be lacking and there will be no reference to an anomaly.

- (b) Describe how tectonic processes are responsible for volcanic activity at constructive plate boundaries. [6 marks]

**Indicative content:**

- Convection currents are responsible for ridge push so crust is dragged apart.
- Magma rises to fill the gap created
- Basaltic magma is produced that has a low viscosity.
- The reduced pressure causes magma to erupt.
- A diagram may help the description.

**Level 2 (5-6 marks):** candidates describe tectonic processes and the relationship to volcanic activity at a constructive margin is clear. Accurate use of geographical terminology.

**Level 1 (0-4 marks):** candidates describe some processes but the link with volcanic activity is not clear and the description is lacking detail. Inaccurate use of geographical terminology.



- (c) Describe and explain the formation of island arcs. [6 marks]

**Indicative content:**

- Island arcs are a chain of volcanic islands that are formed along destructive plate boundaries.
- Island arcs form where two oceanic plates converge and subduction takes place. There is a lot of heat generated as subduction takes place and so magma is created. Reference to melting of subducted plate and of mantle material through frictional heat.
- This leads to a string of volcanoes following the line of the ocean trench.
- An annotated diagram could achieve full marks.

**Level 2 (5-6 marks):** candidates describe and explain the formation of island arcs clearly and in detail. There is a clear sense of knowledge and understanding. Geographical terminology is used accurately.

**Level 1 (0-4 marks):** candidates describe but there may be an element of explanation at the top of this level. There is some knowledge of their formation. Geographical terminology is used inaccurately.

- (d) Weathering is a process that affects all rock types. Describe and explain the factors that determine the type and rate of weathering process that occurs. [10 marks]

**Indicative content:**

- Factors that affect the type of weathering include rock type, temperature and precipitation, amount of vegetation cover, human activity.
- Factors that affect the rate of weathering include climate, rock structure, vegetation cover, aspect, human activity.

**Level 3 (8-10 marks):** candidates describe and explain two or more factors that determine the type and rate of weathering. The answer is clearly written with accurate use of geographical terminology. There is evidence of clear understanding.

**Level 2 (5-7 marks):** candidates describe and explain at least one factor and its affects on the rate and type of weathering, or describe and explain two factors on the rate or type of weathering, or make clear detailed links between factors and the type and rate of weathering, with no explanation There is evidence of understanding and reasonably accurate use of geographical terminology.

**Level 1 (0-4 marks):** candidates describe factors that affect the type and rate of weathering although explanation and links to type and rate are absent. There is inaccurate use of geographical terminology.



**Mark Scheme 2681  
January 2007**

**Additional Guidance**

- 1 All scripts are liable to outside scrutiny or a re-mark following a Result Enquiry. It is therefore essential that the marking and comments on the scripts are clear to an observer, sample marker or any re-marking after the grading. Please keep to the conventions outlined by the Principal Examiner and avoid individual idiosyncrasies. Mark in red biro or red ink. (Team leaders mark in red and re-mark in green). Useful abbreviations include:  
K knowledge  
U understanding  
E explanation

Fill in the boxes on the front page of the script.

- 2 Please add helpful comments where they help to explain your decision, but do not express your frustrations, views on the candidate's ability or the competence of their teacher! Under no circumstances should you put sarcastic or derogatory comments on the scripts. Where levels are used you should indicate the highest level achieved and where appropriate the achievement of lower levels.
- 3 Please do not cross out text.
- 4 Add comments where appropriate to indicate the dialogue you are having with the script. Research has identified ticks as a sign of rushed or causal marking so please do not use them.
- 5 Every section of an answer must show evidence of having been read. Do not think that you can 'skim' through irrelevant patches. They may be worthy of some credit. Sometimes candidates add a few lines on extra sheets or at the back of an answer book. If this additional piece gains no marks make sure that you indicate that it has been read. If you get to a marginal decision, at the end of a longer piece of writing, eg is it worth full marks (10) or (9) then take a positive stance and award 10.
- 6 Where the rubric has been infringed you need to mark all of the work and to select the best answer within the rubric. Cancel with a single line any marginal marks that you have to exclude. Make a note of the infringement on the front of the script.
- 7 If you suspect dishonest practice contact your team leader to discuss the issue and then follow the guidelines provided.
- 8 Your checker must follow the instructions on the reverse of the Checker's claim form.

Thank you for following all of these procedures accurately.

**Generic Descriptions for Levels Marking**

- 1 On the 2680, 2681 and 2682/01 papers you will see that questions are marked out of the following maximum marks.

2  
4  
6  
10  
20

- 2 For most questions we will use **LEVEL MARKING** based on **generic descriptors** with clarification on the specific content requirements given on a question-by-question basis. Level marking will always be used for questions marked out of a maximum of 6, 10 and 20 and usually (but not always) for questions marked out of a maximum of 4.
- 3 On the following pages are the generic descriptions for the various maximum marks. Please use these when marking the level marked questions in conjunction with the main mark scheme document.
- 4 You will see that in the generic descriptions there are clear progressions in the standards expected. For example:

'High level' answers tend to be:

'detailed'  
'good'  
'effective'  
'developed'  
'clearly present'

'Middle level' answers tend to be:

'clear'  
'sound'  
'reasonable'  
'present'  
'some'

'Low level' answers tend to be:

'basic'  
'little or no'  
'lacks substance'  
'limited'

The descriptors for 'middle level' answers could include the top of Level 1 in answers marked using only two levels.

**Level marking - Questions marked out of a maximum of 4****Level 2: 3-4 marks****Level 1: 0-2 marks****Level 2**

- A **detailed** answer with **good** understanding and knowledge
- Some **development** of ideas
- **Effective** use of geographic terminology
- A **clear** level of written communication

**Level 1**

- A more **limited** answer with **basic** understanding and knowledge
- **Limited** or **no** development of ideas
- **Basic** use of geographic terminology
- **Limited** level of written communication

**Level marking - Questions marked out of a maximum of 6****Level 2: 5-6 marks****Level 1: 0-4 marks****Level 2**

- A **detailed** answer with **good** understanding and knowledge
- **Development** of ideas
- Examples and or data/evidence **clearly integrated** into the answer
- Links are **effectively** made
- **Effective** use of geographic terminology
- **Clear** use of written communication

**Level 1**

- A **more limited** answer with perhaps **reasonable** knowledge but **basic** understanding
- **Limited** or **no** development of ideas
- **Limited** or **no** integration or use made of examples or data/evidence
- **Limited** or **no** links are made
- **Limited** use of geographic terminology
- **Limited** level of written communication

**Level marking - Questions marked out of a maximum 10 or 20****Level 3 : 8-10 marks / 16-20 marks****Level 2 : 5-7 marks / 8-15 marks****Level 1 : 0-4 marks / 0-7 marks****Level 3**

- A **detailed** answer with **good** understanding and knowledge
- Both description and explanation **clearly present**
- **Development** of ideas
- Examples/data/evidence are **clearly integrated** into the answer
- Links are **effectively** made
- **Effective** use is made of geographic terminology
- A **clear** use of written communication

**Level 2**

- A **clear/sound** answer with perhaps **reasonable** knowledge but **less convincing** understanding
- Both description and understanding are **present**
- **Some development** of ideas
- **Little use** of examples/data/evidence
- **Some attempt** at linkage is made
- **Some use** of appropriate geographic terminology
- A **reasonable level** of written communication is present

**Level 1**

- The answer **lacks substance** and offers **only basic or unconvincing or no** knowledge/ understanding
- **Only one** of description or explanation is present
- **Little or no development** of ideas
- **No use** made of examples/data/evidence
- **Basic or no** links made
- **Little or no use** of appropriate geographic terminology
- **Basic level** of written communication

## Population

1 Study Fig. 1 which shows the infant mortality rate and the Gross National Product (GNP) per capita of selected countries in 2005.

(a) (i) What is meant by the term infant mortality rate? [2]

The number of babies who die before their first birthday per 1000 live births. (2 marks)

If no reference to correct rate eg the number of babies who die under the age of 1. (1 mark)

(ii) Describe the relationship shown in Fig. 1. [4]

**Indicative content:**

Possible summative comments include:

- The basic relationship - the higher the infant mortality the lower the GNP
- Description of continental groupings
- An LEDC / MEDC contrast
- Reference to the widely spread values of IMR amongst nations with lower GNP

**Level Two (3-4 marks):**

A clear response which describes the relationship shown on the scatter graph.

The discriminator from level 1 is statement of a summative comment supported by evidence from Fig.1.

For full marks reference to high and low values is expected. Max 3 marks without specific reference to named countries or the use of figures or anomalies.

**Level One (0-2 marks):**

A basic response in which there is unstructured reference to individual countries or where there is reference to only one of the indices.

(iii) Suggest two reasons for the variation in infant mortality rates shown in Fig. 1. [6]

**Indicative content:**

- wealth - ability to buy food
- food intake/nutrition - quality/quantity
- standards of health care - ante/post natal
- access to health care
- famine - climatic, pests - food shortages/increasing food prices
- education
- female literacy
- sanitation
- water supply
- diseases - endemic, epidemics etc.



**Level Two (5-6 marks):**

An explanation in which there is clear understanding of the factors which directly affect variations in infant mortality. The discriminator from level 1 is that at least two factors are well explained. At least one of the factors should be linked explicitly to the IMR.

**Level One (0-4 marks):**

A basic response. At the upper end of the mark range, up to 4 marks may be awarded for a well-developed explanation of one factor. Equally, two factors, each of which is less well explained and only linked to IMR by implication, may be awarded up to 4 marks.

At the lower end of the mark range understanding is weak with brief undeveloped phrases. Max 2 for description of variations in the figures only.

**(b) What is meant by the term international migration? [2]**

A permanent, or semi-permanent, change of residence [for at least one year] across a national border (2 marks).

1 mark only for a less precise response eg a move from one country to another.

No mark for just 'movement of people'.

**(c) Describe and explain the consequences of international migration. Refer to a named country or countries. [10]*****Indicative content:***

There are many possible ways of answering this question.

Consequences may be positive and negative, short and long term:

- Economic eg resolution of labour shortages; increasing affluence; reinvestment of financial remittances in the area of origin; impact on economy in the area of loss
- Social eg tension arising from establishment of segregated socio-economic groups; improvements in quality of life, well being and freedom; alteration in type of service provision
- Demographic eg redistribution of population (often accentuating unevenness), total loss / gain (2 million from Rwanda 1994); age-selected loss / gain (45% of Bangladeshis in London under 16); impact on birth rate and natural increase (depopulation of Ireland in 19<sup>th</sup> Century)
- Cultural eg exported culture as a result of colonisation
- Political eg government responses to problems/issues arising and these may affect:
  - a particular group of people or an individual
  - geographical areas at a wide variety of scales and locations either in the place of origin and/or at the destination

Historic and modern examples are equally acceptable.

Max 6 marks for answers which are wholly generalised.

**Level Three (8-10 marks):**

Detailed knowledge and convincing understanding of the consequences of international migration. At this level consequences will be explicitly linked to specific localities and / or groups of people perhaps distinguished by age, ethnicity or income. The discriminator from level 2 is that at least two consequences are described and explained.

**Level Two (5-7 marks):**

Clear knowledge and understanding of the consequences of international migration. The discriminator from level 1 is that at least one consequence is described and explained. At the lower end of this mark range there may be more emphasis on description; factual / place knowledge is less detailed. It is the presence of explanation that distinguishes a level 2 response from level 1.

**Level One (0-4 marks):**

Basic knowledge of the consequences of international migration. Answers may offer little more than description of the consequences. Factual / place knowledge is weak.

[Total: 24]

## 2 Rural Settlement

**Study Fig. 2 which shows the location of shops and services in the upper Conwy basin and Fig. 3 shows the location of this area in North Wales.**

- (a) What is meant by the term settlement hierarchy? [2]

The ranking of settlements in order of importance according to some measure of their size or status. (2 marks)

1 mark only for a less precise definition or for part of the definition such as the rank order of settlements.

- (b) With specific reference to Fig. 2 describe the distribution of shops and services. [6]

**Indicative content:**

Features of the distribution of shops and services in Fig.2 include:

- Higher level of service provision located in the lower part of the valley
- Fewer services in total located in the uppermost parts of the valley (and its tributaries)
- Total shop and service provision is highly concentrated in two central places (Llanrwst and Betws-y-Coed)
- Apart from Llanrwst and Betws-y-Coed, total shop and service provision is widely dispersed
- The higher order centres of the settlement hierarchy provide a greater number of shops and services (over 100 shops and services each in Llanrwst and Betws-y-Coed)
- The lower order centres of the settlement hierarchy provide fewer shops and services (four centres, one in each of the main tributary valleys, provide between 14 and 26 shops and services and twelve smaller centres provide 10 or fewer shops and services)

Responses are also acceptable on the basis of altitude (valley / mountain); degree of connectivity or accessibility in the road network; north / south contrasts. Other features could include:

- Strong polarisation of shops (convenience and comparison) on the larger centres to the exclusion of many of the smaller settlements
- Greater dispersal of services (professional, general, transport) throughout the area

**Level Two (5-6 marks):**

A clear response in which the focus is on description of the spatial pattern of shops and services in the area of Fig.2. The discriminator from level 1 is description of two features of the distribution of shops and services in the area. For full marks reference to areas of high and low provision of shops and services is expected (either in total or by category).

Max 5 marks if no reference to place names or figures or anomalies.

**Level One (0-4 marks):**

A basic response. A well-developed description of one feature or a more basic description of two features of the distribution of shops and services in the area may be awarded up to 4 marks. At the lower end of the mark range (max 2 marks) there will be simple reference to one or two individual settlements and listing of their services only or, possibly, a settlement by settlement description.

- (c) **Suggest two reasons for the variation in the distribution of shops and services in Fig. 2.**

**[6]**

***Indicative content:***

Shops and services tend to locate where their threshold populations can be met. Therefore possible reasons include:

- Population distribution; especially in the contrast between the larger and the smaller settlements in the upper Conwy Valley
- Accessibility; some centres are more accessible than others in the upper Conwy Valley
- Rural planning policies – essential services such as bus routes are supported by subsidy even though their threshold population cannot be met in the smaller centres.
- Some villages have been designated as key settlements with financial support for the retention of basic shop and service provision or where expansion has been encouraged
- The distribution may be the result of polarisation in the larger centres through time perhaps as a result of rural depopulation and / or increased levels of car ownership
- The impact of tourist / visitor numbers in the development of services (such as accommodation and restaurants), evident for example in Capel Curig and Betws-y-Coed

**Level Two (5-6 marks):**

A clear response in which the emphasis is on explanation of possible reasons for the variation in provision of shops and services. The discriminator from level 1 is that at least two reasons are well developed. At this level, understanding and correct use of the term threshold population might be expected.

**Level One (0-4 marks):**

A basic response. A well-developed explanation of one reason for the variation may be awarded up to 4 marks. Two explanations which are more basic may be awarded up to 4 marks. At this level there may be less focus on explaining the variation, with perhaps an account of only one area, which has either good or poor service provision. At the lower end of the mark range brief, basic comments or phrases may be awarded up to 2 marks.

- (d) **Llanrwst is a rural market town in the upper Conwy basin. Using only the evidence provided in Fig. 2, state and explain two factors which might influence the size and / or shape of Llanrwst's trade area.** [6]

**Indicative content:**

- Total number of shops and services / area of retail floor space
- Range / variety of shops and services
- Proportion of high order shops and services
- Employment opportunities linked to commuting
- Proximity of competing centres
- Accessibility

**Level Two (5-6 marks):**

A clear response. The discriminator from level 1 is that two factors are identified and their effect on the size and / or shape of the trade area is explained. At this level an explicit link between the size and / or shape of the trade area (sphere of influence / catchment area) and the evidence in Fig. 2 is expected for at least one factor.

Max 5 marks if no reference to evidence from Fig. 2.

**Level One (0-4 marks):**

A basic response in which the link between the factors and the size and / or shape of the trade area is not explicit.

