



General Certificate of Education (A-level)
June 2012

Geography

GEOG1

(Specification 2030)

Unit 1: Physical and Human Geography

Post-Standardisation

Mark Scheme

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all examiners participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for standardisation each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, examiners encounter unusual answers which have not been raised they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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GEOG1, GEO4A and GEO4B General Guidance for GCE Geography Assistant Examiners

Marking – the philosophy

Marking should be positive rather than negative.

Mark schemes – layout and style

The mark scheme for each question will have the following format:

- a) Notes for answers (nfa) – exemplars of the material that might be offered by candidates
- b) Mark scheme containing advice on the awarding of credit and levels indicators.

Point marking and Levels marking

- a) Questions with a mark range of 1-4 marks will be point marked.
- b) Levels will be used for all questions with a tariff of 5 marks and over.
- c) Two levels only for questions with a tariff of 5 to 8 marks.
- d) Three levels to be used for questions of 9 to 15 marks.

Levels Marking – General Criteria

Everyone involved in the levels marking process (examiners, teachers, students) should understand the criteria for moving from one level to the next – the “triggers”. The following general criteria are designed to assist all involved in determining into which band the quality of response should be placed. It is anticipated that candidates’ performances under the various elements will be broadly inter-related. Further development of these principles will be discussed during Standardisation meetings. In broad terms the levels will operate as follows:

Level 1: attempts the question to some extent (basic)

An answer at this level is likely to:

- display a basic understanding of the topic
- make one or two points without support of appropriate exemplification or application of principle
- demonstrate a simplistic style of writing perhaps lacking close relation to the terms of the question and unlikely to communicate complexity of subject matter
- lack organisation, relevance and specialist vocabulary
- demonstrate deficiencies in legibility, spelling, grammar and punctuation which detract from the clarity of meaning.

Level 2: answers the question (well/clearly)

An answer at this level is likely to:

- display a clear understanding of the topic
- make one or two points with support of appropriate exemplification and/or application of principle
- give a number of characteristics, reasons, attitudes (“more than one”) where the question requires it
- provide detailed use of case studies
- give responses to more than one command e.g. “describe and explain..”
- demonstrate a style of writing which matches the requirements of the question and acknowledges the potential complexity of the subject matter
- demonstrate relevance and coherence with appropriate use of specialist vocabulary
- demonstrate legibility of text, and qualities of spelling, grammar and punctuation which do not detract from the clarity of meaning.

Level 3: answers the question very well (detailed)

An answer at this level is likely to:

- display a detailed understanding of the topic
- make several points with support of appropriate exemplification and/or application of principle
- give a wide range of characteristics, reasons, attitudes, etc.
- provide highly detailed accounts of a range of case studies
- respond well to more than one command
- demonstrate evaluation, assessment and synthesis throughout
- demonstrate a sophisticated style of writing incorporating measured and qualified explanation and comment as required by the question and reflecting awareness of the complexity of subject matter and incompleteness/ tentativeness of explanation
- demonstrate a clear sense of purpose so that the responses are seen to closely relate to the requirements of the question with confident use of specialist vocabulary
- demonstrate legibility of text, and qualities of spelling, grammar and punctuation which contribute to complete clarity of meaning.

CMI+ annotations

- The annotation tool is available on all questions.
- Where an answer is marked using a levels response scheme the examiner should annotate the script with 'L1', 'L2' or 'L3' at the point where that level has been reached. At each point where the answer reaches that level the appropriate levels indicator should be given. In addition examiners may want to indicate strong material by annotating the script as "Good Level...". Further commentary may also be given at the end of the answer. Where an answer fails to achieve Level 1 zero marks should be given.
- Where answers do not require levels of response marking, the script should not be annotated. For point marked questions where no credit-worthy points are made, zero marks should be given.

Other mechanics of marking

- Various codes may be used such as: 'rep' (repeated material), 'va' (vague), 'NAQ' (not answering question), 'seen', etc.
- Unless indicated otherwise, always mark text before marking maps and diagrams. Do not give double credit for the same point in text and diagrams.

