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Mark Scheme Summer 2009

GCE

GCE Geography (8GE01)

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6GE01 Global Challenges Mark Scheme

Question Number	Answer	Mark
1 (a)	Risk = Hazard x Vulnerability or = H x V Capacity to cope C *1 mark for the complete top line.* *1 mark for the second line (also allow resilience).*	(2)

Question Number	Answer	Mark
1 (b)	• Tropical cyclone / tropical storm / hurricane / typhoon / storm / wind storm. • Volcano/volcanicity. Question asks for completion of the six major natural hazard types, as per teaching of the Specification. Do not accept: famine, tsunami, tornado, etc.	(2)

Question Number	Answer	Mark
1 (c)	'Local' = student's own locality or a specified location elsewhere (e.g. named disaster hotspot). Balance of answers may range from an entirely physical process response to a more detailed examination of what is at risk. Credit either approach (the best answers are likely to cover both aspects in any case). • Award ❶ mark for each outlined hazard that is appropriate to the named location and ❶ mark for any extension or detail (e.g. of physical process or frequency data) • Award ❶ mark for each aspect of vulnerability that is discussed (e.g. population size, assets at risk) List ('drought, floods and snow in Ashford') = 1 mark.	(5)

(Total 9 Marks)

Question Number	Answer	Mark
2(a)	Drought	(1)

Question Number	Answer	Mark
2 (b)	Flood: Award ❶ mark for a basic impact e.g. "crops cannot grow under water". Drought: Award ❶ mark for a basic impact e.g. "crops cannot grow without water". Award an additional ❶ mark for an extended point (e.g. biological stresses or additional problems with food aid distribution) or a well-chosen example.	(4)

Question Number	Answer	Mark
2(c)	• Rain-fed farming will suffer; may have subsistence or cash crop ideas. • Low-lying farming areas may be lost to the sea; e.g. parts of Nile delta. • Desertification e.g. Sahel; so in lower biological productivity yields (or rain increases are projected). • More storms and cyclones can impact on coastal aquaculture; e.g. Madagascan prawns. Award ❶ mark for each basic impact <u>on agriculture</u> that is outlined (so do not credit simple statement "more drought") and award ❶ mark for any extension / example of each idea.	(3)

Question Number	Answer	Mark
2(d)	*NB Question asks why <u>increases</u> are occurring.* • Global warming = sea level rise ❶ because of ice sheet melt ❶ and has e.g. of vulnerable area i.e. Maldives ❶ • May mention important role of thermal expansion ❶ • Increased storms due to warmer temperatures ❶ e.g. 26C reached more often in hurricane belt ❶ • More population at risk due to natural increase ❶ may provide details / DTM ideas ❶ • May outline <u>increased</u> assets at risk ❶ • El Nino causes periodic increases in flooding ❶ e.g. South America floods during El Nino years ❶ • Migration to coastal areas ❶ may provide examples ❶ • Deforestation so less rainwater intercepted ❶ and may offer e.g. or process detail e.g. overland flow rates ❶ • Urbanisation causes floods ❶ and may offer example or extend process detail e.g. impermeability ❶ • Mangrove removal ❶ e.g. for prawn aquaculture ❶ *Do not credit 'because of global warming' alone.* *Do not credit idea of better reporting of disasters because the question is stated as fact.*	(4)

(Total 12 Marks)

Question Number	Answer	Mark
3 (a)	A (2.4 million)	(1)

Question Number	Answer	Mark
3(b)	• Observed line steeper fall than predicted line. • Observed line is less smooth / fluctuates more. • Quantification given to either of above. • Trends start off similar until around 1975.	(3)