One well-explained factor which is linked to the size or shape of the trade area using evidence from Fig. 2 may be awarded up to 4 marks. Two explanations that are less well developed in which there is no explicit link to the trade area should be placed in level 1, up to 4 marks.

At the lower end of the mark range (max 2 marks) there may be little more than bald statement of factors.

- (e) **Penmachno is a village located in the picturesque Machno Valley within the Snowdonia National Park (see Fig. 2); it has experienced a decline in centrality over the last 40 years.**

- (i) **What is meant by the term centrality?** [2]

The importance or status of a settlement as a central place / relative to other settlements in an area (2 marks).

1 mark for a less precise definition such as where there is some idea of a settlement's importance as a central place viz:

'Centrality is where most amenities will be located. This is where people from smaller villages will come for higher order goods'.

'It provides the local population and surrounding settlements with a range of goods and services'.

- (ii) In Penmachno, during this period, the number of dwellings has increased but the number of shops has decreased (Penmachno's last shop closed in 2001).

Suggest one reason for the decrease in the number of shops. [3]

*Indicative content:*

- Increased personal mobility of the residents (1) enables greater access to larger centres (1)/centres where there is a greater range of goods and services (1) therefore the threshold population of shops in Penmachno cannot be met (1).
- Increase in number of residents who commute to work in a larger settlement (1) and shop where they work for convenience (1) hence local shops in Penmachno have been used less frequently (1)
- Increasing competition from supermarkets at more accessible locations (1) which benefit from economies of scale (1) with lower prices (1)/increasing tendency to shop in bulk (1) in a weekly/fortnightly shopping pattern (1)
- Population of Penmachno may have decreased (1) as a result of rural depopulation (1)/an increase in second home ownership/holiday homes (1) village population insufficient to support shops throughout the year (1)

[Total: 25]

### 3 Urban Settlement

Study Fig. 4, which shows the percentage of adult population receiving an annual personal income of over \$30,001 in Christchurch, New Zealand and Fig. 5 which shows wards and land use for the same area. Christchurch is a city of 320,000 people.

- (a) (i) Describe the pattern shown on Fig. 4. [4]

*Indicative content:*

Alternative summative comments:

- High %s of higher income groups of \$30,001 or more in peripheral areas
- Low % of higher income groups of \$30,001 or more in central areas
- High % of higher income groups of \$30,001 or more in coastal areas

Anomalous areas include:

- The high percentages of higher income groups in the more central location of SE Fendalton - Waimairi ward
- The relatively low % of higher income groups in the peripheral area of western Riccarton - Wigram ward
- The low % of higher income groups in the central coastal area of Burwood – Pegasus ward

**Level Two (3-4 marks):**

A clear response which concentrates on description of the pattern of higher income groups in Christchurch.

The discriminator from level 1 is statement of a summative comment supported by evidence from Fig.4.

For full marks reference to high and low values is expected.  
Max 3 marks if no reference to place / figures / anomalous areas.

**Level One (0-2 marks):**

A basic response in which there is either only a very brief outline of the pattern or a simplistic unit-by-unit description.

- (a) (ii) **With the aid of Fig. 5, state and explain two possible reasons for this pattern.** [6]

***Indicative content:***

Possible reasons for the peripheral location of the higher income groups include:

Those based on Fig. 5:

- Ability to afford more expensive, lower density housing (suggested by the road layout).
- Environmental benefits derived in locations near to parks, conservation zones / the coastline
- Deliberate distancing from industrial / commercial areas / areas of lower income

Others:

- Greater car ownership - ability to commute to work in more central areas
- Efficient public transport systems - commuting
- Later stage in family life cycle - housing requirements eg space for children or bungalows in retirement
- Teleworking from home
- Distancing from areas with lower quality of life/ethnic minority groups.

**Level Two (5-6 marks):**

A clear response which demonstrates good understanding of Fig. 5 and of this form of segregation by income. Answers may focus on the areas of high %s of higher income or the areas of low %s of higher income or both.

The discriminator from level 1 is that two reasons are given for this centre-periphery distribution.

**Level One (0-4 marks):**

A basic response. One well-developed reason or two less well explained reasons may be awarded up to 4 marks.

At the lower end of the mark range comments are brief and simplistic. There is little reference, if any, to Fig. 5.

- (b) Suggest two reasons for the spatial segregation of ethnic minority groups in cities in MEDCs. [6]

**Indicative content:**

Possible reasons for segregation by ethnicity include:

- Advantages derived from proximity in terms of similar language / culture
- Access to services such as temples, mosques, ethnic schools / shops
- Security / defence against the host society
- Discrimination in the housing market
- Location of poor quality cheaper housing - especially amongst the poorer groups of immigrants
- Flight of the indigenous population to the suburbs leaves ethnic minorities highly concentrated
- Ethnic minorities may segregate to achieve political power
- Access to employment in the inner city / CBD - lower car ownership / ability to afford public transport

**Level Two (5-6 marks):**

A clear response explaining the cause of ethnic segregation either forced or voluntary. The discriminator from level 1 is that two well-developed reasons are offered. Exemplification either by named location or by ethnic group is not essential but it may confirm good understanding and lead to the award of full marks.

**Level One (0-4 marks):**

A basic answer in which one well developed or two less well explained reason for segregation by ethnicity may be awarded up to 4 marks.

At the lower end of the mark range explanation of the spatial pattern is vague / simplistic or there is a tendency simply to describe the locations of ethnic groups.

- (c) With reference to one named urban area in an MEDC, describe and explain the effects of population change on the environment. [10]

**Indicative content:**

This question is open to wide ranging interpretation.

Population change could include:

- Total gain
- Total loss
- Change in distribution
- Change of socio-economic group (eg by income or ethnicity)
- Change in age - sex structure

Environmental effects could include:

- Atmospheric pollution
- Loss of woodland
- Loss of farmland
- Increased flood risk
- Dereliction/creation brownfield sites
- Regeneration
- Building/development of specific services for ethnic groups
- Urban sprawl
- Changing land use in the rural - urban fringe

Two effects on the environment could emanate from the same population change.

A detailed and accurate theoretical response (wholly generalised) may be awarded up to 6 marks.

**Level Three (8-10 marks):** Detailed knowledge and understanding of the effects of population change on the environment of an MEDC urban area. The discriminator from level 2 is that the response includes an account of at least two different effects on the environment arising from an aspect of population change. There is an explicit link between an aspect of population change and its effect on the environment. Reference to intra-urban named areas/neighbourhoods is expected at this level.

**Level Two (5-7 marks):** Clear knowledge and understanding of the effects of population change on the environment. The discriminator from level 1 is that the response includes explanation of one effect. At this level there may be more limited coverage with less secure knowledge of intra - urban place detail. At the lower end of the mark range the response tends to be weighted more towards description than explanation, but at least some degree of appropriate explanation does distinguish the response from level 1.

**Level One (0-4 marks):** Basic knowledge of the effects of population change on the environment with little or no link between the two elements. There may be a description of environmental problems only; at the lower end of the mark range only brief comments are offered.

**[Total: 26]**



**Mark Scheme 2682  
January 2007**

State the title of your Geographical Investigation below.

- 1 (a) Describe and explain the choice of location for your Geographical Investigation. [10 marks]

**Indicative content – not all points are required to achieve full marks:**

- Accessible and free from risk.
  - *Eg river easy to reach by a gently sloping footpath from a bridge over the river, therefore did not take a long time to carry equipment to river; parking space for the minibus off the road; no problems with rights of way along the river and no difficult walls to climb over or obstructions such as rock falls or cliffs or boggy areas.*
- Suitability for data collection:
  - *Proximity, eg town was near to the field study centre where the group was staying.*
  - *Size, eg area was large enough to obtain a large enough sample of building types in order to determine the CBD boundary, but not too big to necessitate many transects in order to determine the boundary.*
  - *Characteristics, eg the influence of man was present and desirable to show his impact OR there was minimal influence of man (plantations, urbanisation, water extraction, sand dunes) and therefore able to consider natural impacts (or other physical feature); the site represented well the model being studied.*
  - *Variation, eg river showed a good number of changes in channel characteristics over a short distance, therefore able to collect data in one day; selection of a variety of sites for pedestrian flows in CBD that would show variation and enable definition of CBD.*

**The following skills are applied to each level:**

- Level of detail.
- Use of geographical terminology.
- Clarity of the description and explanation.
- Discussion relates to the personal enquiry.
- Relevance of the material presented.
- Understanding the relevance of how to select a location.
- Balance of the response between description and justification.

**Level 3 (8-10 marks)**

**Description and explanation** of locational choice are discussed **in detail**.

The answer is logically ordered.

There will be reference to the nature of the location.

**Level 2 (5-7 marks)**

**Either** **Description and explanation** of locational choice are discussed clearly.

**Or** **One of description or explanation** of locational choice is discussed **in detail and the other basically**.

There are lapses in the logic of the answer.

There may be references to the candidate's actual investigation.

**Level 1 (0-4 marks)**

**Description or explanation** of locational choice is discussed **basically**.

There are considerable gaps and/or errors in the answer.

1 (b) Identify and explain two limitations of the location chosen. [10 marks]

**Indicative content – not all points are required to achieve full marks:**

- Poor access and not free from risk.
  - *Eg river was not easy to reach as it was accessed by a steep, long footpath from road, therefore it took a long time to carry equipment to river; no off road parking space for the minibus; rights of way along the river had not been checked nor was the state of the river bank where walls were difficult to climb over and there were obstructions such as rock falls or cliffs or boggy areas.*
- Suitability for data collection:
  - *Proximity, eg town was long way from field study centre where the group was staying.*
  - *Size, eg area was not large enough to obtain a large enough sample of building types in order to determine the CBD boundary; town too big to obtain sufficient transects in order to determine the boundary; river too big to obtain representative sample.*
  - *Characteristics, eg the influence of man was present but it was not desirable to show his impact (sand dunes, rivers); there was minimal influence of man and therefore unable to consider affects on the river (or other physical feature); difficult to navigate around complex layout of urban streets, leading to poor dataset.*
  - *Variation, eg river changes in channel characteristics only over a long distance, therefore unable to collect data in one day.*
  - *Safety, eg some parts of CBD unsafe to work in, therefore had to be left out.*

The following skills are applied to each level:

- Level of detail.
- Use of geographical terminology.
- Clarity of the description and explanation.
- Discussion relates to the personal enquiry.
- Relevance of the material presented.
- Understanding the limitations of a study location.

**Level 3 (8-10 marks)**

**Two** limitations are explained **in detail**.

The answer is logically ordered.

**Level 2 (5-7 marks)**

**Either** **Two** limitations are explained **clearly**.

**Or** **One** limitation is explained **in detail and the other basically**.

If only one limitation max. 6.

There are lapses in the logic of the answer.

**Level 1 (0-4 marks)**

**One or two** limitations are explained **basically**.

There are considerable gaps and/or errors in the answer.

2 The photographs in Figs 1 and 2 show two retail service locations.

- (a) Describe and justify the sampling strategy you would use to collect the following types of data at the retail park: home location, retail outlets visited and mode of travel. [10 marks]

*Indicative content – not all points are required to achieve full marks:*

- Strategy:
  - Approach: eg questionnaire, observation (vehicle, pedestrian counts).
  - Type of sampling used, eg random, systematic, stratified, pragmatic.
  - Realistic sample size: a lot of potential respondents at retail park.
  - Stratifying respondents by age and gender.
  - When to sample: time of day; day of week.
  - Sampling locations: large variety of outlets at retail park to sample at.
  - Gathering data in groups/individually.
- Approach to question
  - No direct reference to the three variables, but the response makes sense for all three.
  - An appropriate strategy is suggested for the variables individually.

**The following skills are applied to each level:**

- Level of detail.
- Use of geographical terminology.
- Clarity of the description and explanation.
- Discussion relates to the resource.
- Relevance of the data suggested for collection.
- Understanding strategy for data collection.
- Balance between the 2 parts of the response.

**Level 3 (8-10 marks)**

**Description and justification** of sampling strategy are discussed **in detail**.

The answer is logically ordered.

**Level 2 (5-7 marks)**

**Either** **Description and justification** of sampling strategy are discussed **clearly**.

**Or** **One of description or justification** of sampling strategy is discussed **in detail** and the **other basically**.

There are lapses in the logic of the answer.

**Level 1 (0-4 marks)**

**Description** of sampling strategy is discussed **basically**.

There are considerable gaps and/or errors in the answer, eg only describes content of a questionnaire.

- 2 (b) **Suggest two problems you might face when collecting the same types of data in the small town shown in Fig. 2.** [10 marks]

*Indicative content – not all points are required to achieve full marks:*

- Problems are discussed in terms of problems if comparing with the retail park
  - *Cannot sample at both locations at the same time of day/day of week due to lack of human resource, therefore compromising the comparison.*
  - *Cannot get similar sample size at both locations, due to varying number of potential respondents or lack of human resource.*
  - *Sampling may be affected by different weather conditions (not actually dependent on size of location).*
- Problems of collecting just at the town centre
  - *Cannot sample at all locations at the same time of day/day of week/more than once due to lack of human resource, therefore sample not representative of the population.*
  - *Sampling may be affected by the weather conditions.*
  - *People unwilling to answer or untruthful when answering questionnaire, therefore poor dataset.*

**The following skills are applied to each level:**

- Level of detail.
- Use of geographical terminology.
- Clarity of the description and explanation.
- Discussion relates to the resource.
- Relevance of the problems referred to.
- Understanding of what makes data comparable.

**The following content is applied to each level:**

**Level 3 (8-10 marks)**

**Two** problems are discussed **in detail**.

Fig. 2 is referred to.

The answer is logically ordered.

**Level 2 (5-7 marks)**

**Either** **Two** problems are discussed **clearly**.

**Or** **One** problem is discussed **in detail** and the **other** problem **basically**.

If only one problem max. 6.

Fig. 2 may be referred to.

There are lapses in the logic of the answer.

**Level 1 (0-4 marks)**

**One or two** problems are discussed **basically**.

There are considerable gaps and/or errors in the answer.

**3 An AS Geographical Investigation studied the impact of people on footpath erosion in an area of sand dunes. Fig. 3 shows the data collected.**

- (a) With the aid of a labelled sketch diagram, describe and justify a graphical technique to show the relationship between the width of footpath erosion and distance from the car park. [10 marks]**

*Indicative content – not all points are required to achieve full marks:*

- *Scattergraph + line graph:*
  - *Axes +labels*
  - *Very easy to apply*
  - *Visual presentation easy to interpret*
  - *Visual estimation of association*
  - *Less likely to suggest spurious relationship (not line graph)*
  - *Can apply line of best fit (not line graph).*
- *Bar chart or histogram*
  - *Axes +labels*
  - *Content of bars*
  - *Very easy to apply*
  - *Visual presentation easy to interpret*
  - *Less likely to suggest spurious relationship*
  - *Can add altitude data easily if desired*
- *Also: kite diagram; plan representation showing changing width of path; proportional circles (not pie charts); located graphs for any appropriate technique.*

**The following skills are applied to each level:**

- Level of detail.
- Use of geographical terminology.
- Clarity of the description and explanation.
- Discussion relates to the resource.
- Relevance of the technique selected.
- Understanding the properties of the graphical technique to examine relationship.

**The following content is applied to each level:**

**Level 3 (8-10 marks)**

**Description and justification** of graphical technique are discussed **in detail**.

The dataset is referred to.

The answer is logically ordered.

**Level 2 (5-7 marks)**

**Either** **Description and justification** of graphical technique are discussed **clearly**.

**Or** **One of description or justification** of graphical technique is discussed **in detail and the other basically**.

The dataset may be referred to.

There are lapses in the logic of the answer.

**Level 1 (0-4 marks)**

**Description** of graphical technique is discussed **basically**.

There are considerable gaps and/or errors in the answer.

