

Mark Scheme (Results)

June 2011

GCE Geography 6GE01
Global Challenges

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General Guidance on Marking

All candidates must receive the same treatment.

Examiners should look for qualities to reward rather than faults to penalise. This does NOT mean giving credit for incorrect or inadequate answers, but it does mean allowing candidates to be rewarded for answers showing correct application of principles and knowledge.

Examiners should therefore read carefully and consider every response: even if it is not what is expected it may be worthy of credit.

Candidates must make their meaning clear to the examiner to gain the mark. Make sure that the answer makes sense. Do not give credit for correct words/phrases which are put together in a meaningless manner. Answers must be in the correct context.

Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the Team Leader must be consulted.

Using the mark scheme

The mark scheme gives:

- an idea of the types of response expected
- how individual marks are to be awarded
- the total mark for each question
- examples of responses that should NOT receive credit.

- 1 / means that the responses are alternatives and either answer should receive full credit.
- 2 () means that a phrase/word is not essential for the award of the mark, but helps the examiner to get the sense of the expected answer.
- 3 [] words inside square brackets are instructions or guidance for examiners.
- 4 Phrases/words in **bold** indicate that the meaning of the phrase or the actual word is **essential** to the answer.
- 5 ecf/TE/cq (error carried forward) means that a wrong answer given in an earlier part of a question is used correctly in answer to a later part of the same question.

Quality of Written Communication

Questions which involve the writing of continuous prose will expect candidates to:

- show clarity of expression
- construct and present coherent arguments
- demonstrate an effective use of grammar, punctuation and spelling.

Full marks will be awarded if the candidate has demonstrated the above abilities. Questions where QWC is likely to be particularly important are indicated "QWC" in the mark scheme BUT this does not preclude others.

Question Number	Answer	Mark
1 (a)	Philippines Y California Z	1 1 (2)

Question Number	Answer	Mark
1 (b)	<ul style="list-style-type: none"> • At a conservative boundary (or synonym for this) plates move past one another ❶ sliding in different directions / at different speeds ❶ • May give details of convection mechanisms ❶ or provides other details of San Andreas fault zone ❶ • Build up of friction and then its release explains the earthquake ❶ may have additional process detail e.g. of stresses or seismic waves ❶ <p><i>Point mark any three ideas.</i></p>	(3)

Question Number	Answer	Mark
1 (c)	Tsunami	1 (1)

Question Number	Answer	Mark
1 (d)	<p>Credit a range of points which may include:</p> <ul style="list-style-type: none"> • California is a conservative margin (Z) whereas Philippines is destructive. • California is not associated with volcanic hazards, plates are moving past each other. • Philippines destructive boundary (Y) does have volcanoes due to subduction and melting; credit plates / movements as extensions. • Partial melting and viscous magma resulting in explosive, dangerous eruptions, may give details. • May know that there is a handful of active volcanoes in Northern California. • Credit the point that a hazard risk requires people to be present. <p><i>Award marks on the basis of one mark for a basic point, and additional marks for extended points / applied examples. Maximum marks could be awarded for a detailed explanation of a single idea e.g. contrasting plate boundary processes.</i></p>	(5)

Question Number	Answer	Mark
2(a)	A 5.1 metre	1 (1)

Question Number	Answer	Mark
2(b)	D a Global increase in the volume of water	1 (1)

Question Number	Answer	Mark
2(c)	<ul style="list-style-type: none"> • Warmer temperatures result in thermal expansion ❶ and offers details of why ❶ • Melting of land ice / ice caps adds water ❶ and has <u>land-based</u> examples ❶ or notes loss of ice can change albedo ❶ thus further melting of land glaciers ❶ <p>Award credit for other relevant extended points. Must refer to both causes for full marks.</p>	(4)

Question Number	Answer	Mark
2(d)	<p>Expect a range of points such as:</p> <ul style="list-style-type: none"> • Low-lying coastal nations e.g. Egypt, Maldives (only 1 mark). • Details of a country / island and how much land would be lost to sea level rise. • Potential disruption of coastal low-lying capital city / global hub; and may have example e.g. London / storm surges. • Economic factors determine ability to adapt may have examples of vulnerability / resilience / lack of it (e.g. Bangladesh). • High coastal population / high population density. <p><i>Award marks on the basis of one mark for a basic point, and additional marks for extended points / applied examples. Maximum marks could be awarded for a detailed explanation of a single idea e.g. relief of the land in different locations.</i></p>	(5)

