Version 2

General Certificate of Education (A-level)
June 2011

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.

Further copies of this Mark Scheme are available from: aqa.org.uk

Set and published by the Assessment and Qualifications Alliance.

The Assessment and Qualifications Alliance (AQA) is a company limited by guarantee registered in England and Wales (company number 3644723) and a registered charity (registered charity number 1073334).
Registered address: AQA, Devas Street, Manchester M15 6EX.

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 will be available for levels response 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. Please use the following annotations in addition to the pre-populated levels comments.

Physical		Human	
d	describes	d	describes
e	explains	ec	economic
disc	discusses	disc	discusses
c	comment	c	comment
twe	to what extent	diff	differences
ca	cause	e.g	examples
devt	development	dtm	demographic transition model
l	landform	gl	global
p	process	i	issue
se	soft engineering	nr	not relevant
he	hard engineering	s	strengths
sust	sustainability	sust	sustainable
diff	difficulties	w	weaknesses
desert	desertification		

- 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.

SECTION A

Question 1

1 (a) (i) AO1 – 1, AO2 – 1, AO3 – 2

The obvious landforms are the waterfall, plunge pool and the associated gorge in the foreground. Allow 1 mark for each of these – maximum 2 for identification. The command word is 'describe' so there needs to be more than just recognition of the landforms for further marks. Labels may include reference to the two stages of the descent / the deeper part of the bed just after the descent / the presence of a plunge pool marked by the white water (if not awarded as an identification mark for recognising landform) / the channel occupying the width of the bed in the gorge or narrow channel / the stepped profile of the gorge or narrow channel / the eddying of the water in the gorge / or turbulent flow. Features must be correctly arrowed to be worthy of a mark – arrow must connect with landform / characteristic.
4x1 ***(4 marks)***

1 (a) (ii) AO1 – 5, AO2 – 2

The landforms to be explained are the waterfall and the gorge. There is likely to be reference to bands of hard and soft rock that are horizontally arranged, with the hard rock forming a cap rock, underlain by the soft rock. Differential erosion results and the softer rock is eroded faster than the hard rock, creating a steep gradient. There may be reference to specific processes of erosion, such as abrasion and hydraulic action. This causes the undercutting of the soft rock and an overhang develops above the plunge pool and its swirling waters. This ultimately collapses, causing the waterfall to retreat and to leave a narrow, steep-sided valley – the gorge – in its wake. This is the most likely explanation, but there may also be reference to rivers plunging over the edges of plateaus in southern Africa and South America and also to knick point waterfalls. ***(7 marks)***

Level 1 (Basic) 1-4 marks
Begins to explain the formation of the waterfall/one landform.
There is a partial sequence and general reference to process, such as erosion.
Some use of appropriate terminology present at the higher end.

CMI annotation

- ***L1 Begins to explain one landform***
- ***L1 Partial sequence***

Level 2 (Clear) 5-7 marks
Seeks to explain the sequence of the formation of the landforms – waterfall and gorge.
There is some reference to both landforms, although one may be dealt with in greater detail. There will be greater reference to gorge through the level.
Sequence is clear and there is reference to specific processes, such as abrasion.
Appropriate geographical terminology is used.

CMI annotation

- ***L2 Reference to both landforms. Clear sequence.***

1 (b) AO1 – 2, AO2 – 2

Reference is likely to be made to deforestation, urbanisation, building on floodplain, farming practices, river management and global warming. One mark for identification of cause. For the cause selected, there should be a clear sequence of the events set in motion that lead to flooding. For example, urbanisation leads to the building of impermeable surfaces that result in increased surface runoff – the fastest transfer of water to the river, thus lag time is reduced and a higher peak results. The development of drains to take away the surface water exacerbates the problem – providing an ideal, obstacle-free route for water to reach the river with subsequent impact on lag time. Building bridges may constrict the flow, encouraging the build-up of water and flooding. The trend for people to concrete over gardens also worsens the problems.
4x1 ***(4 marks)***

1 (c) AO1 – 7, AO2 – 8

There is a need to make clear why soft engineering strategies are preferred to hard engineering or vice versa. This is the likely route so there should be reference to the advantages of soft engineering and possibly also the disadvantages of hard engineering. There will probably be some description of the relevant strategies that may be adopted. ***(15 marks)***

Alternatively, candidates may disagree with the statement and provide advantages of hard engineering and disadvantages of soft engineering. The final option is to perceive the complementary nature of the two approaches and discuss this aspect.
Advantages of soft engineering are likely to refer to its greater sustainability, its limited interference with a natural system, the ability to improve the environment at times and to work with natural systems so that wetlands and habitats may be restored/created, the relative affordability.
Disadvantages of hard engineering relate to the extent to which there is change to the natural system and questions over its sustainability – the large scale of building dams and their environmental impact, as well as economic and social costs. Similarly, channelisation means that the flood risk may be increased downstream and habitats destroyed. **Advantages of hard engineering** may relate to their effectiveness, especially in the short term, associated schemes for HEP, irrigation which give other advantages.
Disadvantages of soft engineering relate to ineffectiveness in already built-up areas, the fact that flood warnings allow preparation but are not preventing damage from flooding. They will be seen as reducing the scale of risk rather than preventing flooding.