**Max 6 marks if no sketch diagram or no text.**

- 3 (b) Identify a statistical test you would use to examine the relationship between the width of footpath erosion and distance from the car park. Outline the benefits of your choice of test. [10 marks]

*Indicative content – not all points are required to achieve full marks:*

- Spearman's Rank Correlation Coefficient:
  - *Easy to apply.*
  - *Can test at a selected level of confidence.*
  - *More precise than a graph.*
  - *Use small to large datasets.*
  - *Able to determine strength and direction of relationship.*
  - *Uses ordinal data; uses paired data.*
- Pearson's Product Moment:
  - *As Spearman's except: use very small to very large data sets.*
  - *[NB: no credit for: easy to apply with manual calculation, use ordinal data].*
- Response can be in terms of the benefits of the test itself *and/or* how the dataset is suitable for the test.

**The following skills are applied to each level:**

- Level of detail.
- Use of geographical terminology.
- Clarity of the discussion.
- Discussion relates to the resource.
- Relevance of the benefits presented.
- Understanding of the reasons suggested.

**The following content is applied to each level:**

**Level 3 (8-10 marks)**

Benefits are discussed **in detail**.

The answer is logically ordered.

**Level 2 (5-7 marks)**

Benefits are discussed **clearly**.

There are lapses in the logic of the answer.

**Level 1 (0-4 marks)**

Benefits are discussed **basically**.

There are considerable gaps and/or errors in the answer, eg gives interpretational benefits of Mann-Whitney (eg apply confidence level); gives benefits of appropriate test but gives wrong name.

NB: the question does not ask the candidate to refer to the dataset specifically.





**Mark Scheme 2683  
January 2007**

**Additional Guidance**

- 1 All scripts are liable to outside scrutiny or a re-mark following a Result Enquiry. It is therefore essential that the marking and comments on the scripts are clear to an observer, sample marker or any re-marking after the grading. Please keep to the conventions outlined by the Principal Examiner and avoid individual idiosyncrasies. Mark in red biro or red ink. (Team leaders mark in red and re-mark in green). Useful abbreviations include:  
K knowledge  
U understanding  
E explanation

Fill in the boxes on the front page of the script.

- 2 Please add helpful comments where they help to explain your decision, but do not express your frustrations, views on the candidate's ability or the competence of their teacher! Under no circumstances should you put sarcastic or derogatory comments on the scripts. Where levels are used you should indicate the highest level achieved and where appropriate the achievement of lower levels.
- 3 Please do not cross out text.
- 4 Add comments where appropriate to indicate the dialogue you are having with the script. Research has identified ticks as a sign of rushed or casual marking so please do not use them.
- 5 Every section of an answer must show evidence of having been read. Do not think that you can 'skim' through irrelevant patches. They may be worthy of some credit. Sometimes candidates add a few lines on extra sheets or at the back of an answer book. If this additional piece gains no marks make sure that you indicate that it has been read. If you get to a marginal decision, at the end of a longer piece of writing, eg is it worth full marks (10) or (9) then take a positive stance and award 10.
- 6 Where the rubric has been infringed you need to mark all of the work and to select the best answer within the rubric. Cancel with a single line any marginal marks that you have to exclude. Make a note of the infringement on the front of the script.
- 7 If you suspect dishonest practice contact your team leader to discuss the issue and then follow the guidelines provided.
- 8 Your checker must follow the instructions on the reverse of the Checker's claim form.

**Thank you for following all of these procedures accurately.**

## Generic Mark Scheme

## AO1 Knowledge (0-11 marks)

Section A		Section B
6-7	<b>Level 3</b> Substantial knowledge of themes, processes, concepts, environments, and where appropriate specific examples.	4
4-5	<b>Level 2</b> Sound knowledge of themes, processes, concepts, environments, and where appropriate specific examples.	2-3
0-3	<b>Level 1</b> Basic knowledge of themes, processes, concepts, environments and examples.	0-1

## A02 Critical Understanding of Content (0-10 marks)

Section A		Section B
4	<b>Level 3</b> Authoritative understanding of concepts, theories and content including examples where appropriate.	5-6
2-3	<b>Level 2</b> Sound understanding of concepts, theories and content including examples where appropriate.	3-4
0-1	<b>Level 1</b> Basic understanding of concepts, theories and content and examples where appropriate.	0-2

## AO3 Application of knowledge and critical understanding to unfamiliar contexts (0-12 marks)

Section A		Section B
3	<b>Level 3</b> Clear application of relevant knowledge and understanding to the question set.	8-9
2	<b>Level 2</b> Sound application of relevant knowledge and understanding to the question set.	5-7
0-1	<b>Level 1</b> Limited application of relevant knowledge and understanding to the question set.	0-4

## AO4 Skills and techniques including communication skills (0-12 marks)

Section A		Section B
5-6	<b>Level 3</b> Clear structure and organisation. Communication is clear with maps, diagrams, statistics, if appropriate. Confident use of geographical terms.	5-6
3-4	<b>Level 2</b> Sound structure and organisation. Communication is sound with maps, diagrams, statistics, if appropriate. Some accurate use of geographical terms.	3-4
0-2	<b>Level 1</b> Poor structure and organisation. Much inaccuracy in communication and limited and/or ineffective use of different forms. Little confidence in the use of geographical terms.	0-2

**Coastal Environments**

1 (a) With the help of labelled diagrams, describe the following coastal landforms: spits (both simple and compound); barrier beach. [20]

(b) Explain how swash-aligned and drift-aligned beaches are the result of the interaction of a number of factors. [25]

(a)

These coastal landforms are explicitly mentioned in the Spec. and so should enjoy secure knowledge and understanding. The question is explicit in its requirement for 'labelled diagrams' which can be assessed in terms of their effective communication in A04, but make sure a double penalty or reward is not given on artistic talent in terms of Knowledge and Understanding; these aspects of the response must be assessed separately under the AOs.	
AO1+ AO2	<ul style="list-style-type: none"> <li>spits - elongated depositional forms attached at one end to the mainland, usually developed where coast changes direction. Simple and compound to be included for Level 3. Include tombolo; cusped foreland.</li> <li>barrier beach – elongated offshore ridge of sediment running parallel with mainland coast + separated by a lagoon</li> <li>an idea of scale might indicate a Level 3 response</li> </ul>
AO3	<ul style="list-style-type: none"> <li>three landforms needed for Level 3</li> <li>two landforms needed for level 2</li> <li>only one landform Level 1 maximum</li> <li>level 1 max if no diagrams</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

(b)

Both these types of beaches are explicitly mentioned in the Spec. and so should enjoy secure knowledge and understanding. Factors such as; prevailing wind; sediment input; wave refraction; wave energy; human activity.	
AO1+ AO2	<ul style="list-style-type: none"> <li>swash-aligned – crescent-shaped bay-head beaches on indented coasts where waves are fully refracted. May be some longshore movement of sediment within the bay but limited – main movement is on-shore/off-shore, a point needed for Level 3</li> <li>drift-aligned – waves not fully refracted and so longshore drift occurs. Often form where coast changes direction eg estuaries. Recurved ridges mark phases in growth. Associated with low tidal range &gt;2m – when mentioned a likely indicator of a Level 3 response</li> </ul>
AO3	<ul style="list-style-type: none"> <li>only one mentioned then bottom of Level 2 maximum</li> <li>the question highlights 'interaction'; a simple catalogue of factors can reach bottom of Level 2 max; attempts to consider 'interaction' are likely to be top of Level 2 as a minimum</li> <li>zeta-form beach – combination of swash and drift alignment: a likely level 3 indicator.</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

- 2 (a) Describe the formation of concordant and discordant coastlines. [20]
- (b) Explain how coastal management schemes attempt to minimise the effects of weathering and mass movement on cliffs. [25]

(a)

In the heading 'Structure and coastlines' both concordant and discordant are explicitly mentioned	
AO1+ AO2	<ul style="list-style-type: none"> <li>• basic distinction between the parallel structure of concordant and the perpendicular of discordant coastlines</li> <li>• clear association between geological structure and the shape of the coastline for Level 2 in both AOs</li> <li>• bays and headlands associated with discordant; more resistant rocks forming the headlands; the less resistant ones forming the bays</li> <li>• relatively uninterrupted plan of the concordant linked to the uniform geology; dalmation type coastline.</li> </ul>
AO3	<ul style="list-style-type: none"> <li>• balance between concordant and discordant not necessary but no mention of ones limits response to Level 1</li> </ul>
AO4	<ul style="list-style-type: none"> <li>• see generic mark scheme</li> </ul>

(b)

Sub-aerial processes are explicitly mentioned in the Spec. and are a key factor in an understanding of coastal cliff development. Many management schemes are as concerned with the sub-aerial processes as they are with marine so there is plenty of material, both conceptual and exemplar, for candidates to deploy in their responses.	
AO1+ AO2	<ul style="list-style-type: none"> <li>• hydrology of cliffs – drainage schemes of various types</li> <li>• slope profiles – regrading</li> <li>• slope surfaces – protected by rock armouring; netting to prevent mass movements such as rock fall</li> <li>• human activity eg building materials</li> <li>• vegetation seeding and planting</li> <li>• basal cliff protection but see AO3</li> </ul>
AO3	<ul style="list-style-type: none"> <li>• will have to be careful not to credit material concerned with marine processes unless the particular technique is linked explicitly with either weathering or mass movement</li> <li>• if there is simply a catalogue of coastal management techniques then bottom of Level 2 is the max</li> <li>• balance between weathering and mass movement not necessary but no mention of one limits response to Level 1</li> </ul>
AO4	<ul style="list-style-type: none"> <li>• see generic mark scheme</li> </ul>

**Fluvial Environments**

- 3 (a) Describe how a river operates as an open system. [20]
- (b) Account for variations in river channel cross-sections. [25]
- (a)

The Spec. is clear in its expectation that candidates have an understanding of rivers as open systems and so candidates should be familiar with ideas such as inputs, stores and processes and outputs. Candidates can communicate their knowledge and understanding either in general or in a particular fluvial context.	
AO1+ AO2	<ul style="list-style-type: none"> <li>idea of exchange of energy and materials across a watershed is important for Level 3 in AO2</li> <li>energy inputs – solar, gravity</li> <li>material inputs – water from precipitation, run-off + groundwater; sediment (the Spec makes explicit reference to the role of weathering and slope processes)</li> <li>stores and processes – probably not a major feature as it is the ‘openness’ of the system that the question highlights. Sediment and water stores and processes such as transport of load might be mentioned</li> <li>outputs – energy and materials</li> <li>human activity can be in any element of the system eg input + output transfer of water across watersheds</li> </ul>
AO3	<ul style="list-style-type: none"> <li>idea of system needed for Level 2 + 3</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

**(b)**

Channel shape is a major heading in this Option and within this factors influencing it are explicitly stated.	
AO1+ AO2	<ul style="list-style-type: none"> <li>channel shape eg compact + deeper v wide + shallow is a key contrast</li> <li>role full of bankfull discharge and other discharges both higher and lower are likely to indicate a Level 3 response</li> <li>geology related to bank materials – coherent materials eg clay/silt tend to be deeper + narrower channels c.f. incoherent eg sand/gravel tend to be shallow + wide. This point essential for Level 3 response</li> <li>variations in load eg changes in calibre downstream; bars and braided channels can be mentioned here</li> <li>cross-sectional shape across a meander – where this is the only variation mentioned then bottom of Level 2 is the max</li> <li>human activity</li> </ul>
AO3	<ul style="list-style-type: none"> <li>if response solely one type of channel eg meander or braided cross-section then bottom of Level 2 is the max</li> <li>comments about valley shapes are not to be given credit – question is clear in its focus on channel cross-sections</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

- 4 (a) Describe how changes in base Level can occur. [20]
- (b) Explain how an increase in river energy can influence valley shape. [25]
- (a)

Changes over time is a major heading within this Option and so should enjoy secure knowledge and understanding. The focus here is on the causes of the changes not the effects on fluvial environments.	
AO1+ AO2	<ul style="list-style-type: none"> <li>eustatic change ie sea Level changes both positive and negative</li> <li>isostatic change ie land Level changes both positive and negative – only one of these first two points keeps the response at bottom of level 2.</li> <li>local base Level changes eg localised tectonic movements – Tertiary in N. Wales for example – probably an indication of a Level 3 response</li> <li>river capture – can be local or on a larger scale – probably an indication of a Level 3 response</li> <li>human activity eg in flooding a valley and changes upstream of a reservoir</li> </ul>
AO3	<ul style="list-style-type: none"> <li>must focus on the causes for Level 2 + 3</li> <li>comments about rising base Level might indicate a Level 3 response</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

(b)

This sub-part invites comments about the connection between increasing energy and valley shape. Most likely candidates will think about a fall in base Level and its effects but comments about increased input of water would also be appropriate.	
AO1+ AO2	<ul style="list-style-type: none"> <li>changes in valley shape in cross profile eg valley-in-valley; canyons/gorges</li> <li>ingrown and intrenched meanders – both examples of incised meanders ie where and when a river cuts down into solid bedrock</li> <li>river terraces both paired and un-paired – the latter are likely to indicate a Level 3 response</li> <li>changes in valley shape in long profile eg knick-points – rapids and waterfalls</li> <li>changes in downstream energy relevant</li> </ul>
AO3	<ul style="list-style-type: none"> <li>Level 3 should be reserved for those scripts that are clear in their link between increased energy and landform</li> <li>long profile shape a possible indicator of Level 3</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

**Glacial and Periglacial Environments**

5 (a) Describe past variations in the extent of ice cover in the British Isles. [20]

(b) Explain how glaciation can modify drainage patterns. [25]

(a)

The focus here is on the changing extent of ice sheets and given the variability of terminology the various phases we must not be dogmatic in our expectations.	
AO1+ AO2	<ul style="list-style-type: none"> <li>• Level 1 is the max. if the response is stuck with the idea of a single 'Ice Age'</li> <li>• Level 2 for those that suggest the extent of ice advance during each glacial was different</li> <li>• Level 3 is likely for those responses that suggest that the timing and number of cycles varies from region to region</li> <li>• Top of Level 2 can be given even if the nomenclature is not detailed</li> </ul>
AO3	<ul style="list-style-type: none"> <li>• Level 1 for those not dealing with advances and retreats</li> <li>• Level 3 as soon as there is a clear attempt to describe the varying extent of ice cover</li> </ul>
AO4	<ul style="list-style-type: none"> <li>• see generic mark scheme</li> </ul>

(b)

The modification of drainage patterns is included under the deglaciation sub-heading in the Spec. Candidates' knowledge and understanding of such modification does need to relate, in part, to the effect of ice advance, as in the blocking of river routes to form lakes and consequent river diversions.	
AO1+ AO2	<ul style="list-style-type: none"> <li>• river diversion due to a number of causes at different scales eg watershed breaching eg River Severn at Ironbridge; diversion due to terminal moraine blocking former path eg urstromtåler of North European Plain, rivers Oder and Elbe for example</li> <li>• glacial overflow/spillway eg Lake Pickering</li> <li>• river capture often associated with breached watersheds</li> <li>• straightening of valleys</li> <li>• modification of long profile eg corrie lakes; ribbon lakes; rapids</li> <li>• lochans</li> <li>• kettle holes</li> <li>• whole scale (regional) deposition obscuring drainage patterns through infilling of former valleys eg East Anglia</li> </ul>
AO3	<ul style="list-style-type: none"> <li>• drainage must be the focus to reach Level 2</li> <li>• a clear appreciation of previous drainage patterns is a likely indicator of a Level 3 response, eg former courses of rivers (Thames?)</li> <li>• contrast in scale eg river diversion c.f. small ponds – kettle holes a likely indicator of Level 3</li> </ul>
AO4	<ul style="list-style-type: none"> <li>• see generic mark scheme</li> </ul>



- 6 (a) Describe the ways in which cold and warm based glaciers move. [20]
- (b) Explain how processes modify slopes under periglacial conditions. [25]
- (a)