Question Number	Answer	Mark
3(c)	• Global warming *happening faster than predicted* ❶ • Pollution higher than predicted / GHG rising more steeply than predicted ❶ more cars or people around than we expected / or has a similar general idea ❶ may know role of China & India / has other example ❶ • Lack of understanding of the phenomenon / imperfect knowledge in the past ❶ equipment / computer models weren't good enough in 1950s to get it right ❶ • Combined effects/tipping point effects are speeding up changes ❶ extensions include positive feedback ❶ albedo changes ❶ or permafrost methane release ❶ • Other unforeseen changes e.g. sunspots ❶ volcanoes ❶ these may be linked to the unpredicted 'anomalies' ❶ • Problems with ice core samples e.g. contamination ❶ • May additionally discuss gases other than CO2 ❶ Do not credit erroneous 'ozone' explanations or Milankovitch ideas (wrong time scale).	(4)

Question Number	Answer	Mark
3(d)	• Earth orbit / Milankovitch cycles ❶ with details of changed circular to elliptical orbit ❶ ; axial tilt cycle ❶ • Solar output variation ❶ e.g. sun spot activity follows irregular warming cycle that lasts about 11 years ❶ and longer cycles (Maunder) ❶ • Major volcanic eruptions leading to a brief global cooling ❶ due to ash and dust particles being ejected high into the atmosphere, ❶ e.g. 1883 Krakatoa ❶ • Cosmic collision ❶ e.g. dinosaur mass extinction ❶ • Accept El Nino / La Nina (short-term changes) ❶ and any located extension of this idea ❶ *Maximum 3 for one cause only.*	(4)

(Total 12 Marks)

Question Number	Answer	Mark
4(a)	Any three of the following: • Coastal. • More towards East coast/less in West. • Cluster near Beijing. • Cluster around Shanghai. • Cluster in Hong Kong / Guangdong province. • Low growth more than 1500 km inland / interior / centre.	(3)

Question Number	Answer	Mark
4(b)	• Rural-urban migration ❶ and may have details ❶ • Generic push factors include rural overpopulation, disasters, other problems ❶ and award ❶ for specifics e.g. role of farming reforms • Generic pull factors include jobs, health, education ❶ and award ❶ for specifics e.g. TNC work opportunities in well-connected global hubs or Beijing Olympics jobs • Transport / technology improvements aid migration ❶ • Natural increase plays a role in city growth ❶	(4)

Question Number	Answer	Mark
4©	• Migrants lack money so rely on self-built housing ❶ • Allow 'too many people' if it is linked to something specific e.g. lack of jobs thus poverty & poor housing ❶ • Pay is often low in 'sweat-shops' so migrants cannot move into better housing ❶ as part of the cycle of urbanisation ❶ • Developing nations lack sufficient planned housing ❶ and vital infrastructure such as sewers ❶ • Developed world mega-cities also have problems with homelessness ❶ • Credit idea than conditions are an improvement on life in the countryside so slums are tolerated ❶ Award ❶ mark for any convincing detail for mega-cities named (e.g. uses a named slum such as Dharavi in Mumbai; or quotes data e.g. number of arrivals per day).	(4)

(Total 11 Marks)

Question Number	Answer	Mark
5 (a) (i)	C (North America-Europe)	(2)

Question Number	Answer	Mark
5(a)(ii)	• Are rich / are developed/are global hubs/are switched-on places ❶ so they have better access to/more money for/more need for technology ❶ • Affluence means a better market for ICT providers ❶ • Skills or resources have attracted TNCs ❶ who bring FDI that pays for connectivity ❶ • Political decisions may have been made to get 'switched-on' or stay 'switched-off' ❶ e.g. China restricts internet access ❶ e.g. EU countries are more connected due to trade bloc links ❶ • Migration from some places builds connections to keep families in contact ❶ may have examples ❶ • Physical difficulties e.g. continentality (Chad) ❶ • No need / no people in some places / wilderness ❶ Answers should relate to Figure 5 & internet flows. Discussion of other networks (e.g. EasyJet) may gain limited credit for generic ideas e.g. affluence.	(4)