The actual content will depend on the specific strategies considered and whether there is exclusive discussion of soft engineering strategies only. There may be reference to case studies – such as River Quaggy, London, Lincolnshire, Oxfordshire (Cherwell), Ouse, Jubilee River Channel, Carlisle, Three Gorges Dam, Colorado etc.

Level 1 (Basic) 1-6 marks
Identifies soft and/or hard engineering strategies.
Refers to simple reasons why soft engineering is better.
Some use of appropriate terminology present at the higher end.
Coastal flooding response – if relevant, generic aspects.

CMI annotation

- ***L1 Identifies strategies***

- ***L1 Simple reasons given***

Level 2 (Clear) 7-12 marks
Describes strategies and advantages and / or disadvantages of soft and / or hard engineering.
Begins to discuss why soft engineering strategies are better (or an alternative option).
Uses strategies to illustrate points – will illustrate one aspect only or with imbalance e.g. advantages of soft engineering may be discussed with no reference to hard engineering.
Case study material may be included in a descriptive way.
Appropriate geographical terminology is used.

CMI annotation

- ***L2 Begins to discuss***

Level 3 (Detailed) 13-15 marks
Clear, purposeful discussion that seeks to put a case for/against soft engineering or is aware of the complementary nature of the strategies.
Advantages and disadvantages of soft and hard engineering are discussed.
Strategies are effectively used to illustrate concepts.
Case studies are used to make points.
Specific terminology is used throughout.

CMI annotation

- ***L3 Purposeful discussion – puts a case***

Question 2

2 (a) (i) AO1 – 1, AO2 – 1, AO3 – 2

There is clear evidence of moraine. Allow 2 marks for identification of lateral, ground, surface/supraglacial. There is ground moraine beneath the glacier. Some can be seen at the snout below the ice that is present in the middle of the glacier. This material is unsorted – it varies in size in this exposed section. It is angular. There are large amounts of moraine at the sides of the glacier – lateral moraine. These form large, steep banks of loose material extending up the side of the valley. There is some moraine on the surface of the glacier, giving the ice a brown/grey appearance instead of white. It appears to be in lines parallel to the sides, fanning out at the snout. ***(4 marks)***
Maximum 3 on any one type.
4x1

2 (a) (ii) AO1 – 2, AO2 – 2

Moraine is material that is carried and ultimately deposited by a glacier (1). ***(4 marks)***
There may be reference to freeze thaw weathering with regard to weakening the rock on the valley sides and providing a source of loose material/scree (up to 3). Reference may also be made to rockfalls with regard to **lateral moraine**. Plucking of material from sides and base. Abrasion on the valley floor.
Ground moraine – material entering crevasses and finding a route to the base of the glacier – ground moraine – and then being transported by the glacier, the unsorted nature due to the indiscriminate way in which ice transports material.
1 mark for identification of 2 or more process.

2 (b) (i) AO1 - 2

Periglacial areas are those that experience very cold conditions but are not ice-covered. They are on the edges/margins of areas that are ice-covered. Tundra areas. They are found on the edges of polar ice caps, in high altitude areas in alpine regions etc. They are associated with specific processes, linked to the extreme cold that is experienced. 1 mark for 2 named processes. ***(2 marks)***
They are underlain by a layer of permafrost.
2×1

2 (b) (ii) AO1 – 3, AO2 – 2

Nivation, permafrost formation, frost heave and solifluction are the processes in the specification. Freeze-thaw and aeolian processes are also valid. Example for permafrost formation. This is permanently frozen ground. It is the layers below the surface (the subsoil) that remains frozen for at least two years on the run for permafrost to form. Thus, temperatures must be very cold to cause this. There is some surface melting – up to 3 metres below the surface – this is the active layer. There may be reference to how the freezing and thawing processes both occur from the surface. The different types of permafrost – continuous, discontinuous and sporadic – may also be referred to and the contrasting conditions required. Frost heave occurs where sediment moves upwards towards the surface due to water freezing within a layer of material. Where stones are present, the area beneath them will heat and cool more quickly. Therefore, water beneath a stone will freeze earlier than that surrounding it, causing it to expand and push the stone to the surface and water ***(5 marks)***

freezing above it will pull the stone to the surface.
Level 1 (Basic) 1-3 marks
Identifies at least one process – may be definition like at lower end.
Answer likely to be partial.
Sequence will be incomplete.
Some use of appropriate terminology present at the higher end.

CMI annotation

- ***L1 Partial description of a process***

Level 2 (Clear) 4-5 marks
Describes two (or more) processes.
There may be clear imbalance between the processes.
Sequence given so that how process occurs is clear.
Selects relevant points in outline.
Appropriate geographical terminology is used.