Types and rates of movement are linked with cold and warm based glaciers in the Spec. and are often included when dealing with the ice mass as a system.	
AO1+ AO2	<ul style="list-style-type: none"> <li>basal sliding – accounts for up to 90% of movement in warm based glaciers – slippage of bottom of glacier over thin layer of water just a few mm thick. Reduces frictional drag</li> <li>regelation creep – warm based – movement over minor irregularities in surface under ice. Higher pressures on up-glacier side of obstacle lead to melting and water migrates to lee side of obstacle where it refreezes</li> <li>bed deformation – relate to widespread movement of ice masses, usually warm based, over unconsolidated sediment, saturated with water due to glacier bed being at pressure melting point – a likely Level 3 indicator</li> <li>internal deformation – both warm and cold based. Slippage within and between ice crystals, at its maximum at base were both stresses and, in the case of cold ice, temperatures are at their highest</li> <li>glacial surges – warm based but can occur in cold. Initiated when ice in upper ablation zone becomes unstable, seems to be associated with substantial accumulation of basal water, and moves rapidly down-glacier, c. 5 metres/hour. Mention of this type of movement likely to indicate a Level 3 response</li> <li>extending/compressing flow</li> <li>rotational movement</li> <li>without basal sliding and internal deformation Level 2 is the max</li> </ul>
AO3	<ul style="list-style-type: none"> <li>if a response describes types of movement without making it clear to which ice mass, warm/cold it is referring, then Level 1 is the max</li> <li>given that cold based ice masses move less than warm we should not expect an equal treatment of the two types of ice mass</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

(b)

Periglacial weathering and slope processes is a major sub-heading in this Option. The emphasis here is the link between process and landform ie slopes.	
AO1+ AO2	<ul style="list-style-type: none"> <li>solifluction is the key mechanism and should be linked with the development of a smoothed landscape</li> <li>various texts include a variety of processes under the heading of solifluction so we must be open to a variety of responses</li> <li>nivation producing hollows</li> <li>frost heave leading to creep downslope; terracing</li> <li>debris flows; rock glaciers; block streams leading to removal of material at top of slope transferring it downslope</li> <li>rock fall from free faces due to freeze-thaw</li> <li>asymmetric valleys</li> </ul>
AO3	<ul style="list-style-type: none"> <li>bottom of Level 2 if there is simply a list of periglacial processes</li> <li>top of Level 2 minimum once there is a sustained attempt to link periglacial processes to landforms eg alteration of slope angle due to downslope movement of material</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

**Hot arid and Semi-arid environments**

7 (a) With the help of labelled diagrams describe the following landforms: wadi; pediment; inselberg. [20]

(b) Explain how present day climatic conditions influence weathering in hot arid and semi-arid environments. [25]

(a)

These landforms are explicitly mentioned in the Spec. and so should enjoy secure knowledge and understanding. The question is explicit in its requirement for 'labelled diagrams' which can be assessed in terms of their effective communication in AO4, but make sure a double penalty or reward is not given on artistic talent in terms of Knowledge and Understanding; these aspects of the response must be assessed separately under the AOs.	
AO1+ AO2	<ul style="list-style-type: none"> <li>wadi – a fluviially formed valley, often gorge-like. Steep valley walls and a flat floor. Latter can be formed from many 10s of metres depth of alluvial fill. Water flows ephemeral or maybe permanently dry</li> <li>pediment – smooth surface typically sloping at low angle, &gt;10°, down from the foot of a highland area, typically between the mountain front and the alluvial fan. Cut across bedrock and maybe covered with a thin veneer of debris</li> <li>inselberg – steep-sided isolated hill, highland or ridge, rising abruptly from a gently sloping surface</li> </ul>
AO3	<ul style="list-style-type: none"> <li>all landforms needed for Level 3</li> <li>two landforms for level 2.</li> <li>only one landform Level 1 maximum</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

(b)

This sub-part moves into processes and asks about the links between present day climatic conditions and weathering.	
AO1+ AO2	<ul style="list-style-type: none"> <li>thermal fracture – cracking of rocks due to rapid changes in temperature across wide diurnal range</li> <li>exfoliation/insolation – breaking, splitting and peeling off of outer rock layers due to changes in temperature</li> <li>freeze thaw</li> <li>chemical weathering – relate to availability of water. Include crystal growth here that some will mention as mechanical weathering</li> </ul>
AO3	<ul style="list-style-type: none"> <li>a response focussing only on weathering processes/effects with no link to climate limited to bottom of Level 2</li> <li>responses making explicit effort to link present day climates and processes are likely to reach Level 3</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

- 8 (a) Describe adaptations of animals that help them survive in hot arid and semi-arid environments. [20]
- (b) Explain why biomass, biodiversity and productivity are at relatively low Levels in hot deserts. [25]

(a)

The Spec. mentions the adaptation of animals to extreme temperatures, physical and physiological drought.	
AO1+ AO2	<ul style="list-style-type: none"> <li>• various mechanisms to reduce water loss eg impervious outer skeletons of insects and arachnids</li> <li>• greater cooling eg desert fox and hare have large ears giving an extended cooling surface</li> <li>• avoidance of direct heat, known as estivation eg burrowing rodents</li> <li>• avoidance of surface heat eg 'dancing' lizards; insects that jump into vegetation for short periods of time</li> <li>• changing skin colour to reflect more heat during the day eg some snakes</li> <li>• camels! Lips, eyelashes, feet, food storage.</li> </ul>
AO3	<ul style="list-style-type: none"> <li>• need to link adaptation with the environment for Levels 2 + 3</li> <li>• contrasts between adaptations of semi-arid and arid likely to indicate Level 3</li> </ul>
AO4	<ul style="list-style-type: none"> <li>• see generic mark scheme</li> </ul>

(b)

Another element of the desert ecosystem is the focus here. These three terms are explicitly mentioned in the Spec.	
AO1+ AO2	<ul style="list-style-type: none"> <li>• water, its availability and loss is a key factor and without reference to this then Level 1 is the maximum</li> <li>• scarcity of bio-mass eg vegetation cover varying from nothing to open stand</li> <li>• lowest organic productivity Levels of any biome; average NPP is <math>90g/m^2/yr</math></li> <li>• most productivity exists underground – a likely Level 2 indicator</li> <li>• although biodiversity relatively low when compared with some other biomes, amongst the deserts there can be significant diversity eg American deserts v South African v Saharan/Arabian/West Asia v Australian</li> <li>• soil quality</li> </ul>
AO3	<ul style="list-style-type: none"> <li>• as the three terms are intimately interlinked, no requirement to treat the terms separately. Discussion of the three terms is a likely Level 3 indicator.</li> <li>• contrasts between semi-arid and arid likely to indicate Level 3</li> </ul>
AO4	<ul style="list-style-type: none"> <li>• see generic mark scheme</li> </ul>

**Applied Climatology**

9 (a) Describe differences in the input and output of energy between urban areas and surrounding rural areas. [20]

(b) Explain the implications of the differences between urban and rural climates for human activities. [25]

(a)

Contrasting energy budgets are explicitly mentioned in the Spec. and while a systems approach might be the most secure framework for a response candidates may reasonably use other approaches.	
AO1+ AO2	<ul style="list-style-type: none"> <li>the basic surface energy budget is relevant here ie <math>R_n = LE + H + G</math> where <math>R_n</math> is net radiation, LE is latent heat transfer, H is sensible heat transfer and G is ground heat flux. Without some basic idea of the energy budget then Level 1 is the maximum</li> <li>key point is the heat production resulting from human energy consumption by combustion in urban areas. This can exceed <math>R_n</math> during winter in some cities</li> <li>heat storage by surfaces is greater leading to greater nocturnal values of H; LE in city centres tends to be much less. The lack of LE means that by day some 70-80% of <math>R_n</math> is transferred to the atmosphere as sensible heat</li> <li>within urban areas energy is reflected off more surfaces before finally leaving the terrestrial environment and so more absorption occurs c.f. rural areas where outgoing radiation soon escapes into the atmosphere</li> <li>within urban areas the energy balance varies with altitude and aspect so that there can be striking contrasts even within one street. Such comments are likely to indicate a Level 3 response</li> </ul>
AO3	<ul style="list-style-type: none"> <li>urban or rural area descriptions on their own will not rise above Level 1 in AO3</li> <li>either inputs or outputs only restricts the response to Level 1</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

(b)

Two linked elements here and the degree to which a response achieves such links will largely determine the Level at which it is assessed.	
AO1+ AO2	<ul style="list-style-type: none"> <li>higher temperatures in urban areas especially pronounced under winter anti-cyclonic conditions, the heat island effect. Level 3 responses might make reference here to differences amongst urban areas of different sizes. Links with human activities such as use of air conditioning, reduced need for salting of roads and de-icers in urban areas. Also link with human health such as heat stroke and asthma</li> <li>nocturnal contrasts in temperature under the conditions in the point above often marked. Similar links with human activities</li> <li>increased temperatures lead to increased instability that can effect precipitation, both type and amount eg thunderstorm activity. Link with need for storm drainage systems and the consequences when these have insufficient capacity</li> <li>relationship between built environment and air flow</li> </ul>
AO3	<ul style="list-style-type: none"> <li>if the climatic difference is not explicitly related to urban/rural differences then to of Level 1</li> <li>well linked to a range of human activities are likely to reach Level 3</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

- 10 (a) Describe how the energy budget of forests differs from that of the surrounding areas. [20]
- (b) Explain how human activities are influenced by forest climates. [25]
- (a)

The key requirement here is to describe the contrasts between forests and their surroundings in terms of energy budget. A systems approach would, perhaps, be the most secure route.	
AO1+ AO2	<ul style="list-style-type: none"> <li>forests have relatively low albedo, c. 10% c.f. c. 25% for grassland</li> <li>during day, shaded forest areas receive less insolation than open areas</li> <li>at night, forest canopy reduces long-wave radiation loss c.f. open areas</li> <li>generally increased water vapour content of forest air also traps more long-wave energy</li> <li>seasonality effect in terms of leaf cover a likely Level 3 indicator</li> </ul>
AO3	<ul style="list-style-type: none"> <li>focus must be forests for Level 2 + 3</li> <li>either inputs or outputs only restricts the response to Level 1</li> <li>mention of different types of forest a likely Level 3 indicator</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

(b)

The Spec. refers to the 'human significance' of forest climate and we must be open to any appropriate points candidates make here as long as they relate to human interaction with forests.	
AO1+ AO2	<ul style="list-style-type: none"> <li>lower temperatures + higher humidities mean that in times/areas of high temps. forest offer a comfortable environment</li> <li>in denser forests they represent an almost closed room of potentially comfortable climate</li> <li>in areas/times of low temperatures, forests provide shelter since wind speeds, a major factor in human comfort, are much reduced and survival comfort can be achieved</li> <li>diseases such as those caused by high humidity influence human management of forests</li> </ul>
AO3	<ul style="list-style-type: none"> <li>human activity needs to be clearly related to forests for Level 2 + 3</li> <li>mention of different types of forests a likely Level 3 indicator</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

**Agriculture and Food**

11 (a) Describe ways in which governments influence agricultural systems in LEDCs. [20]

(b) Explain how government policies can influence agricultural sustainability. [25]

(a)

The influence of human and cultural factors is a major heading within this Option, with government explicitly stated.	
AO1+ AO2	<ul style="list-style-type: none"> <li>• direct influence eg command economies China/N. Korea. Historical references to Soviet Union for example are appropriate</li> <li>• direct influences eg government drainage/irrigation schemes</li> <li>• direct influences eg government marketing schemes eg Operation Flood in India</li> <li>• indirect influences eg infrastructure improvements eg transport; power that allow farmers to change their system</li> </ul>
AO3	<ul style="list-style-type: none"> <li>• the context is clear in the Question, ie LEDCs, so without this bottom of Level 1 is the maximum</li> <li>• the effectiveness of the link between government influence and agricultural systems will help inform the Levels mark</li> <li>• MEDCs government policies can influence LEDCS and if the link is made clear then credit should be given</li> </ul>
AO4	<ul style="list-style-type: none"> <li>• see generic mark scheme</li> </ul>

(b)

In this sub-part the response needs to establish explicit links between government influence and effects. MEDCs and LEDCs allowed.	
AO1+ AO2	<ul style="list-style-type: none"> <li>• sustainable – positive multiplier established when wealth creation within rural areas sufficient to maintain/increase rural incomes</li> <li>• sustainable – when food supplies assured</li> <li>• unsustainable – negative impacts on environment eg salinisation as a consequence of poorly implemented irrigation schemes</li> <li>• unsustainable – inappropriate crops grown eg Nigeria's 'wheat trap'</li> </ul>
AO3	<ul style="list-style-type: none"> <li>• only one set of effects ie either sustainable or un-sustainable then bottom of Level 2</li> <li>• both sets of effects but with an imbalance can reach Level 3</li> </ul>
AO4	<ul style="list-style-type: none"> <li>• see generic mark scheme</li> </ul>

- 12 (a) Describe the influence of inputs of water on agricultural systems. [20]
- (b) Explain how strategies used by farmers to overcome hydrological problems can have both positive and negative effects. [25]

(a)

The influence of the physical environment on agricultural systems is a major heading in this Option. This sub-part invites candidates to consider how too much and too little water can influence agricultural systems.	
AO1+ AO2	<ul style="list-style-type: none"> <li>high inputs – drainage required eg Somerset Levels; precipitation high – effect on soils eg podzols, rough grazing eg upland Britain;</li> <li>low inputs – irrigation required eg tropics</li> <li>seasonality of inputs is significant in some regions eg monsoon leading to two agric. systems a year on the same land – a likely Level 3 indicator</li> <li>benefits on high inputs eg flooding distributing alluvium – a likely Level 3 indicator</li> </ul>
AO3	<ul style="list-style-type: none"> <li>only one set of effects ie either high or low inputs of water then Level 1</li> <li>where water is related to other factors eg soil drainage, this might indicate a Level 3 response</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

(b)

Irrigation and other manipulations of the environment are explicitly stated in the Spec. It is likely that the negative will be emphasised and so the question is clear that the other side of the coin should be considered.	
AO1+ AO2	<ul style="list-style-type: none"> <li>positive – irrigation raises yields, improves food security/offers a more varied diet throughout the year, creates wealth for community; allows expansion of cultivated area; terracing; contour ploughing – reduces soil erosion – drainage allows water logged areas to be cultivated.</li> <li>negative – irrigation often capital intensive therefore not an option for farmers in LEDC regions; much water can be evaporated before it reaches the root zone, a point that applies to MEDCs + LEDCs; may facilitate spread of water-borne disease; inappropriate application can lead to salinisation of soils, also a point affecting both MEDCs + LEDCs; drainage – accelerates waterflow leading to flooding.</li> <li>the use of MEDC exemplar material for certain points might indicate a Level 3 response eg loss of water through evaporation</li> </ul>
AO3	<ul style="list-style-type: none"> <li>only one set of effects ie either positive or negative then bottom of Level 2</li> <li>both sets of effects but with an imbalance can reach Level 3</li> <li>a list of strategies not explicitly applied to hydrology is top of Level 1 maximum</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

**Manufacturing Industry: Location, Change and Environmental Impact**

13 (a) Describe the influence of transport on the location of manufacturing industry. [20]

(b) Explain why manufacturing has moved away from traditional urban locations within MEDCs. [25]

(a)

Transport is explicitly mentioned within the section on Industrial location factors and offers a wealth of material for the candidates to exploit.	
AO1+ AO2	<ul style="list-style-type: none"> <li>transport costs vary with distance but it is not a straightforward relationship. Comments about transfer and terminal costs together is a likely Level 3 indicator in AO2</li> <li>transport and type of freight eg raw materials v finished products</li> <li>transport and type of transport eg sea; canal/river; railway; road; air</li> <li>weight loss v weight gain</li> </ul>
AO3	<ul style="list-style-type: none"> <li>a simple description of the types of transport will not go above Level 1</li> <li>Level 2 + 3 for those who make a determined effort to link transport with locations</li> <li>mention of different types of transport likely to be Level 2+</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