- 1 (a)** Hydraulic action, abrasion and corrosion/solution are the relevant processes. (3 marks)
There should be reference to how the processes work – hydraulic action is the removal of material by the sheer force of water. The turbulent flow of the water picks up loose material due to frictional drag. The higher the velocity – the more effective the process. Abrasion occurs when material being carried by the river hits the bed and banks and so wears them away via a scouring/sandpapering effect. The load used for this purpose will vary in size. Corrosion is the removal of certain rocks in solution – such as chalk and limestone where the mineral mixes with the rainwater and is carried away within it. AO1- 3
Allow 1 mark for a list of two or more terms.
3 x 1
- 1 (b) (i)** Rejuvenation occurs when the river has renewed/increased energy, as a result (2 marks)
of a change in the river height relative to base level, caused by fall in sea level or land uplift. AO1-2
2 x 1
- 1 (b) (ii)** Description should refer to the meandering river from the map and the (6 marks)
height/steepness of the sides – 40m in depth, 200m width of incision. The asymmetrical aspect of the profile is clear of this ingrown incised meander. AO1 – 2
Explanation should refer to the vertical erosion occurring within the meander AO2 – 2
itself. The relatively rapid speed of this should be recognised as the meander is AO3 – 2
incised – the asymmetrical profile indicating that there was some time for lateral erosion to occur as left western side is less steep than eastern side. There may be reference made to rock type and it being resistant to erosion. There may be reference to a long period of uplift to result in a fairly deep incision.
- Level 1 (Basic) 1-4 marks**
Describes the landform from Figure 1 – possible recognition of meanders with steep sides at lower end.
More purposeful description at top end.
May begin to explain at top end.
One element well done can get 4 marks.
Generic meanders maximum 2 marks.
- CMI annotation**
L1 – describes landform
L1 – begins to explain
- Level 2 (Clear) 5-6 marks**
Describes the landform and links explanation to description.
Explanation is sequential and developed.
Appropriate geographical terminology is used.
- CMI annotation**
L2 – clear description and sequential explanation
- 1 (c)** The text must be used for marks to be awarded. There should be reference to (4 marks)
the intensity of rain and the implications of this – with reference to the impact on surface runoff and the speed the water reached the river, the impact of the AO1 – 1
levees – increasing capacity but also the scale of the flood, a problem AO2 – 2
exacerbated by the amount of material being carried by the river, deforestation AO3 – 1
encourages rapid runoff in the areas near the source and provides added sediment for the channel, leading to bed aggradation and reduced capacity.
4 x 1; 2 x (1 + 1)
-

1 (d) Content will depend on case study used. Flooding may be defined within the answer. There should be clear reference to impact on people – likely to be reference to economic (those relating to monetary issues – in its broadest sense) and/or social (those relating to people – their well-being, health) and environmental aspects (such as water supply, transport networks, area covered in water and impact on water cycle). Example likely to refer to UK, Bangladesh, Pakistan. **(15 marks)**

AO1 – 7
AO2 – 8

Impact on people – Economic likely to refer to costs to homeowners, insurance payments, impact on businesses, crops, costs of organising help – to council, government, aid agencies, those involved and social likely to refer to deaths, homelessness – people displaced and provision for them, impact on state of mind, access to clean water, living conditions.

Impact on environment may refer to scale and nature of area flooded, impact on drainage/sewage systems, roads/bridges, long term implications regarding management, adding alluvium and increasing fertility formation of flood plains and levees.

Command is to discuss – so there should be recognition of issues, comment and debate regarding such things as scale, relative severity of flooding, type of impacts that were most apparent, who was affected most, numbers affected, ability to cope, length of time to respond etc.

Level 1 (Basic) 1-6 marks
Describes the effects of flooding – in no particular order.
Information likely to be generic – case study named only.
No case study or coastal flooding.

CMI annotation
L1 – describes impact

Level 2 (Clear) 7-12 marks
Description of effects of floods is more specific and precise.
Some reference to people and environment – but may be very imbalanced.
Information relates to case study – ‘rings true’ – some support.
Begins to discuss and to consider aspects that cause debate or gives comment – may be tentative/implicit.

CMI annotation
L2 – begins to discuss
L2 – reference to case study

Level 3 (Detailed) 13-15 marks
Description of effects of floods is specific and precise.
Some reference to people and environment – greater balance.
Specific reference to case study in support of points.
Discusses aspects that cause debate and offers comment that is purposeful.

CMI annotation
L3 – purposeful discussion
L3 – specific/detailed case study reference

- 2 (a)** Permafrost is permanently frozen ground. The depth to which the ground is frozen varies – up to 700m in parts of Canada and 1500m in Siberia. Its level of continuity varies. There may be an active layer that is present in the summer – which may be up to 4m deep. Located in tundra areas. Periglacial as an alternative to tundra.
2 x 1 **(2 marks)**
AO1 – 2
- 2 (b)** There is a limited amount of permafrost present north of 80 degrees – only northern Greenland and areas to the west. Most continuous permafrost is between 60 and 80 degrees north – it is most extensive in Russian Federation, whilst area is less in Canada. There is generally a banding of discontinuous permafrost after the continuous – in Canada and much of Russian Federation. The same is true of sporadic after discontinuous. The bands are narrower in Russian Federation than in Canada. In Greenland, continuous permafrost frames all but the southern coast.

Permafrost extends in lines through Norway and Sweden and USA.
Any valid point.
4 x 1 **(4 marks)**
AO1 – 1
AO2 – 2
AO3 – 1
- 2 (c) (i)** Any valid reason – unique destination – ecosystem – specific wildlife that can be experienced first-hand, information that is available whilst out there, adventure tourism, faraway destinations, cost – expensive but greater affluence, interest of educated traveller, relative comfort of cruise ships in hostile environments etc.
3 x 1; 1 + (1 + 1) **(3 marks)**
AO1 – 2
AO2 – 1
- 2 (c) (ii)** Figure 4 shows ships carrying 400 passengers suggesting that there are a lot of people visiting at once. Visitors are given a taster of experience by expert team and told about ‘close-up’ look of sites and wildlife. Issues likely to relate to intrusions, impact on wildlife/habitat – litter being left, numbers allowed to visit – trend for increase, pollutions from cruise ships.