CMI annotation

- ***L2 Clear how process occurs***

AO1 – 8, AO2 – 7

2 (c) Development with regard to economic activities is likely to refer to the role of indigenous people such as the Vuntut Gwitchin on Old Crow Flats in Yukon, Canada and recent changes in this context. The development of areas for resources such as seals and whales and minerals may be considered; it is likely that oil in 1002 land and Prudhoe Bay, Alaska, the pipeline and tourism will be to the fore. There may be reference to measures taken to reduce environmental impact – such as with reference to the pipeline, but also with regard to buildings and utilities. ***(15 marks)***
The issue of sustainability may refer to the environment, society or the economic activity itself.
Assessment of to what extent there is conflict/tension will depend on the content. The assessment should reflect the preceding evidence – and may suggest there can be harmony and so little conflict or that the two are incompatible and there is clear conflict/tension that is difficult to resolve.

Level 1 (Basic) 1-6 marks
Describes economic activities and/or the idea of sustainability.
Possible reference to case study material.
Points made are simple and random.
Antarctica responses – generic points.

CMI annotation

- ***L1 Description of economic activities and/or sustainability***

Level 2 (Clear) 7-12 marks
Begins to target content to purpose.
Refers to both economic activities and sustainability – may be clear imbalance.
Begins to consider links between the two components.
Evidence used in support via case study material.
Tentative/implicit assessment of the extent to which there is conflict/tension between the two aspects.

CMI annotation

- ***L2 Begins to address idea of conflict***
- ***L2 Tentative assessment***

Level 3 (Detailed) 13-15 marks
Clear, purposeful response relating to the thrust of the question.
Awareness of links between the two components - sees conflicts.
Points are clear and illustrated/developed throughout with specific case study knowledge.
Clear/explicit view of the extent to which there is conflict/tension between the two aspects.

CMI annotation

- ***L3 Awareness of conflict between development and sustainability***
- ***L3 Explicit assessment***

Question 3

3 (a) (i) AO1 – 2

Mass movement involves the shifting downslope under the influence of gravity of unconsolidated material/rocks/weathered material as a unit at varying speeds – from very fast such as falls to very slow, such as creep. Two examples of mass movement is worth one mark. ***(2 marks)***
2×1

3 (a) (ii) AO1 – 1, AO2 – 1, AO3 – 2

Slumping is likely to be recognised. ***(4 marks)***
There is much material at the base of the cliffs. This appears to be loose material and links in the foreground to areas of shift at the top of the cliffs / jagged edges. Here a 'line' of movement is visible, especially at the very top, where the material has shifted in a plane as a unit. Slip plane is covered as material has slumped down. The vegetation has shifted with it and is incomplete. The lack of vegetation lower down the slopes is indicative of instability.
4x1

3 (b) (i) AO1 – 3, AO2 – 2

There are a variety of physical causes or factors that are relevant. Likely to refer to wave steepness and where they break (steeper waves have more energy and cause more erosion / waves breaking at the foot of cliffs are more damaging due to point at which energy is released), the length of the fetch (waves travelling a long distance have more energy), the steepness of the beach (steeper the beach, the more energy), the material from which the beach is made (shingle creates a steeper beach and therefore encourages higher erosion rates), the type of rock present (harder rock will be more resistant to erosion) and the nature of the coastline (headlands will result in wave refraction and encourage coastal erosion). References to processes – such as abrasion, hydraulic action. ***(5 marks)***

Level 1 (Basic) 1-3 marks
Processes only
Identifies one cause/factor – may be definition at lower end.
Answer likely to be partial.
Sequence will be incomplete.
Some use of appropriate terminology present at the higher end.

CMI annotation

- ***L1 Partial description of cause***

Level 2 (Clear) 4-5 marks
Describes two (or more) causes/factors – may be brief.
There may be clear imbalance between the causes/factors.
Sequence given so that how erosion occurs is clear.
Appropriate geographical terminology is used.

CMI annotation

- ***L2 Clear how erosion occurs – 2 factors at least***

3 (b) (ii) AO1 – 2, AO2 – 2

Beach nourishment involves replacing beach material – usually sand – that has been removed by longshore drift. This may involve moving material back along the beach seasonally or dredging it up offshore and placing it on the coast. This creates a barrier between the waves and the base of the cliff and so protects the vulnerable part of the cliff from erosion. This will stabilise the cliffs, as the beach is widened and wave energy is dissipated before it reaches base.
4x1, 2 x 1 + 1: any combination. ***(4 marks)***

3 (c) AO1 – 8, AO2 – 7

A case study is required so responses will be determined partly by the case study used – textbooks for the specification refer to Lyme Regis, Dorset (but must select hard engineering aspects) and the Isle of Wight. Other areas such as Holderness, Devon and Norfolk are likely to feature also. ***(15 marks)***
Explanation should refer to the specific methods adopted for the selected case study. There should be reference to locations linked to strategies, e.g. the presence of sea walls and groynes at Bridlington, Hornea and Withernsea, the latter two also having rock armour. Mappleton has rock armour and two rock groynes and there is a revetment at Easington. Elsewhere, the coast is unprotected. The response should make clear how the strategies work.
Effectiveness can refer to the extent to which they stop erosion where they are present, their impact elsewhere; the views of different interest groups – or people living in different parts of the area; the environmental impact; their economic viability; sustainability; social impact. The comment needs to be case study specific.