(b)

This topic is also explicitly mentioned under the major sub-heading of industrial location factors and is a key element of the changing locations of manufacturing industry.	
AO1+ AO2	<ul style="list-style-type: none"> <li>not just the result of firms migrating urban to rural but closure of urban based manufacturing and the growth of firms in small towns and rural areas – when made well this point likely to be a Level 3 indicator</li> <li>constrained location theory-physical limits to growth in urban areas eg shortages of land for on-site expansion; shortages of land for industrial development; relatively high cost of redeveloping brown-field sites; relatively high cost of land in urban areas; factories built for earlier styles of production not suited for modern industry eg multi-storey factories built in 19<sup>th</sup> century</li> <li>residential preferences of workforce in particular high-tech. are in rural locations</li> <li>diminishing relative accessibility of large urban areas especially with regard to historic infra-structure eg canals/railways/some docks c.f. improved relative accessibility of some smaller towns + rural areas eg north Oxfordshire + south Warwickshire – Banbury due to M40</li> <li>points about loss of manufacturing from inner areas to rural-urban fringe/rural appropriate</li> </ul>
AO3	<ul style="list-style-type: none"> <li>without a link between decreasing advantages of urban areas and the increasing advantages of rural, bottom of Level 2 is the maximum</li> <li>a response containing only negative points concerning urban locations/positive concerning non-urban top of Level 1 max</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>



- 14 (a) Describe contrasting locational patterns of different sized manufacturing companies. [20]
- (b) Explain the advantages and disadvantages of Foreign Direct Investment (FDI) to national and regional economies. [25]

(a)

The organisation of firms at regional, national and global scales is a separate heading under the major sub-heading of industrial location factors. There has been an increasing appreciation of the role that the scale of organisation of firms has upon location.	
AO1+ AO2	<ul style="list-style-type: none"> <li>generally with increasing scale firms become multi-plant, multi-locational and trans-national</li> <li>TNCs have global markets or at least continental markets and tend to have manufacturing plants in several countries. Often adopt decentralised organisation with control devolved to regional HQ. Can extend to regional R&amp;D eg Ford, although some TNCs parent HQ retains this function</li> <li>globalisation has led to some TNCs to shift their manufacturing from MEDCs to LEDCs + NICs</li> <li>some products are more open to globalisation influences than others eg electronics c.f. steel – a likely Level 3 indicator</li> <li>smaller enterprises tend to concentrate all functions on one site</li> <li>medium enterprises might have HQ and R&amp;D on same site with a couple of manufacturing plants elsewhere – a likely Level 3 indicator</li> </ul>
AO3	<ul style="list-style-type: none"> <li>concentration on just the larger scale enterprises is Level 1</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

(b)

Foreign Direct Investment (FDI) is a key locational influence in both MEDCs, LEDCs and NICs at both regional and national scales.	
AO1+ AO2	<ul style="list-style-type: none"> <li>advantage – creates employment – comments about individual's income and social well-being are appropriate</li> <li>advantage – can aid development of skills</li> <li>advantage – creates wealth; money via taxation for public infrastructure eg transport links + power supplies, and services eg education + health</li> <li>advantage – one factory can act as a multiplier attracting further domestic investment</li> <li>disadvantage – TNCs can withdraw relatively swiftly</li> <li>disadvantage – can be predominantly 'screwdriver' industries offering limited skill development and exploitative working conditions</li> <li>disadvantage – because of their influence TNCs can sometimes breach environmental controls</li> </ul>
AO3	<ul style="list-style-type: none"> <li>bottom of Level 2 if either regional or national only included</li> <li>both regional + national but with an imbalance can reach Level 3</li> <li>bottom of Level 2 if either advantages or disadvantages only included</li> <li>both advantages and disadvantages but with an imbalance can reach Level 3</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

**Service Activities: Location, Change and Environmental Impact**

**15 (a)** Describe the urban planning responses that aim to maintain the status and quality of retailing in the CBD. **[20]**

**(b)** Explain why CBD's are dominated by high order service activities. **[25]**

**(a)**

Patterns and processes within the CBD are a major component in this Option. As the heading to this Option states, Change and Environmental Impact are key aspects to a study of Service Activities.	
AO1+ AO2	<ul style="list-style-type: none"> <li>• construction of under-cover centres, often joint between local authorities and private interests</li> <li>• improved access, road and rail, including parking and park and ride schemes</li> <li>• pedestrianisation</li> <li>• environmental improvements eg cleaning old buildings; landscaping</li> <li>• restricting development out of town retailing</li> </ul>
AO3	<ul style="list-style-type: none"> <li>• Level 1 maximum if offices are the main focus</li> <li>• both status and quality needed for Level 3</li> </ul>
AO4	<ul style="list-style-type: none"> <li>• see generic mark scheme</li> </ul>

**(b)**

This sub-part stays in the spatial context of the CBD but invites consideration of the reasons why high order service activities, offices and retail, dominate this location.	
AO1+ AO2	<ul style="list-style-type: none"> <li>• central place theory in terms of threshold, range and hierarchy</li> <li>• bid rent theory</li> <li>• a historical perspective and subsequent inertia is helpful here; a likely Level 3 indicator</li> <li>• role of transport routes focussing on centre; comments about 'chicken and egg' here are likely to indicate Level 3 in AO2</li> <li>• high pedestrian Levels attract comparison retailing; also a 'chicken and egg' comment</li> </ul>
AO3	<ul style="list-style-type: none"> <li>• the spatial focus is clear here so a response dominated by decline or the rise of out-of-town service locations will not exceed Level 1</li> <li>• top of Level 2 if only retail or offices is the focus</li> <li>• if no mention of land value/cost then top of Level 1 is the maximum</li> </ul>
AO4	<ul style="list-style-type: none"> <li>• see generic mark scheme</li> </ul>

- 16 (a)** Describe the impact of edge-of-town superstores on rural retailing. [20]
- (b)** Explain the responses of government and local communities to rural service decline. [25]

**(a)**

This topic is to be found within the heading concerning changing service provision in rural areas and so its focus is clear.	
AO1+ AO2	<ul style="list-style-type: none"> <li>importance of scale economies has led to dominance of larger retail units</li> <li>internet shopping and home delivery from superstores</li> <li>smaller independent retailers have been unable to compete</li> <li>villages less than c. 1000 have really struggled to maintain a retailing presence; comments about contrasting experiences of villages is a likely Level 3 indicator, especially in AO2</li> <li>growth of petrol sales in units attached to superstores has helped cause loss of smaller rural garages</li> <li>some rural areas beyond the reach of superstores yet have still undergone loss of low order retailing due to other generic factors</li> <li>in some areas smaller scale retailing undergoing a slight renaissance as trend starts for 'real food' – butchers/bakers</li> </ul>
AO3	<ul style="list-style-type: none"> <li>a response that does not focus on the impact on rural retailing will not exceed Level 1</li> <li>different types of retailing needed for Level 3</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

**(b)**

The focus here is the responses to rural service decline. These responses can from a range of bodies and candidates may have detailed local exemplification that we must be open to.	
AO1+ AO2	<ul style="list-style-type: none"> <li>national government – support for a rural region from nationally funded bodies such as regional development agencies eg Highlands + Islands</li> <li>local government – key settlement policies</li> <li>local government – housing policies eg restricting second home ownership; encouraging affordable housing developments</li> <li>local communities maintaining local services eg local community buy-outs of pubs; shops</li> <li>combining of building function eg post offices in churches</li> </ul>
AO3	<ul style="list-style-type: none"> <li>rural service decline needs to be the focus for Level 2 and above</li> <li>responses identifying different scales of government likely to be at top of Level 2 as a minimum</li> <li>bottom of Level 2 if either government or local communities only included</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

**Tourism and Recreation and their Environmental Impacts**

- 17 (a) Describe the changes in transport technology that influenced patterns of domestic tourism in MEDCs in the 19<sup>th</sup> and 20<sup>th</sup> centuries. [20]
- (b) Explain how changing social and economic conditions led to the development of seaside resorts. [25]
- (a)

Changing transport technologies are explicitly mentioned in the Spec. in the context of the development of tourism. The scope of the question is deliberately limited so as to reduce the quantity of material the candidates might be tempted to include.	
AO1+ AO2	<ul style="list-style-type: none"> <li>19<sup>th</sup> century – role of railways. Accuracy regarding the timing of railway developments can be rewarded in AO1. Shortening of journey time + reduction of travel cost are likely to indicate a Level 3 response in AO2</li> <li>internal combustion engine and its application in particular to private transport begins in the inter-war period for the higher socio-economic groups. Post war the impact is mostly clearly felt in continuing attraction of sea-side locations</li> <li>growth of private car ownership and developments of transport infrastructure eg m-ways encourage tourism to rural areas</li> <li>growth of air travel has contributed to the decline of traditional sea-side domestic tourism + growth of short breaks eg urban tourism based on private car travel</li> </ul>
AO3	<ul style="list-style-type: none"> <li>the context is clear both spatial and temporal; only one is Level 1 maximum</li> <li>the clarity of the link between changing transport technology and patterns or domestic tourism will inform the Level here</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

(b)

This allows candidates to include much material concerning the development of the tourist industry.	
AO1+ AO2	<ul style="list-style-type: none"> <li>social – filtering down of tourism following trend set by aristocracy + upper classes in resorts eg Brighton + Weymouth; tourism as fashion</li> <li>social – industrialisation helped create new + prosperous middle class inclined to imitate habits of upper class</li> <li>social – elite groups displaced by 'nouveaux rich' to resorts less accessible to masses eg Penzance + St Ives + Isle of Wight in mid 19<sup>th</sup> century, eg Victoria's last visit to Brighton was in 1845; a Level 3 indicator</li> <li>social – last quarter of 19<sup>th</sup> century working class able to join trend; Bank Holidays Act 1871; helped promote some of the eastern resorts eg Skegness as railway network developed</li> <li>economic – reduced costs of pleasure travel by train although initially train companies failed to appreciate market for low-cost tourist travel; also air travel</li> <li>economic – at first the higher disposable income of the rich allowed them to participate; later, 1880s + 90s, growth in disposable income of working class + co-operative/friendly societies saving accounts allowed many to save and afford a holiday – a Level 3 indicator; 20<sup>th</sup> century contrast in overseas tourism</li> <li>comments about C20<sup>th</sup> developments appropriate eg holiday camps and rehabilitation of some resorts</li> <li>comments about seaside resorts in LEDCs appropriate.</li> </ul>
AO3	<ul style="list-style-type: none"> <li>bottom of Level 2 if either social/economic only included</li> <li>temporal pattern of differences likely to be at Level 2 as a minimum</li> </ul>
AO4	<ul style="list-style-type: none"> <li>see generic mark scheme</li> </ul>

- 18 (a) Describe the impact of tourism on physical environments in LEDCs. [20]
- (b) Explain how the development of tourism in has brought economic and social advantages and disadvantages to LEDCs. [25]

(a)

These impacts are explicitly mentioned in the Spec. and there is a wealth of material that candidates can draw upon in terms of exemplification.	
AO1+ AO2	<ul style="list-style-type: none"> <li>• impact on points of entry eg airports + ports eg destruction of coral reefs</li> <li>• impact of resorts of different types eg enclaves</li> <li>• impact on places visited eg footpath erosion in Himalayas; physical degradation of built structures eg Machu Pichu</li> <li>• water pollution and depletion of water resources</li> </ul>
AO3	<ul style="list-style-type: none"> <li>• the context is clear, ie LEDCs and the physical environment – without these then Level 1 is the maximum</li> <li>• comments about the positive impact eg eco-tourism likely to indicate a Level 3 response</li> </ul>
AO4	<ul style="list-style-type: none"> <li>• see generic mark scheme</li> </ul>

(b)

The LEDC context continues into this sub-part but attention now turns to the social and economic environments, and to the possible advantages and disadvantages that tourism can bring. As in sub-part (a) there is a wealth of material that candidates can draw upon in terms of exemplification.	
AO1+ AO2	<ul style="list-style-type: none"> <li>• economic advantages – wealth creation both personally and for governments in LEDCs. Extension of the point into infrastructure developments might indicate a Level 3 response in AO2</li> <li>• economic disadvantages–leakage; prone to sudden downturns beyond control of LEDCs eg political crises; economic recession in MEDCs</li> <li>• social advantages – encourages changing status of some LEDC groups eg women; allows people from MEDCs to experience something of other cultures</li> <li>• social disadvantages – loss of indigenous culture; import of trends from MEDCs</li> </ul>
AO3	<ul style="list-style-type: none"> <li>• bottom of Level 2 if either advantage or disadvantage only included</li> <li>• both advantages and disadvantages but with an imbalance can reach Level 3</li> <li>• both social and economic but with an imbalance can reach Level 3</li> </ul>
AO4	<ul style="list-style-type: none"> <li>• see generic mark scheme</li> </ul>



**Mark Scheme 2684  
January 2007**

**Additional Guidance**

- 1 All scripts are liable to outside scrutiny or a re-mark following a Result Enquiry. It is therefore essential that the marking and comments on the scripts are clear to an observer, sample marker or any re-marking after the grading. Please keep to the conventions outlined by the Principal Examiner and avoid individual idiosyncrasies. Mark in red biro or red ink. (Team leaders mark in red and re-mark in green). Useful abbreviations include:  
K knowledge  
U understanding  
E explanation

Fill in the boxes on the front page of the script.

- 2 Please add helpful comments where they help to explain your decision, but do not express your frustrations, views on the candidate's ability or the competence of their teacher! Under no circumstances should you put sarcastic or derogatory comments on the scripts. Where levels are used you should indicate the highest level achieved and where appropriate the achievement of lower levels.
- 3 Please do not cross out text.
- 4 Add comments where appropriate to indicate the dialogue you are having with the script. Research has identified ticks as a sign of rushed or casual marking so please do not use them.
- 5 Every section of an answer must show evidence of having been read. Do not think that you can 'skim' through irrelevant patches. They may be worthy of some credit. Sometimes candidates add a few lines on extra sheets or at the back of an answer book. If this additional piece gains no marks make sure that you indicate that it has been read. If you get to a marginal decision, at the end of a longer piece of writing, eg is it worth full marks (10) or (9) then take a positive stance and award 10.
- 6 Where the rubric has been infringed you need to mark all of the work and to select the best answer within the rubric. Cancel with a single line any marginal marks that you have to exclude. Make a note of the infringement on the front of the script.
- 7 If you suspect dishonest practice contact your team leader to discuss the issue and then follow the guidelines provided.
- 8 Your checker must follow the instructions on the reverse of the Checker's claim form.