Question Number	Answer	Mark
5(b)	• Aeroplanes make it possible to travel world more quickly ❶ low-cost airlines / jets ❶ • Instantaneous connectivity achieve telegraph ❶ telephone ❶ and internet ❶ • Container shipping vital for trade flows of manufactured goods ❶ e.g. China-UK ❶ • Sailing ships made it easier to cross Atlantic ❶ • High-speed rail links ❶ e.g. Eurostar ❶ • Global 'messaging' by TNCs ❶ so sense of global village develops ❶ • Credit any other sensible interpretations of question and any extension made. For full credit, transport and technology should be linked to idea of <u>changing</u> speed of travel / <u>heightened</u> sense of nearness / other shrinking world ideas. Maximum 3 for a list of different technologies and transport, but no explicit change.	(4)

(Total 9 Marks)

Question Number	Answer	Mark
6 (a)	D (10 million)	(1)

Question Number	Answer	Mark
6(b)	• UK has a low birth rate ❶ and may offer reasons such as more women working ❶ or availability of contraception ❶ • Since EU enlargement in 2004 UK has been open to A8 workers ❶ & data may be known of numbers ❶ • Award ❶ for generic description of UK pull factors or assertion that UK needs workers for jobs • Youthful A8 migrants have pushed up UK's CBR ❶ helping reverse the indigenous fertility decline ❶ *For full marks, answer must discount natural increase as well as agreeing that migration matters.*	(4)

Question Number	Answer	Mark
6 (c)	*Reasons should relate to economic migrants.* • More jobs in cities (o not accept 'more places'). • Agricultural 'hot-spots' for farm/processing work. • Service (hotel) jobs (or similar suggestion) exist in rural or urban areas. • Credit idea of existing community in place (can help in finding work). • Credit idea of low <u>economic costs</u> e.g. housing. • Any other sensible economic suggestion.	(2)

Question Number	Answer	Mark
6 (d)	Economic costs may include (there could be others): • A reduced population / lack of a suitable workforce to help the economy prosper ❶ may extend idea by specifying the age ranges typically lost (18-30) or suggest there are GDP losses ❶ • Money spent training (doctors) wasted ❶ • Negative multiplier effect as less spent in shops ❶ services for 18-30 (nightclubs) suffer especially ❶ Economic benefits may include (there could be others): • Unemployment was high and has eased, so less money spent on social security/housing ❶ • Remittances received ❶ figures may be known ❶ Max 4 if only costs <u>or</u> benefits.	(5)

(Total 12 Marks)

Question Number		Indicative content
7 (a)		Consequences. Credit discussion of both fatalities/injuries and economic losses. Credit discussion of other earthquakes not in the list. Suggested reasons : • Level of development and hence quality of structures (e.g. Bam). • Magnitude of different earthquakes (we are not told this). • Degree of preparedness, which may also vary over time. • Response, which is related to development level but also geographical isolation / political will to accept help. • Time of day e.g. Izmit struck at night. • Secondary hazards such as fire and disease. • May see that some countries have improved in response over time as they have become more developed (e.g. US).
Level	Mark	Descriptor
Level 1	1-4	Describes a few differences and makes one or two generalised points with limited explanation at top end. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Some structure, likely to comment on fatalities and economic losses are with some explanations but not always in depth. Some geographical terminology is used. There are some written language errors.
Level 3	8-10	A well-structured, detailed range of reasons are provided, with effective use of examples from the Figure and possibly elsewhere. Appropriate geographical terms show understanding. Written language errors are minor.