Level 1 (Basic) 1-6 marks
Describes one/two hard engineering methods and/or effectiveness/ success.
Possible reference to case study material.
Points made are simple and random.

CMI annotation

- ***L1 Describes one or two methods***

Level 2 (Clear) 7-12 marks
Begins explanation.
Refer to both hard engineering methods and their effectiveness – may be clear imbalance.
Case study is present and information will be recognisable.
Begins to consider links between the two components.
Tentative/implicit comment of the effectiveness/success of the methods.

CMI annotation

- ***L2 Begins to explain***
- ***L2 Tentative comment***

Level 3 (Detailed) 13-15 marks
Clear, purposeful response relating to the explanation thrust of the question.
Awareness of links between the two components
Points are clear and illustrated/developed throughout.
Case study is specific and detailed.
Clear/explicit comment of the effectiveness/success of the methods.

CMI annotation

- ***L3 Clear purposeful explanation***
- ***L3 Explicit comment***

Question 4

4 (a) (i) AO1 – 1, AO2 – 1, AO3 – 2

The photograph shows sand dunes. They appear to occur in lines. One slope seems to be steeper than the other/asymmetrical. The middle part of the dune seems to be higher than the sides. They are crescent shaped/barchans/seif. In the foreground, it is clear that the sand is not smooth, but is rippled. There is very little sparse / low lying vegetation present on the dunes. ***(4 marks)***
Allow 1 mark for reference to Zone B and 1 mark for reference to vegetation.
4x1

4 (a) (ii) AO1 – 3, AO2 – 2

There may be a direct link with the photograph. Dunes form due to deposition by the wind and the presence of sand in sufficient quantities. They are mobile and frequently shift as the wind constantly picks up the sand and then deposits it. The gentle slope is in the direction of the prevailing wind (from right to left in the photo) and is the result of saltation and surface creep as the sand is moved along it. The steep slope is the result of eddying in the lee of it and falls of coarse-ground sand. The wind transports the sand at the sides faster, creating a crescent shape as there is less sand to move there than in the middle. The gentler gradient between the lines of dunes is the result of the presence of smaller grains of sand; the rippling the result of wind movement. ***(5 marks)***

Level 1 (Basic) 1-3 marks
Begins to explain – likely to relate to wind deposition.
Answer likely to be partial.
Sequence will be incomplete.
Some use of appropriate terminology present at the higher end.

CMI annotation

- ***L1 Partial explanation and sequence***

Level 2 (Clear) 4-5 marks
Describes role of the wind – likely to be reference to transportation as well as deposition.
Sequence given to show how dunes form – explanation is clear.
Reference to detail regarding shape – or influence of particle size.
Appropriate geographical terminology is used.

CMI annotation

- ***L2 Clear explanation and sequence***

4 (b) (i) AO1 - 2

Desertification occurs when there is an expansion of the deserts into areas on their margins. The process is long term and results from the worsening of the land and its biological potential – its ability to support plant life. There must be reference to change. ***(2 marks)***
2×1

4 (b) (ii) AO1 – 2, AO2 – 2

There should be some precision regarding the distribution of areas at risk. The area to the south of the Sahara Desert in North Africa is one of the largest areas. There is a large area in western Asia – including parts of Iran, Pakistan and Afghanistan. Parts of southern USA and Mexico are vulnerable as are smaller areas around Western Australia. It is the edges of the current hot deserts that are particularly vulnerable. Semi-arid areas. The areas are mainly within the tropics/between 30° N and 30° S, but there are exceptions such as those in USA and southern Spain.
1 mark for 2 named locations.
4x1

(4 marks)

4 (c) AO1 – 8, AO2 – 7

(15 marks)

Difficulties faced are likely to refer to the need to cut down trees/bushes for a fuel supply in an area where supplies are diminishing; the difficulties of obtaining water in the context of years of drought in the 1970s and 1980s and the famines that resulted; the need for water for livestock and the importance placed on numbers; the attempts to grow cash crops; failing to leave land fallow to recover; soil erosion. All this against a backdrop of countries that are amongst the poorest in the world, with high rates of population growth.
The Sahel – there should be specific reference to this as a prescribed location.
Comment – should reflect the content of the response – may decide that this is the key cause or that there are other contributors, such as increasing population, role of governments, civil war.