Level 1 (Basic) 1-4 marks
Some description of problems on Antarctica. May refer to one issue tentatively.
Some reference to Figure 4 or own knowledge.

CMI annotation
L1 – describes problem(s)
- Level 2 (Clear) 5-6 marks**
Two issues are considered – clear summary.
Reference to Figure 4 and own knowledge.

CMI annotation
L2 – clear outline of issues
-

2 (d) Description should relate to the appearance of the landform e.g. that a corrie is an armchair shaped hollow that has a steep backwall whilst a glacial trough is a U-shaped valley or the size/scale of the landform. **(15 marks)**

AO1 – 8
AO2 – 7

Explanation should relate to relevant processes – freeze thaw weathering, abrasion, plucking, bulldozing, rotational slip, differential erosion.
For a hanging valley, the following gives a clear description and sequence for explanation.

Answer should recognise the importance of the formation of the glacial trough in the main valley. There should be recognition of the processes responsible – freeze thaw weathering on the sides weakens the rock as does plucking as the ice freezes to the sides and tears pieces away as it moves – these provide the tools for abrasion. As a result of these processes and the solid mass of ice, the interlocking spurs of the former river valley are bulldozed out of the way to create the steep sides of the glacial trough – which are truncated spurs. The top of these is marked by a break in slope marking the depth of the ice. Above this level are former tributary valleys, also occupied by ice during glaciation. However, the depth of ice here was less and so there was less erosive power. These valleys were not deepened to the extent of the main valley. As a result, when the ice has gone, they end abruptly. The previous, gentle end of the valley is cut off by the truncated spurs of the main valley and they are left ‘hanging’ at this point. They are often marked by a waterfall.

Level 1 (Basic) 1-6 marks

Describes landforms – basic
Begins to explain – processes noted.
May be very good on one part only.
Points made are simple and random.
Description/explanation only.

CMI annotation

L1 – describes and/or basic exploration

L1 – piecemeal

Level 2 (Clear) 7-12 marks

Description of landforms (2 needed) is more specific and precise.
Begins to develop explanation of two landforms – specific processes defined/identified.
Develops answer with clearer, more complete sequence and more appropriate terminology.

CMI annotation

L2 – clear description

L2 – more complete sequence

Level 3 (Detailed) 13-15 marks

Clear, purposeful description of landforms (2 needed) – can visualise.
Explanation of two landforms – processes explained.
Developed answer with clear and complete sequence – links are easy to follow.
Appropriate terminology is used.

CMI annotation

L3 – clear description and explanation

L3 – full sequence

- 3 (a)** Hard engineering involves the building of a variety of structures with the aim of protecting the coast. These may be made of concrete, boulders, metal and are deemed to be long lasting. This is a direct intervention by people that seeks to alter the natural forces/processes/involves high capital investment and relatively high level of technology.
2 x 1 **(2 marks)**
AO1 – 2
- 3 (b)** Two methods are clearly visible – sea wall and groynes. Sea walls here are curved to deflect the energy of the waves and dissipate wave energy. The groynes can be seen at right angles and these seek to hold the beach material in place by preventing the process of longshore drift.
4 x 1; 2 x (1 + 1) **(4 marks)**
AO1 – 1
AO2 – 2
AO3 – 1
- 3 (c) (i)** Reasons are likely to relate to the prevention of coastal erosion and coastal flooding. Not all areas are protected – only those that are perceived to be of economic value – and have industries, gas installations or large economic centres such as London, large settlements themselves are often protected due to significant numbers of people present – such as towns of Holderness and large cities. There may be environmental reasons for protecting the coast such as maintaining wetlands, dunes.
Safety reasons to protect people on beach.
List of reasons, 1 mark.
3 x 1; 1 + (1 + 1) **(3 marks)**
AO1 – 2
AO2 – 1
- 3 (c) (ii)** Figure 6 shows that new sea walls would be built approximately 10km from the existing coastline. This would lead to 4 coastal settlements and two further inland being flooded – as well as the surrounding area around them. (Happisburgh to the north has been faced with revetments not being maintained and houses falling into the sea.) Issues relate to changing policy over time; impact on people and people's lives against a background of inconsistency and limited funds available. Homes, memories and livelihoods will all disappear and a fair chunk of the Norfolk coastal area, changing the shape of the coastline. Impact on farmland and farmers, wild fowl or shooting.
(6 marks)
AO1 – 3
AO2 – 2
AO3 – 1

Level 1 (Basic) 1-4 marks

Some description of measures/changes
Hint of debate at top end.
Some reference to Figure 6 or own knowledge.

CMI annotation

L1 – describes problem(s) or measures

Level 2 (Clear) 5-6 marks

Description of changes to coast is clear.
Aware of how measures are contentious – relates to issues.
Reference to Figure 6 and own knowledge.

CMI annotation

L2 – clear description of issues

3 (d) Description should relate to the appearance of the landform e.g. that a headland is an area of land that juts out from the main line of the coast, whilst a bay is an inlet. These often occur in succession. **(15 marks)**

AO1 – 8

AO2 – 7

Explanation should relate to relevant processes – hydraulic action, abrasion, nature of waves and amount of wave energy, fetch, geology and importance of differential erosion, mass movement, sub-aerial weathering may all feature in an answer. For headlands and bays, the following gives a clear description and sequence for explanation.