Question Number		Indicative content
7 (b)		Geophysical – volcanic, earthquakes – and possibly landslides, tsunami. Distribution – tectonic hazards can be explained in relation to plate boundaries and volcanic hot spots. Mass movements are harder to generalise about – many occur in geologically young and tectonically active mountains (or links could be made with storm / hurricane belts as trigger). Hazards – some candidates will choose to additionally describe and explain the human dimensions of the distribution. *Centre approaches to teaching this topic may vary. Some candidates will deliver essentially a 'physical geography' essay; others will emphasise the overlap between population distribution patterns and boundary hazard patterns (and will as result have less to say about convection cells and slab pull, etc.). Either approach is acceptable.*
Level	Mark	Descriptor
Level 1	1-4	Little structure. Has one or two descriptive ideas relating to a single hazard (probably earthquakes). Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-8	Some structure and provides partial explanations of the distribution of one of the major geophysical types or superficial explanation of several. Limited details or examples and generalised. Some geographical terminology is used. There are some written language errors.
Level 3	9-12	Structured account explaining the distribution of two types of g-p hazard. Examples & explanation are specific (e.g. names three plate boundary types). Geographical terms show understanding. Written language errors are minor.
Level 4	13-15	Structured detailed, wide ranging account. Physical processes are well-explained e.g. compares deep-focus and shallow-focus EQs). Good use of examples. Uses appropriate geographical terms and exemplification to show understanding. Written language errors are rare.

(Total 25 Marks)

Question Number		Indicative Content
8 (a)		Severity of impacts – early impacts limited to more vulnerable or sensitive places, as shown in Figure 8 (expect candidates to have own examples as well e.g. Maldives). Biome shifts (or start of Spring, etc) will become more dramatic as temperatures rise and more environments will experience more significant changes. Later impacts brought by a 5C rise would have significant impacts on even the most resilient environments and species, as well as fully globalising impacts, through greater sea-level rise. The best answers may distinguish between intensified impacts on sensitive places (e.g. coral reefs may be taken beyond adaptive threshold); and the extensification of impacts to previously unaffected places as temperatures rise. Environmental impacts – there are many examples besides those if Figure 8. Popular additional themes might include: Arctic ice; hurricanes frequency; biome, soil and disease zones.
Level	Mark	Descriptor
Level 1	1-4	Little structure. Lists a few generalised impacts. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Some structure; relies on Figure 8 with some attempt to suggest reasons for increased severity. At top of level may provides additional impacts not shown in Fig. 8. Some geographical terminology used. Some written language errors.
Level 3	8-10	Well-structured account that provides explanations for increasing severity. Refers to specific physical processes and environments and may develop tipping point ideas. Appropriate geographical terms show understanding. Written language errors are minor.

Question Number		Indicative content
8 (b)		Players can be individuals or key groupings of people including government, businesses etc. Players / nations need to work together at different scales: 'think global, act local.' Attempt to limit- emphasis is on mitigation. Solutions include energy efficiency, conservation, biofuels, eco-cities, carbon capture & storage (CCS), nuclear and other alternatives – all aiming to lower greenhouse gas emissions. Only CCS seems to have potential to be a 'silver bullet.' Greenhouse gas emissions – nitrous oxide and methane may be discussed alongside CO2.
Level	Mark	Descriptor
Level 1	1-4	One or two generalised statements about how climate change can be stopped. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-8	Some structure, suggests some range of solutions linked to lower greenhouse gas emissions; players mentioned in passing. Some geographical terminology is used. There are some written language errors.
Level 3	9-12	Structured account with a range of strategies / players and explanations of their role. Examples used have some details. Geographical terms to show understanding. Written language errors are minor.
Level 4	13-15	Well-structured account of a range of players and their role, with detailed examples. May take an evaluative view that recognises no single solution exists. Good real-world knowledge. Uses appropriate geographical terms and exemplification to show understanding. Written language errors are rare.