Level 1 (Basic) 1-6 marks
Describes one/two difficulties and/or comments on difficulties.
Possible reference to the Sahel case study material.
Points made are simple and random.

CMI annotation

- ***L1 Describes 1 or 2 difficulties***

Level 2 (Clear) 7-12 marks
Begins to target content to purpose.
Refers to both difficulties and comments on role of desertification – may be clear imbalance.
The Sahel case study is present and information will be recognisable – especially at top end.
Begins to consider links between the two components.
Tentative/explicit comment on role of desertification.

CMI annotation

- ***L2 Describes difficulties and begins to link to desertification or other factors***

- ***L2 Tentative comment***

Level 3 (Detailed) 13-15 marks
Clear, purposeful response relating to the thrust of the question.
Awareness of links between the two components of difficulties and desertification.

CMI annotation

- ***L3 Clearly links difficulties to desertification and/or other factors***

- ***L3 Explicit comment***

Points are clear and illustrated/developed throughout.
The Sahel case study is specific and detailed.
Clear/explicit comment of the role of desertification in the difficulties faced.

Question 5

5 (a) (i) AO1 – 1, AO2 – 1, AO3 – 2

Response will depend on two settlement areas selected. 1 mark for recognising area which is poorer/richer. There must be contrast drawn out for 3 or 4 marks. Separate description or implicit contrasts are worthy of maximum 2. Up to 2 marks for use of data to support contrasts – not just 'lifting' figures. 1 per basic point; 1+1 per developed point; any combination. ***(4 marks)***

For example, Burmantofts and Moortown – Burmantofts is clearly the poorer of the two. There are more than two and a half times more people claiming council benefits in Burmantofts than Moortown. This is borne out in the unemployed proportion with almost 4 times the percentage in Burmantofts than Moortown.

5 (a) (ii) AO1 – 3, AO2 – 2

Response will depend on two settlement areas selected. Services should be broadly interpreted – to include shops, health, schools, leisure, open space, transport, police and basic infrastructure such as water, electricity. There is no requirement to describe all these, but two categories are needed at least. There should be reference to case studies to draw out contrasts between the two areas selected. ***(5 marks)***

Any two settlement areas are permissible. May look at poorer areas, two different areas of inner city.

Level 1 (Basic) 1-3 marks
Identifies services present, probably in a random way or a limited range.
Statements are separate.
General statements that fit the settlement area(s) chosen.
Describes services in one area only.
Limited use of geographical terminology.

CMI annotation

- ***L1 Identifies services in areas***

Level 2 (Clear) 4-5 marks
Types of services are clearly described – a fuller picture.
Differences are drawn out.
There is clear reference to two settlement areas – balanced at top end.
Appropriate terminology is used.

CMI annotation

- ***L2 Clear description of services and contrasts***

5 (b) AO1 – 3, AO2 – 2, AO3 – 1

(6 marks)

There should be recognition of the role of immigration, natural increase and the fact that these two are clearly interlinked. Reference may also be made to reasons for higher levels of births.
Reference therefore is likely to be made to the increasing numbers due to natural increase in 2009, whereas for 10 years before the increase was due to immigration – and reflective of the age structure of migrants. Numbers coming in still result in an increase overall – without them population would fall. Births have increased amongst British born women and immigrants – possibly due to better conditions for maternity leave, tax credits.
Comment may note the change over time, the links between the two components and the underlying reasons for increased births such as increased maternity leave.

Level 1 (Basic) 1-4 marks
Describes information in Figure 6 regarding cause – sees separately.
Limited use of newspaper extract – lifts relevant parts at lower end.
Some use of appropriate terminology.
Tentative / implicit comment may be present.

CMI annotation

- ***L1 Describes causes – select relevant parts of article***

Level 2 (Clear) 5-6 marks

Response targets question – both command words addressed.
Effective use of newspaper extract.
Aware of causes and links between them.
Clear, relevant comment.
Appropriate terminology used.

- ***L2 Uses article, has overview of causes.***
- ***L2 Clear comment***

5 (c) AO1 – 8, AO2 – 7

(15 marks)

Strengths likely to relate to the fact that all countries will fit model – exemplification likely with reference to specific countries at specific stages. The model shows change over time and can be seen as a predictor, with the expectation that each country will progress through the stages of the model. It is a good basis to compare countries to and offers reasons for progression through stages. The flexibility of the time element is a positive, increasing the degree of 'fit'. Some countries such as those in north western Europe clearly fit the model and it explains the changes that occurred there.

Weaknesses likely to relate to the evidence base being north European and so fitting western Europe and North America better than elsewhere; the links to industrialisation and progression make application in poorer countries more difficult; the time scales for stage 2 and 3 in poorer areas of the world raise the question about progression through the stages; the cause of the change from stage 2 to 3 is also different – the role of population policies or continuing high levels of births for longer; the original absence of a fifth stage to take into account zero and negative growth; migration is not taken directly into account nor are areas with high rates of disease such as HIV/AIDS that causes a new impact on population.