**Thank you for following all of these procedures accurately.**



**GENERIC ASSESSMENT CRITERIA****1 Knowledge of content (0-8 marks)**

<b>Level 4</b>	Candidates have detailed knowledge of appropriate themes, processes and specific environments and places. They have detailed knowledge of relevant concepts, principles and theories, and of a wide range of geographical terms. They have detailed knowledge of the connections between different aspects of geography represented in the specification.	<b>7-8 marks</b>
<b>Level 3</b>	Candidates have clear knowledge of appropriate themes, processes and specific environments and places. They have clear knowledge of relevant concepts, principles and theories, and of a range of geographical terms. They have clear knowledge of the connections between different aspects of geography represented in the specification. There must be evidence of synoptic connections with other parts of the specification to achieve more than level 2.	<b>5-6 marks</b>
<b>Level 2</b>	Candidates have sound knowledge of some appropriate themes, processes and specific environments and places. They have sound knowledge of some relevant concepts, principles and theories, and of some geographical terms. They have sound knowledge of some connections between different aspects of geography represented in the specification.	<b>3-4 marks</b>
<b>Level 1</b>	Candidates have basic knowledge of some appropriate themes, processes and environments and places. They have basic knowledge of some relevant concepts, principles, theories, and geographical terms. They have basic knowledge of some connections between different aspects of geography represented in the specification.	<b>0-2 marks</b>

**2 Critical understanding of content (0-22 marks)**

<b>Level 4</b>	Candidates have detailed critical understanding of the content of the specification and have detailed critical understanding of the connections between the different aspects of geography represented in the specification.	<b>18-22 marks</b>
<b>Level 3</b>	Candidates have clear critical understanding of the content of the specification and have clear critical understanding of the connections between the different aspects of geography represented in the specification. There must be evidence of synoptic connections with other parts of the specification to achieve more than level 2.	<b>12-17 marks</b>
<b>Level 2</b>	Candidates have sound critical understanding of some of the content of the specification and have sound critical understanding of some of the connections between the different aspects of geography represented in the specification.	<b>6-11 marks</b>
<b>Level 1</b>	Candidates have basic critical understanding of some the content of the specification and have basic critical understanding of some connections between the different aspects of geography represented in the specification.	<b>0-5 marks</b>

### 3 Application of knowledge and critical understanding in unfamiliar contexts (0-22 marks)\*

<b>Level 4</b>	Candidates apply their knowledge and critical understanding of the specification content and connections to different aspects of geography represented in the specification, relevantly and where appropriate at a range of scales. They evaluate arguments, ideas, concepts and theories in detail.	<b>18-22 marks</b>
<b>Level 3</b>	Candidates apply most of their knowledge and critical understanding of the specification content and connections to different aspects of 12-17 geography represented in the specification, relevantly and where marks appropriate at a range of scales. They evaluate arguments, ideas, concepts and theories clearly. There must be evidence of synoptic connections with other parts of the specification to achieve more than level 2.	<b>12-17 marks</b>
<b>Level 2</b>	Candidates apply some of their knowledge and critical understanding of the specification content and connections to different aspects of 6- geography represented in the specification, relevantly. They attempt a marks basic evaluation.	<b>6-11 marks</b>
<b>Level 1</b>	Candidates explain contexts using basic ideas and concepts.	<b>0-5 marks</b>

\* Maximum 11 marks for application and 11 marks for evaluation

### 4 Communication (0-8 marks)

<b>Level 4</b>	Candidates use an appropriate range of communication skills fluently and in different formats; present information within a logical and coherent structure; where appropriate, synthesise information from a variety of sources; use spelling, punctuation and grammar with a high level of accuracy; and employ geographical terminology with confidence.	<b>7-8 marks</b>
<b>Level 3</b>	Candidates use an appropriate range of communication skills clearly in different formats; present information within an effective structure; use spelling, punctuation and grammar with accuracy; and use a range of geographical terms.	<b>5-6 marks</b>
<b>Level 2</b>	Candidates use a limited range of methods to communicate knowledge and understanding; make some effort to structure their work; and use spelling, punctuation and grammar with some accuracy; and have a basic knowledge of geographical terminology.	<b>3-4 marks</b>
<b>Level 1</b>	Candidates use a limited range of methods to communicate knowledge and understanding; make only a basic attempt to structure their work; use spelling, punctuation and grammar with variable accuracy, and have only sparse knowledge of geographical terminology.	<b>0-2 marks</b>

- 1 Discuss the view that physical geography is the main cause of some regions in the EU being disadvantaged. [60]

### AO1 Knowledge of content (0-8 marks)

#### Level 4: 7-8 marks

Candidates will have detailed knowledge of a range of examples from the EU where the statement is appropriate eg Central Massif and where it is not. Knowledge of challenging physical geography (climate, relief, soils, drainage and combinations of these) is expected. They may use concepts such as the core-periphery model to explain their examples. A good range of economic, social and political factors may be cited as alternative disadvantages.

#### Level 3: 5-6 marks

Candidates will have clear knowledge of a range of examples where the statement is appropriate and where it is not. Knowledge of the physical geography is sound. They may use concepts such as the core-periphery model to explain their examples. A range of economic, social and political factors may be cited as alternative disadvantages.

#### Level 2: 3-4 marks

Candidates will have sound knowledge of a limited range of examples where the statement is appropriate and where it is not. They will have limited knowledge of physical geography. A limited range of human factors may be cited as alternative disadvantages.

#### Level 1: 0-2 marks

Candidates will have limited knowledge of examples where the statement is appropriate or where it is not and few, if any, alternative causes are known.

### AO2 Critical understanding of content (0-22 marks)

#### Level 4: 18-22 marks

Candidates will demonstrate detailed understanding of cause-effect impact of aspects of physical geography (probably extreme relief eg mountains and extremes of climate eg Norrland) and other economic (eg accessibility, resources, capital, demand), social (eg population, culture, education) and political factors on regional disadvantage. Some may see isolation as stemming from physical geography. This is underpinned by an effective use of concepts or theories to explain causes of differences in regional development in the EU.

#### Level 3: 12-17 marks

Candidates will demonstrate a clear understanding of cause-effect impact of physical geography and other human factors on regional disadvantage. They may use a limited range of models to explain some of the differences in regional development in the EU.

#### Level 2: 6-11 marks

Candidates will demonstrate a sound understanding of cause-effect impact of physical geography and other human factors on regional disadvantage. They may use a model to explain some of the differences in regional development in the EU.

#### Level 1: 0-5 marks

Candidates will demonstrate a limited or vague understanding of cause-effect impact of physical geography and a limited range, if any, of other factors on regional disadvantage. There will be no attempt to use models or theories to explain differences in regional development in the EU.

**AO3 Application of knowledge and critical understanding in unfamiliar contexts  
(0-22 marks)**

**Level 4: 18-22 marks**

Candidates apply their knowledge and critical understanding of physical geography and the impact of a variety of factors on the levels of regional disadvantage within the EU to offer a detailed evaluation of the viewpoint. Candidates should recognise that this may vary with scale (local v regional) and/or over time/with development as well as the nature of the physical geography. Candidates at this level will argue that physical geography may not be the principle factor responsible today.

**Level 3: 12-17 marks**

Candidates apply their knowledge and critical understanding of physical geography and the impact of a variety of factors on the levels of regional disadvantage within the EU to evaluate the viewpoint. Candidates may recognise that this may vary over time/with development as well as the nature of the physical geography. Candidates at this level will argue that physical geography may not be the principle factor responsible.

**Level 2: 6-11 marks**

Candidates apply some of their knowledge and critical understanding of physical geography and the impact of a variety of factors on the levels of regional disadvantage within the EU to attempt a basic evaluation of the principle factors responsible.

**Level 1: 0-5 marks**

Candidates apply limited or vague knowledge and critical understanding of physical geography and the impact on the levels of regional disadvantage within the EU to offer little, if any, evaluation or will accept the viewpoint as accurate.

**Maximum 11 marks for application and 11 marks for evaluation**

**AO4 Communication (0-8 marks)**

Use generic assessment criteria

- 2 'Rapid economic growth in some regions of the EU brings more benefits than problems.'  
How far do you agree with this statement? **[60]**

**AO1 Knowledge of content (0-8 marks)**

**Level 4: 7-8 marks**

Candidates will have detailed knowledge of at least one or more regions of rapid economic growth. A good range of physical, economic, social and political benefits (eg employment, higher incomes, infrastructure) and problems (eg pollution, extremes of wealth, congestion, rising prices) will be cited as resulting from this rapid economic growth for the region. Some may link this into the core-periphery model or other economic development models.

**Level 3: 5-6 marks**

Candidates will have clear knowledge of at least one area or region of rapid economic growth. A range of physical, economic, social and political benefits and problems will be cited as resulting from this rapid economic growth. Some may link this into the core-periphery model.

**Level 2: 3-4 marks**

Candidates will have sound knowledge of at least one area or region of rapid economic growth. A limited range of physical, economic, social and political benefits and problems will be cited as resulting from this rapid economic growth.

**Level 1: 0-2 marks**

Candidates will have limited knowledge of at least one area or region of rapid economic growth. Few physical and human factors will be cited as resulting from this rapid economic growth.

**AO2 Critical understanding of content (0-22 marks)****Level 4: 18-22 marks**

Candidates will demonstrate detailed understanding of the cause-effect impact of rapid economic growth (concepts such as cumulative causation, backwash etc may be understood) on the physical environment and human (economic, social and political) aspects of the region(s) as well as its impact on other areas/regions and the EU as a whole.

**Level 3: 12-17 marks**

Candidates will demonstrate a clear understanding of the cause-effect impact of rapid economic growth on the main physical and human aspects of the area or region as well as its impact on other areas or the EU as a whole.

**Level 2: 6-11 marks**

Candidates will demonstrate a sound understanding of the cause-effect impact of rapid economic growth on at least the main physical and human aspect of the area or region as well as its impact on other areas

**Level 1: 0-5 marks**

Candidates will demonstrate a limited understanding of the cause-effect impact of rapid economic growth on at least two of the physical and/or human aspects of the area or region.

**AO3 Application of knowledge and critical understanding in unfamiliar contexts (0-22 marks)****Level 4: 18-22 marks**

Candidates apply their knowledge and critical understanding of rapid economic growth to evaluate in detail why such growth leads to both benefits and problems for the regions and in a wider EU context. Some may even debate that rapid economic growth brings more problems than benefits. At this level candidates should evaluate the various benefits and problems to show how conflict or inequality can arise between different physical, economic and social aspects eg pollution caused by rapid industrialisation in Eastern Europe. Candidates should recognise that the balance may vary and how these resulting problems vary over space (location and scale) and time or even with the viewpoint of a particular group in society eg rich v poor. A clear evaluation of 'extent' is expected.

**Level 3: 12-17 marks**

Candidates apply their knowledge and critical understanding of rapid economic growth to evaluate why such growth leads to both benefits and problems to both the region/area and in a wider EU context. At this level candidates evaluate the balance of the various benefits and problems to show how conflict or inequality may arise eg social problems. There is a recognition that this may vary with time or location. An evaluation of 'extent' is expected.

**Level 2: 6-11 marks**

Candidates apply some of their knowledge and critical understanding of rapid economic growth to discuss why such growth leads to both benefits and problems to both the region and the EU. Evaluation of 'extent' will be limited.

**Level 1: 0-5 marks**

Candidates apply limited or vague knowledge and critical understanding of rapid economic growth to discuss in a basic way why such growth leads to both benefits and problems to the region/area. There will be little, if any, evaluation.

**Maximum 11 marks for application and 11 marks for evaluation****AO4 Communication (0-8 marks)**

Use generic assessment criteria.

- 3 To what extent has the Common Agricultural Policy had a greater impact on natural environments than on rural communities? [60]

**AO1 Knowledge of content (0-8 marks)****Level 4: 7-8 marks**

Candidates will have detailed knowledge of the EU's Common Agriculture Policy and its impact (both good and bad) on a variety of well exemplified natural environments and rural communities. A range of contrasting physical (eg drainage, soils), economic (eg employment, prices, infrastructure) and social (eg population structure, culture) impacts will be known.

**Level 3: 5-6 marks**

Candidates will have clear knowledge of the EU's Common Agriculture Policy and its impact on well exemplified natural environments and communities. A range of physical, economic and social impacts will be known.

**Level 2: 3-4 marks**

Candidates will have sound knowledge of the EU's Common Agriculture Policy and its impact on thinly exemplified rural environments and communities. A limited range of physical and human impacts will be known.

**Level 1: 0-2 marks**

Candidates will have limited or vague knowledge of the EU's Common Agriculture policy. An impact may be cited.

**AO2 Critical understanding of content (0-22 marks)****Level 4: 18-22 marks**

Candidates will demonstrate detailed understanding of how and why the CAP impacts positively and negatively (via price management, producer aids, supply controls and structural and environmental payments) on the physical environment eg monoculture, destruction of habitat, introduction of new species such as linseed, increased use of chemicals and on rural communities such as preservation of farming communities, employment, diversification. A clear cause-effect will be demonstrated between CAP and impact.

**Level 3: 12-17 marks**

Candidates will demonstrate a clear understanding of how and why the CAP impacts on the physical environment and on rural communities in both positive and negative ways. A cause-effect will be demonstrated between CAP and impact.

**Level 2: 6-11 marks**

Candidates will demonstrate a sound understanding of how the CAP impacts on the physical environment and on rural communities in both positive and negative ways. A weak cause-effect link will be demonstrated between CAP and impact.

**Level 1: 0-5 marks**

Candidates will demonstrate a limited or vague understanding of how the CAP impacts on the physical environment and on rural communities. A limited, if any, cause-effect link will be demonstrated between CAP and impact.

**AO3 Application of knowledge and critical understanding in unfamiliar contexts  
(0-22 marks)****Level 4: 18-22 marks**

Candidates apply their detailed knowledge and understanding of the CAP's impacts to evaluate whether the impact (negative or positive) is greater for the physical environment or the human community. Some appreciation that this will vary with scale, location eg upland area v fertile lowland, level of technology/development eg Greece v UK and may vary with individual communities/farmers can be expected at this level. There will be a clear evaluation of the extent.

**Level 3: 12-17 marks**

Candidates apply their knowledge and understanding of the CAP's impacts to evaluate whether the impact (negative or positive) is greater for the physical environment or the human community. Some appreciation that this will vary with location or level of technology/development can be expected at this level. There will be a sound evaluation of the extent.

**Level 2: 6-11 marks**

Candidates apply some of their knowledge and understanding of the CAP's impacts to evaluate whether the impact is greater for the physical environment or the human community. There will be a basic evaluation of the extent.

**Level 1: 0-5 marks**

Candidates apply limited or vague knowledge and understanding of the CAP's impact on rural areas probably to stress the negative effects on the environment. There is limited, if any, overall evaluation.

**Maximum 11 marks for application and 11 marks for evaluation**

**AO4 Communication (0-8 marks)**

Use generic assessment criteria

**Option 2: Managing Urban Environments**

- 4 'Urbanisation in LEDCs typically focuses on the main or capital city.' How far do you agree with this view? **[60]**

Urbanisation may focus on the process or the end product – urban growth.

**AO1 Knowledge of content (0-8 marks)****Level 4: 7-8 marks**

Candidates will have detailed knowledge of examples of the urbanisation process based on one or more large (primate) main or capital cities. Knowledge of appropriate models and concepts such as core-periphery model, multiplier may be demonstrated.

**Level 3: 5-6 marks**

Candidates will have clear knowledge of examples of the urbanisation process based on one or more large (primate) cities. Knowledge of some of the appropriate models and concepts such as core-periphery model, multiplier may be demonstrated.

**Level 2: 3-4 marks**

Candidates will have sound knowledge of examples of the urbanisation process based on one or more large (primate) cities.

**Level 1: 0-2 marks**

Candidates will have only limited knowledge of the urbanisation process and knowledge of appropriate examples may be vague.

**AO2 Critical understanding of content (0-22 marks)****Level 4: 18-22 marks**

Candidates will demonstrate detailed understanding of the causal links between urban area size and its relative attractiveness for migrants. An understanding of push-pull factors or a systems approach is expected with an understanding of a variety of physical (eg safety from natural disasters, famines), social (eg better education, culture, freedom from the family) economic (eg jobs, housing, services) and political (eg security) attractions offered by large urban areas.

**Level 3: 12-17 marks**

Candidates will demonstrate a clear understanding of the causal links between urban area size and its relative attractiveness for migrants. An understanding of push-pull factors is expected with an understanding of a variety of economic and social city attractions.

**Level 2: 6-11 marks**

Candidates will demonstrate a sound understanding of the causal links between urban area size and its relative attractiveness for migrants. A superficial understanding of push-pull factors is expected.

**Level 1: 0-5 marks**

Candidates will demonstrate limited or little understanding of the causal links between urban area size and its relative attractiveness for migrants.

**AO3 Application of knowledge and critical understanding in unfamiliar contexts (0-22 marks)****Level 4: 18-22 marks**

Candidates apply their detailed knowledge and critical understanding of why large cities have a disproportionate attractiveness for migrants to explain why growth is focused in such areas.