Description should relate to the promontories – the headlands composed of a harder, more resistant rock and the inlets – the bays formed of a softer rock. The geology is a significant factor in leading to the sequence of headlands and bays. The different rock types are arranged at right angles to the coast and are therefore seen as being discordant. The less resistant rocks that ultimately form the bays are eroded faster as they are less resistant to erosion. Wave refraction means that the more powerful waves are concentrated on the headland, leaving gentler low energy waves in the bay, encouraging the build-up of material and forming a beach at the head of it.

Headlands and bays can also form where the geology is concordant with the coast – the bands of rock going parallel to it. Here, the sea may break through the more resistant material on the coast and then the rate of erosion is accelerated as the soft rock is eroded to create a bay.

Level 1 (Basic) 1-6 marks

Describes landform – basic.
Begins to explain – processes noted.
May be very good on one part only.
Points made are simple and random.
Description/explanation only.

CMI annotation

L1 – describes and/or basic explanation

Level 2 (Clear) 7-12 marks

Description of landforms (2 needed) is more specific and precise.
Begins to develop explanation of two landforms – specific processes defined/identified.
Develops answer with clearer, more complete sequence and more appropriate terminology.

CMI annotation

L2 – clear description

L2 – more complete sequence

Level 3 (Detailed) 13-15 marks

Clear, purposeful description of landforms (2 needed) – can visualise.
Explanation of two landforms – processes explained.
Developed answer with clear and complete sequence – links and easy to follow.
Appropriate terminology is used.

CMI annotation

L3 – clear description and explanation

L3 – full sequence

- 4 (a) (i)** Mechanical weathering involves the physical breakdown/disintegration of rock in situ. The pieces of rock are smaller, but they are the same as they were when attached to the main part of the rock – no chemical change or change in appearance has taken place. Direct link to climate. **(2 marks)**
2 x 1
AO1 – 2
- 4 (a) (ii)** Layers can be seen on the large boulder, partial layers appear to have peeled away. There is debris around the boulder, evidence of rock being weakened and pieces falling off. This is the result of temperature fluctuation on a daily basis. **(4 marks)**
AO1 – 1
AO2 – 2
AO3 – 1
During the day, the surface layers expand in response to the high temperatures to a greater extent than those concealed beneath the surface. At night, cooling and contraction occurs at similarly different rates. This causes the outer layers to peel away from the lower layers – the process of exfoliation. There may be reference to spheroidal weathering and the impact of different minerals heating and cooling at different rates.
4 x 1; 2 x (1 + 1); any combination. There may be reference to the role of water. Maximum 3 on description or explanation.
- 4 (b)** Continentality refers to areas within the interiors of land masses away from the influence of the sea. This results in winds being drier here, having lost their water content in areas nearer the sea and so increases likelihood of areas being dry and therefore deserts. There may be reference to specific winds such as north east trades over north Africa and the Sahara and distance from sea. **(3 marks)**
AO1 – 2
AO2 – 1
3 x 1 or 1 x (1 + 1).
- 4 (c)** Figure 8 looks at traditional way of life – this may be perceived as sustainable, but lacking progress for people. Subsequent changes are seen to offer improvement, but using appropriate technology, involving local people and sensible use of livestock in the form of sheep. Evidence appears to be positive in the context of sustainability. **(6 marks)**
AO1 – 3
AO2 – 2
AO3 – 1

Level 1 (Basic) 1-4 marks

Some description of activities/changes
Hint of link to sustainability at top end.
Some reference to Figure 8 or own knowledge.

CMI annotation

L1 – describes activities/changes

L1 – hint of link

Level 2 (Clear) 5-6 marks

Description of traditional and new is clear.
Aware of links to sustainability – clear comment.
Reference to Figure 8 and own knowledge.

CMI annotation

L2 – clear comment – links present

4 (d) Description should relate to the appearance of the landform e.g. pediments are gently sloping areas, angled at about 2 to 7 degrees, they may have a covering of loose material. **(15 marks)**

AO1 – 8
AO2 – 7

Explanation should relate to relevant processes – importance of ephemeral streams, endoreic streams and ephemeral lakes, hydraulic action, abrasion, geology and importance of differential erosion, role of wind in defining lines of certain landforms may all feature in an answer.

For a wadi, the following gives a clear description and sequence for explanation. A wadi is often a narrow, steep sided valley, (even gorge like in upper course/mountainous area) perhaps with much material within it and no stream or the presence of an intermittent/ephemeral stream.

Explanation should refer to the significance of the intermittent stream and the power that it has to erode due to its flashy nature. The energy generated allows large items of material to be eroded and subsequently transported by traction and a huge amount of material to be carried in suspension. As the river cannot be sustained due to the limited duration of the rainfall, the capacity and competence of the stream reduces and it becomes choked with the sediment it is transporting. This is then deposited, strewn along the bed to await the next rainstorm.

Level 1 (Basic) 1-6 marks

Describes landform – basic.
Begins to explain – processes noted.
May be very good on one part only.
Points made are simple and random.
Description/explanation only.