Level 1 (Basic) 1-6 marks
Describes the demographic transition model.
Refers to either strengths or weaknesses.
General, simple statements.

CMI annotation

- ***L1 Describes DTM***
- ***L1 Simple strengths or weaknesses***

Level 2 (Clear) 7-12 marks
Clearly knows the demographic transition model.
Uses this knowledge to exemplify strengths and weaknesses.
There is likely to be imbalance between the two components.
Begins to discuss.
Occasional developed, illustrated statements.

CMI annotation

- ***L2 Strengths and weaknesses are clear***
- ***L2 Begins to discuss***

Level 3 (Detailed) 13-15 marks
Response is purposeful in linking the demographic transition model to strengths and weaknesses.
Account will be more balanced between the two components – but still emphasis on weaknesses likely.
Discussion, debate is present.
Some developed, illustrated statements using country/countries studied.

CMI annotation

- ***L3 Links DTM to specific strengths and weaknesses***
- ***L3 Discussion is to the fore***

Question 6

6 (a) AO1 – 2, AO2 – 1, AO3 – 1

Allow 1 for definition of land reform. ***(4 marks)***
There should be some reference to the information in Figure 7, but information needs to be used for credit (not just 'lifted'). For example, recognition that there are many landless peasants and as a result an inability to produce food. Ensuring that they own some land would result in increased production of food. The fact that 1% of the population own 50% of the land calls into question the availability of food – is it commercial? Does it meet the needs of the people? The need for government to buy land and then to reallocate it so that people have land. Intensification of farming is likely to result, raising output. There may also be reference to own knowledge – and the redistribution of land as implied in the article, land consolidation, security of ownership.
1 per basic point; 1+1 per developed point' any combination. There must be some reference to Figure 7 for 4 marks.

6 (b) (i) AO1 – 1, AO2 – 1, AO3 – 2

There is no requirement to name countries, but location should be clear. Pattern must be referred to, supported by evidence. Outside EU, from LEDCs are valid. Apples are imported from southernmost areas of South America and Africa. The distance varies from relatively nearby such as Morocco to Thailand. The produce seems to come from certain zones, with beans from various parts of Africa, corn from south east Asia. Apples come from Africa and South America, whilst asparagus comes from South America near the Equator. ***(4 marks)***
Do not allow product and location – must perceive pattern.
The above represent possible statements; many other possibilities are apparent.
Allow 4x1 for description of pattern, which should seek to establish key aspects of the pattern, supported by evidence.

6 (b) (ii) AO1 – 4, AO2 – 3

Issues are likely to relate to the distance involved in transport, often by air and the impact on the environment – food miles, carbon footprint and global warming may all feature as part of the response, as may deforestation of areas for food production and the use of chemicals in the form of pesticides and fertilisers. Role of TNCs, waste, reliance on trade links, protection may also form valid responses. There are economic issues such as the removal of areas of land from food production for commercial produce (ghost acres) and the benefits with regard to development that come with this versus the lost food production. There may be knock-on effects regarding demand for water and irrigation. ***(7 marks)***

Level 1 (Basic) 1-4 marks
Identifies one or more issues, relating to production of high value exports.
Some support.
Tentative/implicit comment.

CMI annotation

- ***L1 Describes problems***
- ***L1 Tentative comment***

Level 2 (Clear) 5-7 marks
Clear and purposeful description.
Is aware of issues arising.
Recognises that it is not clear cut, but there are pros and cons.
Support is present.
Clear, explicit comment.

CMI annotation

- ***L2 Aware of issues***
- ***L2 Explicit comment***

6 (c) AO1 – 8, AO2 - 7

(15 marks)

There may be an attempt to define 'sustainable' in the context of the question and food supplies. There should be recognition that the availability of food to an appropriate level for the population should be secure, long term and without causing damage to the environment. May be seen in economic context – waste. Distribution is valid as are organic and local sources and stewardship.
The main focus should be on **possible** ways of achieving sustainable food supply. The use of the word 'might' in the question invites candidates to explore possibilities of ensuring a long term supply and the emphasis is on increasing food supply. The Green Revolution could be discussed, as could GM crops and their potential for sustainability evaluated. Similarly, appropriate technology may be present with reference to a variety of smaller scale developments such as Kukri Mukri, Bangladesh, stone lines etc. may be discussed. Arguably, the role of TNCs, trade and fair trade and even land reform could feature, as could the increasing levels of world population and the focus of such increase. The thrust is to relate to the sustainability of food supplies with regard to time scale and/or impact on the environment.

Level 1 (Basic) 1-6 marks
Describes ways of increasing food production.
May define sustainable – aspects are separate.
Points made are simple and in a random sequence.

CMI comment

- ***L1 Describes how food production may be increased***
- ***L1 Defines sustainable***

Level 2 (Clear) 7-12 marks
Begins to link idea of increasing food supply to need to be sustainable.
There are aspects of a debate/discussion where means of increasing food supply are partly assessed in the context of the environment.
Points are made with some development/support.