Question Number	Answer	Mark
3 (a)	B 2.1	1 (1)

Question Number	Answer	Mark
3(b)	<ul style="list-style-type: none"> • Overall emissions are still rising, just less quickly ① Figure shows a 47% fall (53% unaccounted for) ① • Cannot reverse the damage that has already been done • Failure to come to a full global agreement / not enough action has been taken by enough players • Tipping point effects are underway (positive feedback) • There could be natural causes e.g. sunspots <p>Point mark each idea ① and any extension ①</p>	(3)

Question Number	Answer	Mark
3 (c)	D carbon dioxide, methane, nitrous oxide	1 (1)

Question Number	Answer	Mark
3(d)	<p>Expect a range of points such as:</p> <ul style="list-style-type: none"> • Low impact scenario would allow species to still survive adapt / migrate elsewhere whereas 'business as usual' will destroy habitats altogether e.g. Arctic ice / bears or other food web ideas. • Low impact scenario would cause biomes to shift whereas 'business as usual' could destroy tundra / Arctic biomes altogether. • 'Business as usual' could result in complete loss of Arctic ice due to albedo change and may explain positive feedback e.g. permafrost methane release or methane hydrates. • Complete loss of land-based glaciers possible. <p><i>Award marks on the basis of one mark for a basic point, and additional marks for extended points / applied examples. Max. marks could be awarded for a detailed explanation of a single idea e.g. feedback mechanism.</i></p> <p><u>For full marks, irreversibility of impacts must be clear.</u> <u>Do not expect ecological / environmental to be differentiated.</u></p>	(5)

Question Number	Answer	Mark
4 (a)	E OECD C LDCs	1 1 (2)

Question Number	Answer	Mark
4(b)	<ul style="list-style-type: none"> • Identifies basic wealth differences ❶ • Identifies specific reasons for lack of demand in LDCs (other than lack of money) e.g. people's occupations, availability of infrastructure, lack of governance ❶ • OECD has greater use for business / tertiary ❶ may extend with e.g. of TNCs in touch with branches ❶ • Other specific OECD uses include on-line education ❶ medical uses e.g. NHS online ❶ social networking ❶ • Other sensible suggestions ❶ and extensions ❶ <p>Do not double-credit oppositions (e.g. 'have broadband' / 'don't have broadband').</p>	(4)

Question Number	Answer	Mark
4(c)	<p>Award credit for unexpected but relevant ideas. Likely themes include:</p> <p><i>Physical</i></p> <ul style="list-style-type: none"> • Inaccessibility e.g. remote (poor) islands / interiors ❶ and may provide details of need to lay expensive undersea cables ❶ • Accept other types of connectivity e.g. idea of Mediterranean halting migration flows ❶ • Oil / natural resource wealth brings connectivity ❶ • Accept 'rural' as a physical idea ❶ <p><i>Political</i></p> <ul style="list-style-type: none"> • Some states cut themselves off ❶ e.g. Zimbabwe, N Korea ❶ China's internet censorship ❶ may say why ❶ • Decision of national governments to join trade blocs may impact on investment and connectivity ❶ <p>Award up to 3 marks in either case.</p> <p>Accept discussion of other types of connectivity e.g. financial flows, transport / trade flows.</p>	(4)

Question Number	Answer	Mark
5(a)	<ul style="list-style-type: none"> • Overall rise / men and women both rise • Always far more women • Gets steeper / after 1940s / exponential / or has other use of data <p><i>Point mark.</i></p>	(3)

Question Number	Answer	Mark
5(b)	<p>Living longer for reasons that may include:</p> <ul style="list-style-type: none"> • Healthcare improved through NHS (or other reason) • Hygiene and education have reduced disease • Dietary improvements (since the early 1900s) • Sanitation / infrastructure e.g. water or sewage • Risk ideas (hazard management improvement) • Accept the view women live longer • Overall population has increased <p>Point mark each idea ① and any extension ① Maximum 2 marks for a simple list.</p>	(4)