CMI annotation

L1 – describes and/or basic explanation

L1 - piecemeal

Level 2 (Clear) 7-12 marks

Description of landforms (2 needed) is more specific and precise.
Begins to develop explanation of two landforms – specific processes defined/identified.
Develops answer with clearer, more complete sequence and more appropriate terminology.

CMI annotation

L2 – clear description

L2 – more complete sequence

Level 3 (Detailed) 13-15 marks

Clear, purposeful description of landforms (2 needed) – can visualise.
Explanation of two landforms – processes explained.
Developed answer with clear and complete sequence – links and easy to follow.
Appropriate terminology is used.

CMI annotation

L3 – clear description and explanation

L3 – full sequence

- 5 (a)** Natural change refers to that caused by a difference between birth and death rates; when births exceed deaths, there will be an increase in population and vice versa. **(3 marks)**
AO1 - 3

Migration change refers to that component of increase/decrease that relates to people moving and changing their place of residence, there will be an increase if more people move in than out and vice versa.

3 x 1

- 5 (b)** Natural change has fluctuated. It has remained similar at start and end of periods – approx. 160 000 change, but has shown a decline overall between 1991 –1992 and 1999 – 2000, before increasing again. There are blips in these trends such as 1995 – 1996 and 1997 – 1998 in the decline. **(5 marks)**
AO1 – 1
AO2 – 2
AO3 – 2

Migration change has shown a clear increase. It began with a net loss, but then changes became positive and although rate of change varied (e.g. 1997-1998 versus 1999-2000), there has been an increasing net gain – the highest being approx. 270 000 in 2004-2005.

Overall, natural change has become the less important component of increase and given way to migration, since 1997 – 1998.

Level 1 (Basic) 1-3 marks

Describes the changes in natural and/or net migration components.

May be step by step.

Tentative, general comments.

CMI annotation

L1 – describes changes in one or both

Level 2 (Clear) 4-5 marks

Clearly describes trends in natural and net migration components.

Some evidence used in support.

Has clear overview of (relative importance of) components.

Explicit comment.

CMI annotation

L2 – clear description of both

L2 – explicit comment

- 5 (c)** Content will depend on case study used. China is likely to be a common exemplar of antinatalist policy with Italy as pronatalist. Migration policies are also valid, such as Brazil, Indonesia and USA. For China, expect reference to 'later, longer, fewer' strategy of 1974-1979, the introduction of the one family – one child policy in 1979 and its enforcement via granny police, fines, enforced abortions and sterilisations. The policy has been relaxed in some areas. An assessment of its success may refer to the size of China's population – 1.7 billion in 2007 – 25% less than without the policy; a growth rate of 0.6% by 2006, the fact that a less coercive approach could now be adopted may be evidence of its success. Conversely, there are problems of female infanticide, the development of 'the little emperor syndrome' and the ageing population that will be present in 2025, following the baby boom of the 1950s. **(7 marks)**
- AO1 – 4**
AO2 – 3

Level 1 (Basic) 1-4 marks

Describes how population has been managed.
Information rings true for country used.
May be implicit/tentative assessment.

CMI annotation

L1 – describes methods – rings true for country

Level 2 (Clear) 5-7 marks

Information is specific for country used – facts/figures included.
Explicit/clear assessment of success or otherwise.

CMI annotation

L2 – clear assessment

- 5 (d)** The question should give the structure of the answer – expect **either** all advantages and then disadvantages, **or** reference to social, economic and political in turn. Many will refer to UK, but there is no requirement to do so. Many are likely to begin with disadvantages and then go onto advantages – with this being briefer. **(15 marks)**
- AO1 – 8**
AO2 – 7

Economic advantages are likely to concern the 'grey pound' and the ways in which the elderly contribute to the economy – spending money on holidays, leisure activities, the demand for houses that leads to construction industry jobs, their role in the workforce in some stores and the exclusive provision for older people by some companies such as Saga. Disadvantages will relate to the need to provide hospital care for them – cost of hip replacements etc, and the burden of state pensions, the need for private pensions; the need to raise retirement age (which may also be seen as social or political); increase taxes; the need for housing – residential homes for the elderly, sheltered accommodation, building of small houses on retirement parks and costs incurred in this.

Political advantages refer to the 'grey vote' and the significance placed on this by the political parties in trying to woo older voters; the raising of the retirement age may be seen as an advantage in increasing the workforce and independence of many whilst some may see it as a disadvantage if it means young people cannot get a job. Levels of taxation – to increase to support an elderly population will also constitute a disadvantage.

Social advantages may refer to possible care of grandchildren, the wisdom of older people, role in voluntary/charity/community work, whilst disadvantages

may refer to the need for healthcare – allocation of hospital beds; dementia – looking after people in the community; role of family and stresses placed within the family unit by looking after elderly relatives; segregation of elderly people in certain areas may be discussed. Some aspects can be covered in two or even three of the categories – depending upon emphasis given.

Level 1 (Basic) 1-6 marks

Identifies advantages and/or disadvantages.
Economic, social and political are not distinguished.
General statements – applicable to any area.
Points made are simple and random.