CMI annotation

- ***L2 Begins to link increasing food supply to sustainability***

- ***L2 Begins to discuss***

Level 3 (Detailed) 13-15 marks
Clear, purposeful summary of ways food supply might be increased, linked to sustainability.
There is debate/discussion throughout where methods of increasing food supply are assessed in the context of sustainability over time and with reference to the environment.
Points are developed/supported throughout.

CMI annotation

- ***L3 Clearly and purposefully links increasing food supply to sustainability***

L3 Debate is to the fore

Question 7

7 (a) (i) AO1 – 2, AO2 – 1, AO3 – 1

There should be some reference to the information in Figure 9, but information needs to be used for credit (not just 'lifted'). Biomass is cheap, available. The fact that over 2 billion people rely on biomass which is one third/a substantial number/proportion of world population is indicative of its importance. The particular reliance of poorer countries should be noted and the rural areas especially. This is the result of a lack of any alternatives – such as electricity – or the relative cost of these. The need to cook is essential and the only way of doing this is via biomass – often using wood in many rural areas. It is vital to survival.
1 per basic point; 1+1 per developed point; any combination. There must be some reference to Figure 9 for 4 marks. ***(4 marks)***

7 (a) (ii) AO1 – 2, AO2 – 2

Environmental impacts likely to refer to unsustainable nature, the pace at which trees are cut down with a growing population, the impact on hydrological cycle with less interception, the exposure of the ground surface, greater surface runoff as a result of the loss of the protective cover and so the likelihood of soil erosion and potentially desertification in some areas. Increased CO_2 as less absorption.
1 per basic point; 1+1 per developed point; any combination. There must be reference to two or more impacts for 4 marks – allow up to 3 on any one aspect. ***(4 marks)***

7 (b) AO1 – 3, AO2 – 2, AO3 – 2

There should be some reference to the information in Figure 10, but needs to be used for credit (not just 'lifted'). There is likely to be reference to own knowledge in this longer answer – this may be in the form of comment or content. The article indicates the role of TNCs in identifying large reserves and subsequent extraction. It refers to the need to work with local people and to develop their skills, as in Angola; to use local suppliers and local expertise as in Trinidad and Tobago. Thus, the extraction and production is one of a partnership. There may also be reference to specific means of exploration, transportation, refining, marketing, distribution etc. from own knowledge. There should be recognition of the pivotal role played by TNCs in extraction of energy resources and attempts to cooperate with locals etc. ***(7 marks)***

Level 1 (Basic) 1-4 marks)
Describes the role of TNCs in world energy production.
Relies heavily on Figure 10.
Focus on local and / or national.
Tentative/implicit comment.

CMI annotation

- ***L1 Describes TNC's role***
- ***L1 Selects relevant part of extract***

Level 2 (Clear) 5-7 marks
Is aware of the role played by TNCs in world energy production – focus on global.
Clearly uses Figure 10 and applies own knowledge, via content or comment.
Clear, explicit comment.

CMI annotation

- ***L2 Uses extract***
- ***L2 Clear explicit comment***

7 (c) AO1 – 8, AO2 – 7

(15 marks)

There should be recognition of the links to sustainability and an attempt to define this with regard to the long term nature of transport systems and their ability not to damage the environment. Currently there may be issues with both aspects. The question seeks to address how the sustainability aspect can be met. Answers are likely to focus on the use of cars that seek to reduce emissions either via smaller engines or the use of hybrids that run partly on petrol and partly on biofuels – such as Saab BioPower using petrol and biethanol with a 70% reduction in carbon emissions.
There are strategies that seek to give financial reward to motorists driving greener cars – such as reduced congestion charge in London for battery powered cars and larger 4x4s taxed at a higher rate. Road tax also operates a similar sliding scale as do certain types of fuel with less tax on LPG – roughly 30p per litre tax versus 50p per litre in 2007.
There are many attempts to get people cycling and onto public transport so that more people are transported at once. This means the need to increase the efficiency of such systems such as creating a network of cycle lanes and the mayor's plan for London and improvements to buses, tube, stations, railway stations, DLR etc. This is in conjunction with making the car less attractive via the congestion charge, as is charging large amounts for parking. The use of trams has been adopted in a number of cities such as Manchester and Sheffield. Ensuring reliability, long hours and appropriate standards of vehicles should seek to ensure sustainability.

Level 1 (Basic) 1-6 marks
Simple statements describe features of transport.
May define sustainability – but aspects are separate.
Limited support.
Points made are simple and in a random sequence.
Links to question are tentative.

CMI annotation

- ***L1 Describes features of transport***
- ***L1 Defines sustainability***

Level 2 (Clear) 7-12 marks
Begins to develop points.
Offers some support.
Begins to link features of transport to sustainability.
There are aspects of debate/discussion with some recognition that sustainability can/cannot be achieved.