Question Number	Answer	Mark
5(c)	<p>Expect a range of <i>explanations</i> such as:</p> <p>Decreases:</p> <ul style="list-style-type: none"> • Economic downturns e.g. 1970s oil crisis so smaller family sizes. • Legalisation of contraception /abortion in 1960s women take control of fertility/ start families later. • Improved status of women post-60s • Urbanisation reduces need for children to support family incomes on farms. <p>Increases:</p> <ul style="list-style-type: none"> • World Wars impact on birth rates and may both reduce average fertility (if husbands die) or raise it afterwards • Economic boom • Migrants may impact on average fertility rate <p><i>Award marks on the basis of one mark for a basic explanation, and additional marks for extended points / applied examples.</i></p> <p><u>Does not need to chart increase and decrease for full marks. More than one factor needed for Max marks.</u></p>	(4)

Question Number	Answer	Mark
6(a)	<ul style="list-style-type: none"> • Migrants are often / generally young ❶ • This results in higher births / more children / people start a family / less deaths / less mortality / more natural increase (there may be other valid suggestions relating to births / deaths) ❶ 	(2)

Question Number	Answer	Mark
6 (b)	<p>Credit outlined push factors:</p> <ul style="list-style-type: none"> • Lack of jobs ❶ linked to other problems e.g. overpopulation (high births) ❶ or land reforms ❶ • Lists lack of services, amenities, education, etc. ❶ and award additional marks for outlined details ❶ • Natural disasters can be listed ❶ with additional marks for outlined examples ❶ • Cultural ideas include persecution ❶ or fleeing tribal / old-fashioned traditions ❶ 	(3)

Question Number	Answer	Mark
6 (c)	<ul style="list-style-type: none"> ▪ Less natural increase (accept natural decrease) ▪ Less rural-urban migration ▪ More urban-urban / more inter-urban migration ▪ More international migration ▪ Has counter-urbanisation / urban-rural migration / suburbanisation / fringe growth / other phrasing <p><i>Point mark any three of these - or any other sensible suggestion or interpretation.</i></p>	(3)

Question Number	Answer	Mark
6 (d)	<p>Expect a range of points such as:</p> <ul style="list-style-type: none"> • Better paid / range of jobs in global hubs and may offer details of TNC bringing better opportunities. • Size of megacities means more / greater range of services /jobs /housing (1 mark only for a list). • Ethnic enclaves attract migrants; tend to be in larger cities. • Prestige associated with some megacity areas. • Population size of megacities may allow for key institutions not found elsewhere e.g. major universities, arts, institutions, etc may have examples • Perceived to be more opportunities for informal activity (jobs or housing) for poor people. <p><i>Award marks on the basis of one mark for a basic point, and additional marks for extended points / applied examples.</i></p>	(4)

Question Number		Indicative content
7 (a)		<p>El Nino events – Credit any comment on the nature of El Nino, <u>although this is not required</u> e.g. it occurs every 4-7 years and lasts for up to 2 years (when there is a shift in the temperature structure of the Pacific Ocean resulting in warmer waters along the coast of South America). Credit comment on La Nina events if the inclusion is justified as part of larger cycle.</p> <p>Very challenging for countries – ENSO has signatures in the Pacific, Atlantic and Indian Oceans as Figure 7 shows. These include Australian drought, South American floods (warmer / wetter), Californian floods (wetter), drier conditions possibly drought in India and SE Asia and many other effects including changes in storm frequency and ocean temperatures (only credit changes that are challenges). Many of the countries most affected by ENSO are developing countries that are largely dependent upon their agricultural and fishery sectors for food supply, employment, and foreign exchange. Hence the hazard potential is increased through vulnerability in these countries.</p>
Level	Mark	Descriptor
Level 1	1-4	Poorly structured. States that El Nino is a problem and describes Figure 7 but lacks any explanation of why. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Some structure, likely to comment on some correctly identified impacts (Figure 7 or own knowledge) and starts to explain the problems. Some geographical terminology is used. There are some written language errors.
Level 3	8-10	A structured explanation of how El Nino increases hazards and / or their disaster potential / creates different levels of challenge; good use of Figure 7 or own examples. Appropriate geographical terms show understanding. Written language errors are minor.