Most will probably evaluate this with the aid of the framework of the core-periphery model. At this level some evaluation is expected of why other areas are not so attractive. Highest level responses may look at some of the historical factors such as colonialism, transport development, inertia. Some may see this as the inevitable first stage of urbanisation when resources are limited. A clear evaluation of how far they agree is expected.

**Level 3: 12-17 marks**

Candidates apply their knowledge and critical understanding of why large cities have a disproportionate attractiveness for migrants to evaluate why growth is focused in such areas. Most will probably evaluate why other areas are not so attractive in terms of physical and human geography. Higher level responses may look at some of the historical factors. Some evaluation of how far they agree is expected.

**Level 2: 6-11 marks**

Candidates apply some of their knowledge and critical understanding of why large cities have a disproportionate attractiveness for migrants to evaluate why growth is focused in such areas. Most will probably offer limited evaluation of why other areas are not so attractive in terms of physical and human geography.

**Level 1: 0-5 marks**

Candidates apply limited or vague knowledge and understanding of why large cities have a disproportionate attractiveness for migrants to evaluate why growth is focused in such areas.

**Maximum 11 marks for application and 11 marks for evaluation**

**AO4 Communication (0-8 marks)**

Use generic assessment criteria

5 To what extent has the control of urban sprawl in MEDCs been successful? **[60]**

**AO1 Knowledge of content (0-8 marks)**

**Level 4: 7-8 marks**

Candidates will have detailed knowledge of a range of examples of direct attempts made at controlling urban sprawl such as green belts/wedges, brownfield development, New Towns, urban regeneration/redevelopment and indirect attempts such as transport planning, office location. Detailed examples are expected from one or more urban areas.

**Level 3: 5-6 marks**

Candidates will have clear knowledge of a range of examples of direct attempts made at controlling urban sprawl such as green belts/wedges, brownfield development, New Towns, urban regeneration/redevelopment with examples from one or more urban areas.

**Level 2: 3-4 marks**

Candidates will have sound knowledge of examples of direct attempts made at controlling urban sprawl with examples from one or more urban areas.

**Level 1: 0-2 marks**

Candidates will have limited or vague knowledge of examples of attempts made to control urban sprawl and knowledge of urban areas is insecure.

**AO2 Critical understanding of content (0-22 marks)****Level 4: 18-22 marks**

Candidates will demonstrate detailed understanding of the control mechanisms and the cause-effect relationship between the pressures leading to sprawl such as: increased personal mobility, diseconomies/disadvantages of inner urban areas, increased incomes/wealth, changes in the type and location of employment, social changes, and the physical, economic, social and political reasons why it needs to be controlled.

**Level 3: 12-17 marks**

Candidates will demonstrate clear understanding of the cause-effect relationship between the social and economic pressures leading to sprawl, and the environmental and economic reasons why it needs to be controlled and the mechanisms used to control.

**Level 2: 6-11 marks**

Candidates will demonstrate sound understanding of the cause-effect relationship between the pressures leading to sprawl, and a variety of the reasons why it needs to be controlled and some of the methods used.

**Level 1: 0-5 marks**

Candidates will demonstrate a limited or vague understanding of the cause-effect relationship between the pressures leading to sprawl, and the reasons why it needs to be controlled. Methods used will be vaguely understood.

**AO3 Application of knowledge and critical understanding in unfamiliar contexts (0-22 marks)****Level 4: 18-22 marks**

Candidates apply their detailed knowledge and critical understanding of the causes of sprawl and the reasons for controlling it to evaluate the comparative success of the attempts. At this level discussion is expected of why the attempts vary in their success – possibly due to contrasting economic, social and political factors. An appreciation that the relative success of these control methods may vary over location eg US v UK, scale eg citywide v single suburb, or time eg short v long term, is expected.

**Level 3: 12-17 marks**

Candidates apply their clear knowledge and critical understanding of the causes of sprawl and the reasons for controlling it to evaluate the comparative success of the attempts. At this level discussion is expected of why the attempts may vary in their success – possibly due to contrasting economic and human factors.

**Level 2: 6-11 marks**

Candidates apply some of their knowledge and critical understanding of the causes of sprawl and the reasons for controlling it to evaluate the comparative success of the attempts. Most will probably see it as failing as a strategy.

**Level 1: 0-5 marks**

Candidates apply only limited or vague knowledge and critical understanding of urban sprawl and its control with only a limited, if any, attempt at an evaluation of the statement.

**Maximum 11 marks for application and 11 marks for evaluation**

**AO4 Communication (0-8 marks)**

Use generic assessment criteria

- 6 'The growth of commuting is the main cause of traffic congestion in urban areas.' Discuss the validity of this statement. **[60]**

Whilst most candidates will probably see this as a MEDC problem some of the worst problems occur in the LEDCs eg Lagos. A detailed comparison may be a high level response but it is not a requirement.

**AO1 Knowledge of content (0-8 marks)****Level 4: 7-8 marks**

Candidates will demonstrate a detailed and well exemplified knowledge of both the growth of commuting (due to factors including increased mobility, separation of home and work, counterurbanisation, increased real incomes) and the nature (both volume and type) and causes of traffic congestion. The latter may include knowledge of: road patterns, mix of traffic, pattern of journeys, timing of journeys.

**Level 3: 5-6 marks**

Candidates will have clear and exemplified knowledge of both the growth of commuting and the nature (both volume and type) and causes of traffic congestion.

**Level 2: 3-4 marks**

Candidates will have sound knowledge of the process of both the growth of commuting and the nature (both volume and type) and causes of traffic congestion. Exemplification may be limited.

**Level 1: 0-2 marks**

Candidates will have limited or vague knowledge of the process of commuting or the nature of traffic congestion. There will be little, if any, exemplification.

**AO2 Critical understanding of content (0-22 marks)****Level 4: 18-22 marks**

Candidates will demonstrate detailed understanding of how and why the growth in commuting can increase traffic congestion showing a clear grasp of cause-effect factors such as volume of traffic, traffic mix, rush hours, complex cross town journeys etc. An understanding of other causes can be expected such as building development (or lack of it), traffic planning, urban growth, etc.

**Level 3: 12-17 marks**

Candidates will demonstrate clear understanding of how and why the growth in commuting can increase traffic congestion showing a grasp of cause-effect factors such as volume of traffic, traffic mix and rush hours. Some understanding of other causes can be expected.

**Level 2: 6-11 marks**

Candidates will demonstrate a sound understanding of why the growth in commuting can increase traffic congestion showing a limited grasp of cause-effect factors. Limited understanding of other causes can be expected.

**Level 1: 0-5 marks**

Candidates will demonstrate limited or vague understanding of why the growth in commuting can increase traffic congestion showing a very limited, if any, grasp of cause-effect factors.

**AO3 Application of knowledge and critical understanding in unfamiliar contexts  
(0-22 marks)****Level 4: 18-22 marks**

Candidates apply their detailed knowledge and critical understanding of the growth of commuting to evaluate whether it is the main cause of traffic congestion. At this level some appreciation of variations with the nature of the urban area eg 'old' v 'newer' cities, planned v unplanned etc and/or the type of commuting eg car v public transport. At this level there should be some evaluation of other causes.

**Level 3: 12-17 marks**

Candidates apply their knowledge and critical understanding of the growth of commuting to evaluate whether it is the main cause of traffic congestion. Some may see it as reflecting the nature/structure of the urban area eg 'old' v 'newer' cities, planned v unplanned etc and/or the type of commuting eg car v public transport. At this level there should be some limited evaluation of other causes.

**Level 2: 6-11 marks**

Candidates apply some of their knowledge and critical understanding of the growth of commuting to offer a limited evaluation of whether it is the main cause of traffic congestion. At this level there may be some little evaluation of other causes.

**Level 1: 0-5 marks**

Candidates apply limited or vague knowledge and critical understanding of the growth of commuting to offer little, if any, evaluation of the main causes of traffic congestion.

**Maximum 11 marks for application and 11 marks for evaluation**

**AO4 Communication (0-8 marks)**

Use generic assessment criteria

**Option 3: Managing Rural Environments**

- 7 "Recreation and tourism inevitably cause conflicts in the rural environment." To what extent do you agree with this statement. [60]

Rural environment can refer to human and/or physical environments.

**AO1 Knowledge of content (0-8 marks)****Level 4: 7-8 marks**

Candidates will have detailed knowledge of a range of types of recreation (both active and passive) and tourism activities and a knowledge of the types of potential conflicts: internal to recreation and tourism such as water skiing v fishing and external with other activities such as farming. Knowledge of ways in which they can co-exist eg zoning on lakes or even social and economic benefits may be offered at this level. Detailed knowledge of one or more case studies is expected.

**Level 3: 5-6 marks**

Candidates will have clear knowledge of a range of types of recreation and tourism activities and a knowledge of the types of potential conflicts. Clear knowledge of one or more case studies is expected.

**Level 2: 3-4 marks**

Candidates will have sound knowledge of a range of types of recreation and tourism activities and knowledge of at least two of the types of potential conflicts. Knowledge of one or more case studies is expected.

**Level 1: 0-2 marks**

Candidates will have limited or vague knowledge of a range of types of recreation and tourism activities and vague knowledge of the types of potential conflict. Exemplification will be limited or missing.

**AO2 Critical understanding of content (0-22 marks)****Level 4: 18-22 marks**

Candidates will demonstrate detailed understanding of how and why a range of recreation and tourism activities can cause conflicts (physical, economic and social) both with each other and with the natural environment and other environmental aspects or activities such as farming, forestry, reservoirs, housing etc or even conflicts with groups such as retired, farm workers etc.

**Level 3: 12-17 marks**

Candidates will demonstrate clear understanding of how and why recreation and tourism activities can cause conflicts (physical and human) both with each other and with the natural environment and other environmental aspects or activities such as farming, forestry, reservoirs, housing etc.

**Level 2: 6-11 marks**

Candidates will demonstrate sound understanding of how recreation and tourism activities can cause conflicts both with each other and with other environmental aspects or activities.

**Level 1: 0-5 marks**

Candidates will demonstrate limited or vague understanding of how recreation and tourism activities can cause conflicts.

**AO3 Application of knowledge and critical understanding in unfamiliar contexts  
(0-22 marks)**

**Level 4: 18-22 marks**

Candidates apply their detailed knowledge and critical understanding of the likelihood of recreation and tourism activities causing conflicts to evaluate whether this is inevitable or even accurate (as they may be planned carefully). Some evaluation of why co-existence may be important or desirable for rural environments is expected together with an appreciation of the way conflicts may vary with scale (eg honeypot v region), location (eg Upland v lowland) and over time or how they may be seen differently by different aspects or groups, eg young v old, in the rural environment.

**Level 3: 12-17 marks**

Candidates apply their knowledge and critical understanding of the likelihood of recreation and tourism activities causing conflicts to evaluate whether this is inevitable. Some appreciation is expected of the way conflicts may vary with location and over time or how they may impact on different aspects in the rural environment.

**Level 2: 6-11 marks**

Candidates apply some of their knowledge and critical understanding of how recreation and tourism activities can cause conflicts to evaluate whether this is inevitable. At this level most will agree with the statement.

**Level 1: 0-5 marks**

Candidates have limited or vague application of knowledge and critical understanding of the possible conflicts and so offer little, if any, evaluation.

**Maximum 11 marks for application and 11 marks for evaluation**

**AO4 Communication (0-8 marks)**

Use generic assessment criteria

- 8 Discuss the view that geographical location is the most important factor in explaining the pattern of changing rural populations in MEDCs. **[60]**

**AO1 Knowledge of content (0-8 marks)**

**Level 4: 7-8 marks**

Candidates will have detailed knowledge of well exemplified patterns of changing rural populations (both number and type) such as rural areas suffering population change eg remote upland areas suffering depopulation and others undergoing rapid population growth eg those on urban fringes. At this level a contrasting pair of detailed examples or case studies might be appropriate. They may show knowledge of appropriate concepts or models such as core-periphery model, multiplier effect, push v pull forces etc but this is not essential.

**Level 3: 5-6 marks**

Candidates will have clear knowledge of exemplified patterns of changing rural populations such as rural areas suffering population change and others undergoing rapid population growth. At this level a contrasting pair of detailed examples or case studies might be appropriate. They may show knowledge of appropriate concepts or models such as core-periphery model.

**Level 2: 3-4 marks**

Candidates will have sound knowledge of patterns of changing rural populations. Some limited exemplification of rural areas and population changes can be expected.

**Level 1: 0-2 marks**

Candidates will have limited or vague knowledge of patterns of changing rural populations. There will be little, if any, exemplification of rural areas.

**AO2 Critical understanding of content (0-22 marks)****Level 4: 18-22 marks**

Candidates will demonstrate detailed understanding of 'geographical location' and the cause-effect of why some rural areas are losing population and others are gaining population – the role of a range of locational (eg nearness to urban areas) physical (eg climate, scenery), economic (eg employment, accessibility), social (eg service provision, education) and political factors will be understood. At this level an understanding of the relative roles of net migration and natural increase is expected.

**Level 3: 12-17 marks**

Candidates will demonstrate clear understanding of the cause-effect of why some rural areas are losing population and others are gaining population – the role of a range of locational, physical and socio-economic factors will be understood. At this level some understanding of 'geographical location' and the relative roles of net migration and natural increase is expected.

**Level 2: 6-11 marks**

Candidates will demonstrate sound understanding of the cause-effect of why some rural areas are losing population and others are gaining population – the role of a range of locational factors will be understood. At this level limited understanding of 'geographical location' and the relative roles of net migration and natural increase is expected.

**Level 1: 0-5 marks**

Candidates will demonstrate limited or vague understanding of the cause-effect of why some rural areas are losing population and others are gaining population. At this level little understanding of 'geographical location' and the relative roles of net migration and natural increase is expected.

**AO3 Application of knowledge and critical understanding in unfamiliar contexts (0-22 marks)****Level 4: 18-22 marks**

Candidates apply their detailed knowledge and critical understanding of the causes of the pattern of changing rural populations to identify some common themes or patterns to explain the contrasting population changes such as: relative remoteness, scenic attractiveness, marginality of farming, relative costs of living, level of resources or capital. At this level some appreciation of how this may differ with scale eg local v regional, location eg upland v lowland and variations over time (as in the cycle effect in the core-periphery model) can be expected together with the nature of the population or groups involved eg rural poor v wealthy retired. At this level a clear attempt to evaluate the relative importance of the role of geographical location is needed

**Level 3: 12-17 marks**

Candidates apply their knowledge and critical understanding of the causes of the pattern of changing rural population to evaluate the relative role of geographical location compared to other physical, economic and social factors. An appreciation of how this may differ over time or with scale can be expected.

**Level 2: 6-11 marks**

Candidates apply some of their knowledge and critical understanding of the causes of the pattern of changing rural population to offer a limited evaluation of the relative role of geographical location compared to other factors.

**Level 1: 0-5 marks**

Candidates are limited and vague in the application of their knowledge and understanding to discuss the causes of the pattern of changing rural population. There will no attempt to evaluate the relative importance of the underlying causes.

**Maximum 11 marks for application and 11 marks for evaluation****AO4 Communication (0-8 marks)**

Use generic assessment criteria

- 9 'Sustainable forestry is the most effective way of managing rural ecosystems.' Discuss the validity of this view. **[60]**

**AO1 Knowledge of content (0-8 marks)****Level 4: 7-8 marks**

Candidates will have detailed knowledge of sustainable forestry and other ways of managing rural ecosystems such as set-a-side, National Parks, SSSIs, organic farming. At this level a contrasting pair of examples might be appropriate eg where forestry is successful in managing ecosystems such as the Grampians and an area where it is not so effective as in the Cotswolds. Detailed exemplification is expected and clear knowledge of rural ecosystems such as the food web.

**Level 3: 5-6 marks**

Candidates will have clear knowledge of sustainable forestry and other ways of managing rural ecosystems. Exemplification and sound knowledge of located rural ecosystems are expected.