CMI annotation

L1 – identifies advantages/disadvantages

Level 2 (Clear) 7-12 marks

Describes advantages and/or disadvantages.
Two categories are considered.
Points are supported in places.
Begins to discuss and make occasional comment.

CMI annotation

L2 – begins to categorise/discuss

Level 3 (Detailed) 13-15 marks

Describes clearly advantages and disadvantages, in greater balance.
Three categories are considered – but may be imbalanced.
Exemplification is used to support answers.
Discusses and makes clear, pertinent comment.

CMI annotation

L3 – all 3 categories considered

L3 – clear discussions/debate

- 6 (a)** The highest percentage of undernourishment occurs in the tropical areas of Africa – only here do percentages exceed 35% and indeed 50% on one occasion in DRC. **(4 marks)**
- There are pockets of relatively high incidence on the coast of West Africa, but much of this area has rates of between 5 and 15%. Much of southern Asia has between 15 and 25% with occasional exceptions such as Bangladesh (25 – 35%). China has a low rate for this area (5 – 15%) whilst Mongolia has a relatively high rate (25 – 35%). Much of tropical South America has rates of 5 – 15%, with one exception – Bolivia – of 25 – 15%. The southernmost part has less than 5% - a level shared by North America, Europe, Russian Federation, Australia and indeed many of the countries of North Africa along the Mediterranean Sea.
- 4 x 1
- AO1 – 1**
AO2 – 2
AO3 – 1

- 6 (b)** Land colonisation involves bringing land into production that has not previously been used. This may be via extending existing areas and chopping down areas of forest, draining marshes, irrigating areas that are naturally too dry, building terraces on steep hillsides to create flat land for cultivation. Bringing additional areas of land into cultivation – for either subsistence or commercial purposes – led to an increase in food supply. Exemplification is likely to be via Brazil – where large areas of Amazon rainforest were cleared for agriculture in 1970s (landless labourers) and more recently for pasture and soya bean farming – and Indonesia where transmigration programmes lead to clearance of forest to allow migrants to settle and have their own land to cultivate and provide food for themselves. **(5 marks)**

AO1 – 3
AO2 – 2

Level 1 (Basic) 1-3 marks

Defines and describes features of land colonisation.
Simple, generic statements.
Some (tentative) links to increasing food production.

CMI annotation

L1 – defines/describes concept

Level 2 (Clear) 4-5 marks

Clearly describes features of land colonisation.
Offers some support.
Clearly links land colonisation to increasing food production.

CMI annotation

L2 – links to increasing food production

- 6 (c)** The extract identifies the selling of the produce from Moorland Farm at either the farm shop or via farmers' markets. These offer a small scale and personal service and allow the consumer to meet directly with the supplier, they enable customers to be reassured about the quality of the food they are buying; they reduce the need to transport weighty items long distances and the environmental implications of this may be considered. In addition, the extract considers the fact that the farmer is no longer tied to supermarket prices which were very low. This means that selling direct benefits the farmer and makes his business viable in the local area. **(6 marks)**

AO1 – 3
AO2 – 2
AO3 – 1

Level 1 (Basic) 1-4 marks

Describes how food is locally sourced; relies heavily on Figure 11.
Some awareness of an advantage.

CMI annotation

L1 – describes features

L1 – tentative advantages

Level 2 (Clear) 5-6 marks

Uses information in Figure 11 purposefully.
Explains advantages of local sourcing clearly.

CMI annotation

L2 – explains advantages

- 6 (d)** The specification states subsidies, tariffs, intervention pricing, quotas, non-market policies, *set aside* and environmental stewardship in the context of the EU and strategies to control the level and nature of food production. **(15 marks)**

AO1 – 8
AO2 – 7

Subsidies were designed to support farmers by effectively reducing production costs – such as for sheep and some arable crops. This increased production in 1950s and later enabled Europe to become self-sufficient. Tariffs on imports worked in a similar way. Intervention pricing meant that farmers were guaranteed a specific price for their crop, irrespective of market price and so production was encouraged. These strategies essentially sought to increase food production in the aftermath of WW2 and were part of CAP. They were so successful that there was too much produce (and environmental issues due to level of intensification) and so other measures were brought in to reduce production.

Subsidies were reduced and spread across more farmers from more countries. Quotas limited the amount of a product that could be produced – notably milk. Land was also taken out of production via *set aside* where farmers were paid to remove 20% of their land from production leaving it under grass, planting trees or some other non-agricultural use. There were environmental benefits from this scheme as so too with stewardship schemes where there is a caring approach to the environment and agriculture proceeds in a friendlier way – with often production reducing – via buffer zones, managing ditches, dry stone walls. The question asks for an evaluation of the role of the EU and so comment should be present concerning the success with reference to initial increase and then subsequent control/reduction of production and a more environmentally friendly approach. There may be reference to the help given to some of poorer members of EU that have recently joined as part of strategy and impact on production there.

Level 1 (Basic) 1-6 marks

Describes EU strategy(ies) of managing food supply.
Points made are simple and in a random sequence.

CMI annotation

L1 – describes strategy/ies

Level 2 (Clear) 7-12 marks

Clearly describes 2 or more EU strategies of managing food supply.
Intermittent support.
Tentative/implicit evaluation.