CMI annotation

- ***L2 Begins to link transport features to sustainability***
- ***L2 Begins to discuss***

Level 3 (Detailed) 13-15 marks
Develops points and sequences them.
Purposeful response with support present.
Focus is on transport, linked to sustainability.
Clear/explicit discussion with recognition of the extent to which transport can be designed to be sustainable.

CMI annotation

- ***L3 Clearly and purposefully links transport to sustainability***
- ***L3 Discussion is to the fore***

Question 8

8 (a) (i) AO1 – 1, AO2 – 1, AO3 – 2

Reference is likely to be made to areas of high incidence – the dominance of North America and Mexico; the 5001-10000 category is scattered with UK and Chile being a part of it; the clustering of 101-1000 around much of South America and western Europe – the latter near to the higher category UK (5001 – 10000). 1001 – 5000 category is scattered across most continents with Canada, Argentina, China, Italy and Australia as example of countries. Many areas have relatively low incidence, such as Russia and areas along the Baltic. Many areas of Africa had no cases. The above represent possible statements; many other possibilities are apparent.
Allow 4x1 for description of pattern, which should seek to establish key aspects of the pattern, supported by evidence. ***(4 marks)***

8 (a) (ii) AO1 – 2, AO2 – 1, AO3 – 1

There should be some reference to the information in Figure 12, but information needs to be used for credit (not just 'lifted'). Figure 11 may be used. There is likely to be recognition from the article of the spread in two regions, meaning that this is on an international/worldwide scale. This results in the need for coordination – a role overseen by WHO – monitoring global situation. It means there may need to be restricted access between certain countries to limit the spread in the future. The amount of vaccine needed can be monitored and seen overall, rather than country by country. The way the strain may change can be observed and information shared between countries.
1 per basic point; 1+1 per developed point; any combination. There must be some reference to Figure 12 for 4 marks. ***(4 marks)***

8 (b) AO1 – 4, AO2 – 3

The response will depend on the contrasting health care approaches considered. There must be clear reference to countries at different stages of development – it is likely that a rich and a poor country will be selected – but there must be a clear relative difference. The UK would be a probable choice, the USA is also referred to in textbooks, as are India, France, Canada and Cuba. The contrasts may relate to the funding, who is in charge of and oversees provision – whether facilities are public or private, the role of professional associations, how doctors are paid. It is possible that regional examples could be used to illustrate national approaches such as NHS Trusts. ***(7 marks)***

Level 1 (Basic) 1-4 marks
Describes healthcare approaches in one or two different areas.
Accounts are separate and generalised.
Tentative/implicit observations.

CMI annotation

- ***L1 Describes healthcare approaches***
- ***L1 Tentative comment***

Level 2 (Clear) 5-7 marks
Two clearly different areas are selected relating to stage of development.
Contrasts are drawn out between the two different health care approaches.
There is support for statements made.
Clear, explicit comment.

CMI annotation

- ***L2 Clearly notes contrasts***
- ***L2 Explicit comment***

8 (c) AO1 – 8, AO2 – 7

(15 marks)

The response will depend on the non-communicable disease selected. This is likely to be coronary heart disease (CHD) or type 2 diabetes, but any non-communicable disease is permissible – such as strokes, cancer. The content will vary, depending on the disease chosen.
The mark scheme is written using CHD – but there are generic points that indicate universal application.
Consequences are likely to relate to impact on health, economic development and lifestyle as prescribed in the specification. Thus, the impact on life expectancy, quality of life, and the reduced ability to live a 'normal' life as walking becomes difficult etc. Reference may be made to impact on families and their lives – as carers for example with reference to lifestyle. There may be reference to linked risks – such as obesity, smoking. Economic consequences are likely to be to the fore. People may be unable to work and the cost of treatment 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 risks regarding education, advertising campaigns regarding healthy lifestyles or policies to reduce the incidence such as banning smoking in public places.

Level 1 (Basic) 1-6 marks
Describes impacts – may drift into cause.
Ideas generic with limited reference to specific disease.
Limited support.
Points may be random.

CMI annotation

- ***L1 Describes impacts***

Level 2 (Clear) 7-12 marks
Begins to develop points with regard to impacts.
Support is present – clear reference to selected disease – likely to focus on economic consequences.
There are aspects of debate/discussion with some review of relative importance of aspects of impacts.

CMI annotation

- ***L2 Develops some specific impacts***
- ***L2 Begins to discuss***

Level 3 (Detailed) 13-15 marks
Clear, purposeful analysis of impacts,
Response is precise, elaborated with detailed reference to selected disease – a broader view of impacts is present, although focus will remain economic.
Clear/explicit discussion/debate with recognition of relative importance of difficult types of consequences.

CMI annotation

- ***L3 Clear analysis of specific impacts***
- ***L3 Discussion is to the fore***

UMS conversion calculator www.aqa.org.uk/umsconversion