Question Number	Indicative content	
7 (b)	<p>Human & economic costs - data should be contemporary and facts about numbers of people affected / displaced & costs should be known (maybe from a range of databases or websites). Volcanic & earthquakes, landslides, floods, drought, hurricanes could all be used to illustrate.</p> <p>Increased over time – focus should be on explanation of trends, although these differ in important ways for geophysical and hydro meteorological hazards (the latter rising much more due to flooding trends and other events that may be linked with climate change). Key role(s) of rising population numbers and affluence may appear in good accounts.</p>	
Level	Mark	Descriptor
Level 1	1-4	Little structure. Has one or two descriptive ideas relating to rising trends There are frequent written language errors.
Level 2	5-8	Some structure and may suggest some evidence and basic reasons. May distinguish between hazard types but has limited details or narrow range. Some geographical terminology is used. Some written language errors.
Level 3	9-12	Structured account explaining costs rising over time for global hazards. May show understanding of climate change and / or rising affluence / pop numbers as key factors. Geographical terms show understanding. Written language errors are minor.
Level 4	13-15	Structured, detailed or wide-ranging explanation of hazard trends, with good comments on human losses and monetary costs linked to changes in hazard frequency / population changes. Uses geographical terms and exemplification to show understanding. Written language errors are rare.

Question Number		Indicative content
8 (a)		<p>Changes such as these – Figure 8 suggests rising numbers of people, changing urban lifestyles and growing carbon footprint of countries (linked to population size and changing lifestyles). All can be commented on and extended.</p> <p>Difficult challenge to tackle – the key idea is that progress towards taking action against challenges is shown to be running alongside ever-increasing human pressures. Population changes continually raise the stakes / the global warming challenge is continually 'cranked up a notch' / intensifies.</p>
Level	Mark	Descriptor
Level 1	1-4	Little structure. Descriptive of Figure 8; basic statements e.g. that more people means a bigger challenge. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Some structure; explains some different aspects of the population changes shown and recognises that this means existing climate policy may not go far enough. Some geographical terminology is used. Some written language errors.
Level 3	8-10	Structured account. Links a range of human factors to changing climate change policy / 'goalposts'. May see the lifestyle / consumerism shift in NICs as a particular concern. Good explanations. Appropriate geographical terms show understanding. Written language errors are minor.

Question Number	Indicative content
8 (b)	<p>Natural causes of climate change – Explanation should ideally be given of how / why natural changes in CO₂ concentration, orbital changes, atmospheric forcing, sunspots and volcanic activity have all driven periods of global warming / cooling. Specific geological / climate epochs may be named. Key themes could include Milankovitch’s identification of how every 100,000 years or so the Earth’s orbit changes from a circular to elliptical (egg-shaped) pattern; he also identified that the Earth’s axis moves and wobbles about, changing over 41,000 and 21,000 year cycles. Sunspots come and go following an irregular cycle that lasts about 11 years - temperatures are greatest when there are plenty of spots. Major volcanic eruptions lead to a period of global cooling, due to ash and dust particles being ejected into the atmosphere, blanketing the earth. The 1883 explosion of Krakatoa is believed to have reduced world temperatures by 1.2°C for at least one year. The most recent explosion to have a similar effect was Pinatubo (1991).</p> <p>Credit ENSO cycles linked to climate change - but not individual extreme weather events caused by El Nino/La Nina.</p> <ul style="list-style-type: none"> • Max marks possible with two causes if well explained (Milankovitch cycles are one cause). • Max 8 for one cause only.

Level	Mark	Descriptor
Level 1	1-4	One or two generalised statements, perhaps about how climate change is unpredictable. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-8	Some structure. May suggest one or two causes e.g. orbital & volcanoes but details are generalised / inaccurate explanations. Some geographical terminology is used. There are some written language errors.
Level 3	9-12	Structured account with a range of causes, or a more detailed account of a narrower range (e.g. Milankovitch + sunspots). Geographical terms show understanding. Written language errors are minor.
Level 4	13-15	Well-structured account with a range of causes and detailed explanations. Uses appropriate geographical terms and exemplification to show understanding. Written language errors are rare.