(Total 25 Marks)

Question Number		Indicative content
9 (a)		Different groups – individuals, societies, businesses, countries. Need for green strategies (required actions) – public opinion is still divided about whether green strategies are really required or not (the science is still contested). Some may reflect along the lines of 'if you act green for the rest of the year, is it OK not to be too green at Christmas?' - done well, this may be indicative of top band. People may of course appreciate the need for action but may still not act for a range of reasons (expect contemporary reference to post-Credit Crunch economic environment).
Level	Mark	Descriptor
Level 1	1-4	One or two ideas about fair / unfair world. May not know what 'ethical' really means. There are frequent written language errors.
Level 2	5-8	Some structure, with some ideas about how fair trade can help workers. Limited range and depth Some geographical terminology is used. There are some written language errors.
Level 3	9-12	Structured account which moves beyond fair trade and uses a range of examples to explain the role of ethical purchasing; some attempt to address ideas of an equitable world. Geographical terms to show understanding. Written language errors are minor.
Level 4	13-15	Well-structured account which explains a range ethical purchasing ideas and uses range of detailed examples; likely to question some approaches / idea of creating an equitable world. Uses appropriate geographical terms and exemplification to show understanding. Written language errors are rare.

Question Number		Indicative content
9 (b)		More equitable world – globalisation has winners and losers e.g. sweat-shop and agricultural workers. Ethical purchasing – fair trade and similar strategies give more to the 'have-nots', addressing some of the uneven development / lack of equity associated with what the Specification describes as a 'two-speed world'. Play a part – there are other ways of redistributing wealth e.g. political /trade reforms and international aid, all of which could be brought into the discussion at levels 3 & 4.
Level	Mark	Descriptor
Level 1	1-4	One or two generalised statements about the need to 'go green, limited reference to different groups. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Some structure and some reasons from different views; lacks range and may be unbalanced. At top end, begins to categorise different groups of people with differing attitudes and begins to use own knowledge. Some geographical terminology is used. There are some written language errors.
Level 3	8-10	Structured explanation of why a range of groups have differing views with details and examples. Appropriate geographical terms show understanding. Written language errors are minor.

(Total 25 Marks)

Question Number		Indicative content
10 (a)		British families – Figure 10 describes demographic and occupational shifts for family members, rising longevity as well as much greater variety in British citizens' roots. Changes – all kinds of changes can be inferred, including a shift towards greater affluence, higher levels of education, people being in receipt of better health and hospital care more varied ethnicity within families (and more young people of mixed ethnicity or race). Also credit answers that attempt to explain the changes seen.
Level	Mark	Descriptor
Level 1	1-4	A few changes described more or less verbatim from Figure 10. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Some structure - describes the main changes in an ordered way and introduces own ideas, inferences or explanation. Some geographical terminology is used. There are some written language errors.
Level 3	8-10	Structured examination of the family changes shown that provides a clear picture of changes since 1961 with plenty of extended inferences and / or explanation. Appropriate geographical terms show understanding. Written language errors are minor.

Question Number		Indicative content
10 (b)		Greying population – rise in percentage over-65 / rising mean age Geographical challenges – dependency, pensions, housing, NHS all need paying for through taxes levied on younger groups. More sophisticated answers may even tackle moral geographies of euthanasia, dementia and care. The word 'geographical' may steer the best answers towards a consideration of how these challenges play out at the local level (as population structure varies from place to place, so too does the degree of dependency e.g. Worthing). The best answers may view the over-65s as a heterogeneous category and contrast activity and dependency levels for over-80s and under-80s
Level	Mark	Descriptor
Level 1	1-4	Limited identification of one or two problems associated with looking after the old. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-8	Some structure in an examination that focuses on problems or raising money from some people to pay for others. Some geographical terminology is used. There are some written language errors.
Level 3	9-12	Structured examination that includes a range of areas for concern. At the top end, may recognise the challenges are greater in some localities. Geographical terms to show understanding. Written language errors are minor.
Level 4	13-15	Well-structured account that sees a raft of measures needed to support the elderly, especially at the local level. May show awareness of political or moral dimensions of this issue. Uses appropriate geographical terms and exemplification to show understanding. Written language errors are rare.

(Total 25 Marks)