CMI annotation

L2 – clear description

L2 – tentative/evaluates

Level 3 (Detailed) 13-15 marks

Describes 2 or more EU strategies of managing food supply in detail.
Support is given throughout.
Clear, purposeful and explicit evaluation.

CMI annotation

L3 – links strategies to explicit evaluation

- 7 (a)** Overall, there has been an increase in domestic consumption from approx. 37m tonnes of oil equivalent to 46mtoe; this has fluctuated, reaching a peak in 1996. The trend of this line is mirrored by the space heating line some 15mtoe below. Water heating has shown an initial increase of approx. 2mtoe until 2006 – amounting to 20% (level then gone back to original level) whilst the greatest increase is for lighting and appliances – up from 3 to 8mtoe – showing that this has more doubled. Cooking use has shown a fall from approx. 2mtoe to 1 – and so consumption for this has halved.
1 mark for evidence. Must be reference to more than one line for 4 marks.
4 x 1
- (4 marks)**
AO1 – 1
AO2 – 2
AO3 – 1

- 7 (b)** Energy conservation by workplaces can occur in various ways – by encouraging employers to turn lights off, having radiators on thermostats that can be individually adjusted, closing doors to conserve heating, using air conditioning with discretion, making employees aware of need to conserve and how to via simple measures, encouraging lift sharing, wind turbines, having equipment that is efficient such as refrigeration, designing buildings that are energy efficient and seeking advice in so doing. Marks and Spencer have had Plan A from 2007 – a 5 year plan that will be developed into subsequent stages from 2012 and further progress with regard to saving energy and becoming more efficient and seeking to have an impact on its suppliers also with regard to conservation. MUFC is also an example given in one of textbooks – but clearly any example is permissible as long as there is a workplace focus.
- (5 marks)**
AO1 – 3
AO2 – 2

Level 1 (Basic) 1-3 marks

Defines and describes features of workplaces/employees that would lead to energy conservation.

Simple, generic statements.

Some (tentative) links to energy conservation.

CMI annotation

L1 – defines/describes/attempts

Level 2 (Clear) 4-5 marks

Clearly describes features of workplaces/employees that lead to energy conservation.

Offers some support.

Clearly links and explains how strategies lead to conservation.

CMI annotation

L2 – explain links attempt to reduction

- 7 (c)** The extract identifies the scale of the oil spill – an unprecedented level and time scale of 87 days. There is reference to impact on wildlife – and the possibility that this may be less than at first feared. However, it may be that as slick did not reach land in many areas, the birds remained out at sea or it could be the result of the huge operation to contain the spread of oil and limit the environmental damage done. Perhaps drilling at such depths gives companies so little control that it should not have been allowed. **(6 marks)**
- AO1 – 3**
AO2 – 2
AO3 – 1

Comment is likely to relate to the scale of the disaster – in terms of amount of oil or time, the impact on wildlife, the costs of trying to avert a disaster and whether drilling at such depths is environmentally sound.

Level 1 (Basic) 1-4 marks

Describes environmental impacts, relies heavily on Figure 13 – relevant parts are lifted.

Some awareness of an issue/comment.

CMI annotation

L1 – describes impact

Level 2 (Clear) 5-6 marks

Uses information in Figure 13 purposefully.

Clear, purposeful comment on environmental impact.

CMI annotation

L2 – clear comment

- 7 (d)** The question refers to renewable energy so the response may be generic in the context of this type of resource or there may be specific reference to one or more types of renewable resource – as in the spec – bio-mass, solar power, wind energy, wave energy and tidal energy. **(15 marks)**
- AO1 – 8**
AO2 – 7

A diverse range of responses is likely, depending upon types of renewable energy considered or whether there is generic reference.

There is likely to be reference to their lifespan and the fact that they will not run out, their environmentally friendly nature where there are no carbon emissions and contribution to greenhouse effect, nor to acid rain and no large quarries or eyesores resulting from mining or events leading to environmental damage as with fossil fuels and possibly nuclear fuels.

There may be reference to the relatively expensive technology needed, contrasting efficiency at current levels, the need for specific conditions for solar and wind power that means that they are not equally nor universal opportunities for providing energy; there may be reference to the perceived impact of some renewable energy on the environment such as wind farms and tidal power, the loss of agricultural land used for food in the production of bio-mass for energy.

Level 1 (Basic) 1-6 marks

Describes renewable energy – may refer to specific type(s).
Points made are simple and in a random sequence.

CMI annotation

L1 – describes sources

Level 2 (Clear) 7-12 marks

Clearly describes renewable energy and begins to link to sustainability.
Likely to be one sided – and see all pluses of renewable.
Intermittent support.
Tentative/implicit assessment of ‘to what extent’.

CMI annotation

L2 – tentative assessment

Level 3 (Detailed) 13-15 marks

Describes renewable energy in detail and links to sustainability.
Will see some of negatives as well as pluses of renewable or will consider
alternative resources such as nuclear.
Support is given throughout.
Clear, purposeful and explicit assessment of ‘to what extent’.