Question Number		Indicative content
9 (a)		<p>Growth of TNCs – Figure 9 shows a controversy. Common parallel case studies for discussion likely to include Union Carbide in Bhopal, Shell in Nigeria, Gap / Nike sweatshops.</p> <p>Some people and not others – answers should contrast positive economic impacts (wages, profits, multipliers, etc) with negatives – environmental problems, leakages, moral concerns over wages, resource exploitation (Figure 9), other ideas of winners and losers e.g. deindustrialisation.</p> <p>Some countries benefitting, whereas others do not might be mentioned e.g. lack of TNC investment in Sub-Saharan Africa.</p> <p>Credit a range of approaches.</p> <p>May use switched on / switched off language or similar.</p> <p>NB answers must refer to Figure 9 for L3.</p>
Level	Mark	Descriptor
Level 1	1-4	One or two generalised, unsupported statements about TNCs benefitting / not benefiting people. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Some structure with some reasons for why benefits are uneven. May mention economic/ moral/ social / environmental impacts of TNCs. Some geographical terminology is used. There are some written language errors.
Level 3	8-10	Structured explanation of effects of TNCs / FDI on different groups of people (either within countries or between countries). Good details and examples. May comment on a two-speed world. Appropriate geographical terms show understanding. Written language errors are minor.

Question Number	Indicative content
9(b)	Acceleration of globalisation – Expect definition of globalisation and knowledge of how TNCs work as key players to build networks – branch plants & call centres, mergers, and acquisitions. Also use of glocalisation strategies to build customer base in different countries. Technology (shrinking world – transport and communications) will also be a major theme - answers could provide a timeline of innovation. The important role of politics (trade blocs, world players like IMF, World Bank) may also figure. Question can even be challenged through discussion of 2008+ credit crunch do not expect this).

Level	Mark	Descriptor
Level 1	1-4	One or two simple points about e.g. TNCs or technology being powerful influences but no real evidence to back this up. Frequent written language errors.
Level 2	5-8	Some structure. May focus of TNCs and / or technology with limited range / depth of explanation and general examples/support. Some geographical terminology is used. There are some written language errors.
Level 3	9-12	Structured account with good explanations of a range of factors, or fewer factors in more depth. Good support. Geographical terms show understanding. Written language errors are minor.
Level 4	13-15	Well-structured account which explains how a range of factors have accelerated globalisation. May comment on importance / significance. Uses appropriate geographical terms and exemplification to show understanding. Written language errors are rare.

Question Number		Indicative content
10 (a)		<p>Reasons for migration – a range are shown. Difference between 'definite job' or 'looking for work' may be explored. 'Study' is shown to be very important. 'No reason stated' allows own knowledge to be used – e.g. motives for retirement flows heading from UK to Mediterranean.</p> <p>Into the UK – opportunity to use A8 / EU case studies; may have others.</p> <p>Out of the UK – opportunity to use retirement case study; may have others.</p>
Level	Mark	Descriptor
Level 1	1-4	A few motives described using Figure 10. May have basic description of EU in-migration at top of level. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Some structure - describes some differences for both immigration and emigration and can offer a partial explanation for both. Some geographical terminology is used. There are some written language errors.
Level 3	8-10	Structured explanation of differences; can suggest specific reasons for a range of differences, supported with own examples and knowledge. Appropriate geographical terms show understanding. Written language errors are minor.

Question Number	Indicative content
10 (b)	<p>Numbers of migrants – good answers should be able to provide data – e.g. 1m since 2004, for instance. Or may know data for post-colonial flows.</p> <p>Varied over time</p> <ul style="list-style-type: none"> • expect an emphasis in A8 accession in 2004 and again in 2006 (2004 restrictions adopted by other EU core members explain why large flow was directed towards UK). • Additional ideas could include: reverse flow after global credit crunch / UK downturn (including returning Spanish 'ex-pats') • Older historical movements e.g. post-colonial movements since the 1950s • Possible mention of refugee flows in the 1930s • Recent illegal economic migration from Africa and other areas; asylum seeker flows

Level	Mark	Descriptor
Level 1	1-4	Limited identification of a single flow e.g. Polish migration to the UK or some very generalised growth of UK pull factors. Geographical terminology rarely used. Frequent written language errors.
Level 2	5-8	Some structure in a basic explanation possibly of EU enlargement or other different ideas that lack detail. Focus may be entirely on attractions UK offers. Some geographical terminology used. Some written language errors.
Level 3	9-12	Structured explanation that may explain one change in detail with some accurate supporting detail or greater range but less depth (e.g. recent downturn or post-colonial flows). Geographical terms show understanding. Written language errors are minor.
Level 4	13-15	Well-structured explanation of a range of flows over time with some detail. Uses appropriate geographical terms and exemplification to show understanding. Written language errors are rare.

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