**Level 2: 3-4 marks**

Candidates will have sound knowledge of sustainable forestry and some of the other ways of managing rural ecosystems and appropriate, if limited, exemplification is expected.

**Level 1: 0-2 marks**

Candidates will have limited or vague knowledge of sustainable forestry and other ways of managing rural ecosystems. Little, if any, exemplification can be expected.

**AO2 Critical understanding of content (0-22 marks)****Level 4: 18-22 marks**

Candidates will demonstrate detailed understanding of the benefits of sustainable forestry to managing local ecosystems as well as the problems it brings such as the 'green desert' impact on the ecosystem of conifer plantations. An understanding of the environmental, economic and/or political pressures that underlie the need to manage rural ecosystems should be demonstrated. A clear understanding of sustainability is expected.

**Level 3: 12-17 marks**

Candidates will demonstrate clear understanding of the benefits of sustainable forestry to managing local ecosystems as well as the problems it brings. Some understanding of the environmental and economic pressures that underlie the need to manage rural ecosystems should be demonstrated. An understanding of sustainability is expected.

**Level 2: 6-11 marks**

Candidates will demonstrate sound understanding of the benefits of sustainable forestry to managing local ecosystems as well as at least two of the problems it brings. Some understanding of the concept of sustainability is expected.



**Level 1: 0-5 marks**

Candidates will demonstrate limited or vague understanding of the benefits of forestry for rural ecosystems with little understanding of the concept of sustainability.

**AO3 Application of knowledge and critical understanding in unfamiliar contexts (0-22 marks)****Level 4: 18-22 marks**

Candidates apply their detailed knowledge and critical understanding of the impact of sustainable forestry on ecosystems to evaluate whether it is the most effective way of managing a sustainable environment. At this level some appreciation of scale, location eg lowlands in SE England v highlands of Scotland and variations over time can be expected together with the appropriateness of forestry varying with the nature of the area eg soil fertility, relief, type and structure of the local ecosystems, type of forest eg broad leaf v conifer, and the local population size/type eg countryside near to large population clusters. A clear discussion of the view is expected.

**Level 3: 12-17 marks**

Candidates apply their knowledge and critical understanding of the impact of sustainable forestry on ecosystems to evaluate whether it is the most effective way of managing a sustainable environment. At this level some appreciation of location and variations over time can be expected together with the appropriateness of forestry varying with the nature of the area, relief, the structure of the local ecosystems, type of forest. A discussion of the view is expected.

**Level 2: 6-11 marks**

Candidates apply some of their knowledge and critical understanding of the impact of sustainable forestry on ecosystems to offer a limited evaluation of whether it is the most effective way of managing an ecosystem. At this level some appreciation can be expected of the appropriateness of forestry varying with the nature of the area, the structure of the local ecosystems, type of forest. A limited or superficial discussion of the view is expected.

**Level 1: 0-5 marks**

Candidates offer only limited or vague application and evaluation of the role of forestry. Most candidates will probably agree with the idea that forestry is the answer for upland areas.

**Maximum 11 marks for application and 11 marks for evaluation****AO4 Communication (0-8 marks)**

Use generic assessment criteria

**Option 4: Hazardous Environments**

- 10 'It is the subsequent effects of natural hazards rather than the initial event that cause the greatest impacts.' To what extent do you agree with this statement? **[60]**

**AO1 Knowledge of content (0-8 marks)****Level 4: 7-8 marks**

Candidates will have detailed and well exemplified knowledge of the resulting effects such as physical effects eg mass movement, after shocks, floods, volcanic eruptions, and human effects such as: fire, disease, loss of communication, destruction of local economy following the initial impact of a range of hazards. Clear knowledge of short term v long term (or primary v secondary) effects can be expected at this level.

**Level 3: 5-6 marks**

Candidates will have clear and exemplified knowledge of the resulting effects such as physical and human effects following the initial impact of a range of hazards. Some knowledge of short term v long term (or primary v secondary) effects can be expected at this level.

**Level 2: 3-4 marks**

Candidates will have a sound knowledge of the resulting effects such as physical and human effects following the initial impact of at least two types of hazards. Exemplification may be limited in detail.

**Level 1: 0-2 marks**

Candidates will have limited or vague knowledge of hazards and their impacts.

**AO2 Critical understanding of content (0-22 marks)****Level 4: 18-22 marks**

Candidates will demonstrate a detailed understanding of the inter-relationship of the initial hazard event and a range of resulting subsequent (possibly over some time) effects. There will be a detailed understanding of what is meant by 'impacts', whether physical, socio-economic or in terms of deaths. Cause and effect will be well understood.

**Level 3: 12-17 marks**

Candidates will demonstrate a clear understanding of the inter-relationship of the initial hazard event and a range of resulting subsequent (possibly over some time) effects. There will be an understanding of what is meant by 'impacts'. Cause and effect will be clearly understood.

**Level 2: 6-11 marks**

Candidates will demonstrate a sound understanding of the inter-relationship of the initial hazard event and a range of resulting subsequent effects. There will be some understanding of what is meant by 'impacts'. Cause and effect will be understood.

**Level 1: 0-5 marks**

Candidates will demonstrate limited or vague understanding of the inter-relationship of the initial event and subsequent effects. 'Impacts' will be vaguely understood probably only being seen as destruction.

**AO3 Application of knowledge and critical understanding in unfamiliar contexts (0-22 marks)****Level 4: 18-22 marks**

Candidates apply their detailed knowledge and critical understanding to evaluate why resultant effects occur and whether they cause the greater impact. Some appreciation that this statement's accuracy may vary with scale, nature of the hazard event, location eg LEDC v MEDC and vary over time (more mitigation now so initial impacts may be less than in the past) can be expected. The scale of impact will vary with the level of warning, precautions, communications, planning, technology etc. A clear conclusion to the evaluation is expected.

**Level 3: 12-17 marks**

Candidates apply their clear knowledge and critical understanding to evaluate why resultant effects occur and whether they cause the greater impact. Some appreciation that this statement's accuracy may vary with location eg LEDC v MEDC can be expected. The scale of impact will vary with a variety of factors. A conclusion to the evaluation is expected.

**Level 2: 6-11 marks**

Candidates apply their knowledge and critical understanding to evaluate why resultant effects occur and whether they cause the greater impact. An appreciation that this statement's accuracy may vary with a variety of factors may be demonstrated. A limited, if any, conclusion to the evaluation is expected.

**Level 1: 0-5 marks**

Candidates apply only limited or vague knowledge and understanding of the topic and offer little or vague evaluations of whether the initial or subsequent effects cause greater impacts.

**Maximum 11 marks for application and 11 marks for evaluation****AO4 Communication (0-8 marks)**

Use generic assessment criteria

- 11 To what extent is it possible to successfully manage the hazards resulting from mass movements? [60]

**AO1 Knowledge of content (0-8 marks)****Level 4: 7-8 marks**

Candidates will have detailed and well exemplified knowledge of the main types of mass movement together with a detailed range of causes (physical factors eg relief, material, vegetation cover, drainage etc and human factors eg deforestation, drainage, slope modification etc). There will also be detailed knowledge of types of management, both direct eg nets, slope grading, sheet piles, planting trees and indirect eg drainage, banning skiing in certain areas etc.

**Level 3: 5-6 marks**

Candidates will have clear and exemplified knowledge of the main types of mass movement together with a range of causes (both physical and human). There will also be clear knowledge of a range of types of management of mass movement.

**Level 2: 3-4 marks**

Candidates will have sound knowledge of the main types of mass movement together with a range of causes. There will also be knowledge of a range of types of management of mass movement. Exemplification may be limited or vague.

**Level 1: 0-2 marks**

Candidates will have limited or vague knowledge of the main types of mass movement and their causes. There will also be limited or vague knowledge of types of management of mass movement.

**AO2 Critical understanding of content (0-22 marks)****Level 4: 18-22 marks**

Candidates will demonstrate detailed understanding of the inter-relationship of human and physical factors as causes of a variety of forms of mass movement. There will be also an understanding of how and why humans try to control mass movement to reduce its impact. Cause and effect will be well understood in both cases.

**Level 3: 12-17 marks**

Candidates will demonstrate a clear understanding of the inter-relationship of human and physical factors as causes of a variety of forms of mass movement. There will be also an understanding of how and why humans try to control mass movement. Cause and effect will be understood in both cases.

**Level 2: 6-11 marks**

Candidates will demonstrate a sound understanding of human and physical factors as causes of mass movement. There will be an understanding of how and why humans try to control mass movement.

**Level 1: 0-5 marks**

Candidates will demonstrate limited or vague understanding of the causes of mass movement. Little will be understood of how mass movement may be controlled. Cause and effect will not be understood.

**AO3 Application of knowledge and critical understanding in unfamiliar contexts (0-22 marks)****Level 4: 18-22 marks**

Candidates apply their detailed knowledge and critical understanding to evaluate the extent to which human factors or physical factors, or a combination of these, cause a variety of types of mass movement. A clear evaluation of the extent to which the hazards can be managed is expected. Ideas could include: little warning, sheer number of slopes, so common, cost, humans cause it (cost/benefit idea) etc. Some appreciation that this will vary with scale, location eg LEDC v MEDC and vary over time can be expected.

**Level 3: 12-17 marks**

Candidates apply their knowledge and critical understanding to evaluate the extent to which hazards created by mass movement can be successfully managed. An evaluation of the reasons why it is difficult to control is expected. An appreciation that this will vary with location or level of development eg LEDC v MEDC can be expected.

**Level 2: 6-11 marks**

Candidates apply some of their knowledge and critical understanding to discuss the management of mass movement hazards. A limited evaluation of the reasons why it is difficult to control is expected.

**Level 1: 0-5 marks**

Candidates offer only limited or vague discussions of mass movement and ways of controlling it. There will be no attempt at evaluation.

**Maximum 11 marks for application and 11 marks for evaluation****AO4 Communication (0-8 marks)**

Use generic assessment criteria

- 12 'The impact of hurricanes and tropical storms is greater with distance from their area of origin.' Discuss the validity of this statement. **[60]**

**AO1 Knowledge of content (0-8 marks)****Level 4: 7-8 marks**

Candidates will have detailed and well exemplified knowledge (a single case study may be sufficient) of the main types of primary and secondary impacts such as wind speeds, heavy rainfall, storm surges, landslides, flooding, disease, dam failures etc. They will also demonstrate a knowledge of the hurricane mechanisms and the way they alter (initially gaining in energy as they move away from their origins then declining as they cool or pass over land) with distance from their origin in the tropics.

**Level 3: 5-6 marks**

Candidates will have clear knowledge of the main types of primary and secondary impacts. This will be supported by clear exemplification. They will also demonstrate knowledge of the hurricane mechanisms and the way they alter with distance from the origin in the tropics.

**Level 2: 3-4 marks**

Candidates will have sound knowledge of the main types of impacts. This will be supported by brief exemplification. They will also demonstrate a limited knowledge of the hurricane mechanisms and the way they alter with distance from the origin in the tropics.

**Level 1: 0-2 marks**

Candidates will have limited or vague knowledge of impacts and show very limited knowledge, if any, of appropriate examples.

**AO2 Critical understanding of content (0-22 marks)****Level 4: 18-22 marks**

Candidates will demonstrate detailed understanding of the inter-relationship of the distance decay of the hurricane mechanism and the primary and secondary impacts. There will be an understanding that the effect of distance is physical eg temperature difference, over land etc and human eg more warning, level of preparation/technology etc. Cause and effect will be well understood.

**Level 3: 12-17 marks**

Candidates will demonstrate clear understanding of the inter-relationship of the distance decay of the hurricane mechanism and the primary and secondary impacts. There will be an understanding that the effect of distance may be physical or human. Cause and effect will be clearly understood.

**Level 2: 6-11 marks**

Candidates will demonstrate sound understanding of some of the link between the distance the hurricane travels and its impacts. There will be an understanding that the effect of distance is largely physical. Cause and effect will be understood in a limited way.

**Level 1: 0-5 marks**

Candidates will demonstrate limited or vague understanding of the link between the distance the hurricane travels and its impacts.

**AO3 Application of knowledge and critical understanding in unfamiliar contexts (0-22 marks)****Level 4: 18-22 marks**

Candidates apply their detailed knowledge and critical understanding to evaluate and assess the extent to which primary and secondary impacts, or combinations of them, impact on the human and physical environments as the hurricane moves away from its origin. An appreciation that this will vary with scale, location eg upland area v lowland coast, level of technology/development eg LEDC v MEDC and vary with individual hurricanes (some can speed up again) can be expected. They initially increase as the hurricane develops (+ over LEDC areas) – or doesn't impact as over the sea, but then decrease as the hurricane mechanism is cooled or breaks up over land or some will see it as only impacting at this stage.

**Level 3: 12-17 marks**

Candidates apply their knowledge and critical understanding to assess the extent to which primary and secondary impacts, or combinations of them, impact on the human and physical environments as the hurricane moves away from its origin. Some appreciation that this will vary with the level of technology/development eg LEDC v MEDC and/or with individual nature of hurricanes can be expected.

**Level 2: 6-11 marks**

Candidates apply some of their knowledge and critical understanding to assess the extent to which hurricanes impact on the human and physical environments as they move away from their origin.

**Level 1: 0-5 marks**

Candidates apply limited or vague knowledge and limited critical understanding to assess in a limited, if at all, way the extent to which hurricanes impact on environments as they move away from their origin.

**Maximum 11 marks for application and 11 marks for evaluation**

**AO4 Communication (0-8 marks)**

Use generic assessment criteria.

**Advanced GCE (Geog) (3832, 7832))  
January 2007 Assessment Series**

**Unit Threshold Marks**

Unit		Maximum Mark	a	b	c	d	e	u
2680	Raw	100	65	58	51	44	37	
	UMS	120	96	84	72	60	48	
2681	Raw	75	50	45	40	36	32	
	UMS	90	72	63	54	45	36	
2682 01	Raw	60	41	38	35	32	29	
2682 02	Raw	15	12	10	8	7	6	
	__UMS	90	72	63	54	45	36	
2683	Raw	90	66	58	51	44	37	
	UMS	90	72	63	54	45	36	
2684	Raw	120	89	80	71	62	54	
	UMS	120	96	84	72	60	48	

**Specification Aggregation Results**

Overall threshold marks in UMS (i.e. after conversion of raw marks to uniform marks)

	Maximum Mark	A	B	C	D	E	U
<b>3832</b>	300	240	210	180	150	120	
<b>7832</b>	600	480	420	360	300	240	

The cumulative percentage of candidates awarded each grade was as follows:

	A	B	C	D	E	U	Total Number of Candidates
<b>3832</b>	18.75	37.50	55.56	77.08	94.44	100	175
<b>7832</b>	15.22	54.35	84.78	97.83	100	0	51

46 candidates aggregated this series

For a description of how UMS marks are calculated see;  
[http://www.ocr.org.uk/exam\\_system/understand\\_ums.html](http://www.ocr.org.uk/exam_system/understand_ums.html)

Statistics are correct at the time of publication

**OCR (Oxford Cambridge and RSA Examinations)  
1 Hills Road  
Cambridge  
CB1 2EU**

**OCR Customer Contact Centre**

**(General Qualifications)**

Telephone: 01223 553998

Facsimile: 01223 552627

Email: [helpdesk@ocr.org.uk](mailto:helpdesk@ocr.org.uk)

**[www.ocr.org.uk](http://www.ocr.org.uk)**

For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored

Oxford Cambridge and RSA Examinations  
is a Company Limited by Guarantee  
Registered in England  
Registered Office; 1 Hills Road, Cambridge, CB1 2EU  
Registered Company Number: 3484466  
OCR is an exempt Charity

OCR (Oxford Cambridge and RSA Examinations)  
Head office  
Telephone: 01223 552552  
Facsimile: 01223 552553

© OCR 2007