CMI annotation

L3 – clear links to sustainability

L3 – explicit assessment

- 8 (a)** Gov. spending as % of total expenditure on health is approaching double in UK what it is in USA. Gov. expenditure on health as % of total got expenditure is much closer with USA spending 2.6% more. Gov. expenditure per capita is \$640 more in USA than UK and \$3960 more is spent in USA in total per head of population on health. There is less of a difference with regard to the number of doctors, with 3 more doctors per 10 000 population in USA than UK. 1 mark for evidence (manipulation of data). 4 x 1 **(4 marks)**
- AO1 – 1**
AO2 – 2
AO3 – 1

- 8 (b)** Textbooks include Cuba, India, USA, France and UK. Response will depend on case study selected – any country is permissible. For example, in France people pay a compulsory health insurance of 0.75% of earnings; employers contribute 12.8% of salary whilst most opt for top-up of 2.5% so that all costs are reimbursed. Patients pay initially and then claim back money. The poorest – income under 600 Euros are covered by state. People choose their own doctors – and can choose to have more than one. There are 3 doctors for every 1000 people and France was seen by WHO in 2000 as having best health-care in world. **(5 marks)**

AO1 – 3
AO2 – 2

Level 1 (Basic) 1-3 marks

Describes some/limited features of health care system.
Rings true for country selected.

CMI annotation

L1 – description of system

Level 2 (Clear) 4-5 marks

Clearly more fully describes features of health care system.
Offers support – statements specific for country stated.

CMI annotation

L2 – specific detail on example

- 8 (c)** Figure 15 refers to a variety of initiatives taken by the TNC – focussing on infectious diseases, having an immunisation programme of global significance – 179 countries involved, majority of doses of vaccines were administered in poorer countries, where certain medicines are offered at reduced rates. As well as looking at preventative measures, there is also a focus on looking after people in communities with HIV/AIDS. Comment should refer to the preventative aspect, the global scale, the positive nature of the TNC and may question the impartiality of the resource given its origin. **(6 marks)**

AO1 – 3
AO2 – 2
AO3 – 1

Level 1 (Basic) 1-4 marks

Describes what TNC does, relies heavily on Figure 15.
Some awareness of contribution of pharmaceutical transnationals.

CMI annotation

L1 – describes role

Level 2 (Clear) 5-6 marks

Uses information in Figure 15 purposefully. May use own knowledge.
Clear, purposeful comment on influence/role in world health.

CMI annotation

L2 – uses Figure 15

L2 – clear comment

- 8 (d)** Likely exemplars for infectious disease are HIV/AIDS, flu, malaria and for a non-communicable disease – coronary heart disease, stroke, type 2 diabetes, some types of cancer, obesity. HIV/AIDS and CHD are likely to be the most common exemplars. **(15 marks)**
- AO1 – 8**
AO2 – 7

The mark scheme is written using these two exemplars – but there are generic points that indicate universal application.

Economic consequences of HIV/AIDS are likely to relate to its debilitating effect and the loss of people from production of subsistence crops and their contribution to a developing economy thus hindering economic development. Food shortages may occur and advancement stopped as limited resources are focussed on caring for those with the disease and those affected by it – many children are orphans and require care.

The scale of the problem is immense with 40 million people infected worldwide – 60% in sub-Saharan Africa – encompassing some of the world's poorest countries. The economic development of such countries will have a brake placed on their economic progress as the life expectancy of population of countries such as Botswana falls below 30 for those infected with AIDS. Its economy is predicted to be a third smaller by 2021 and government expenditure increasing by 20% to cope with the disease.

Economic consequences of CHD are likely to relate to people being unable to work and impact on families and their lives – as carers for example and subsequent loss of income. Before this stage, there are many work days lost due to ill health – 7 DALY's per 1000 people in UK in 2003 and many deaths – over 120 000 in 2002 in UK – clearly reducing the workforce to some extent. The cost of treatment – for surgery and advice takes a substantial slice of NHS budget and its impact on other budgets such as education, infrastructure may be discussed. There may be discussion of costs linked to trying to reduce the risk regarding education, advertising campaigns regarding health lifestyles or policies to reduce the incidence such as banning smoking in public places. There are clearly impacts here, but the impact on development is less – the disease takes resources and has an impact on workforce but not to the same extent or on the same scale as HIV/AIDS. Some countries with such diseases emerging may paint a different picture.

Level 1 (Basic) 1-6 marks

Describes economic effects - may be one sided or separate.
Ideas generic with limited reference to specific disease(s).
Points made are simple and in a random sequence.

CMI annotation

L1 – describes effects of disease(s)

Level 2 (Clear) 7-12 marks

Begins to develop points with regard to economic development.
Support is present – clear reference to selected diseases – rings true.
There is some reference to both diseases, but may be clear imbalance.
Tentative/implicit assessment of ‘to what extent’.

CMI annotation

L2 – begins to / links to

L2 – economic development for one

L2 – tentative assessment

Level 3 (Detailed) 13-15 marks

Clear, purposeful analysis of impact in the context of economic development.
Support is given throughout.
There is some reference to both diseases, in greater balance.
Clear, purposeful and explicit assessment of ‘to what extent’.

CMI annotation

L3 – clear links to economic development of both

L3 – explicit assessment