edexcel

Mark Scheme (Results)

January 2012

GCE Geography (6GE01) Paper 01
GLOBAL CHALLENGES

edexcel
advancing learning, changing lives

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications come from Pearson, the world's leading learning company. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information, please call our GCE line on 0844 576 0025, our GCSE team on 0844 576 0027, or visit our qualifications website at www.edexcel.com. For information about our BTEC qualifications, please call 0844 576 0026, or visit our website at www.btec.co.uk.

If you have any subject specific questions about this specification that require the help of a subject specialist, you may find our Ask The Expert email service helpful.

Ask The Expert can be accessed online at the following link:

http://www.edexcel.com/Aboutus/contact-us/

Alternatively, you can speak directly to a subject specialist at Pearson about Edexcel qualifications. Our dedicated Geography subject adviser Jonathan Wolton will be able to help you on 020 7190 4165.

Pearson: helping people progress, everywhere

Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for raising achievement through innovation in education. Find out more about how we can help you and your students at: www.pearson.com/uk

January 2012
Publications Code US030488

General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.
- Mark schemes will indicate within the table where, and which strands of QWC, are being assessed. The strands are as follows:

  i) ensure that text is legible and that spelling, punctuation and grammar are accurate so that meaning is clear

  ii) select and use a form and style of writing appropriate to purpose and to complex subject matter

  iii) organise information clearly and coherently, using specialist vocabulary when appropriate.

Question Number	Answer	Mark
1(a)	Location D (1) No population / settlement / urban area/ roads / other human land use evident (1) *Do not credit absence of a hazard risk. Credit can be still be given for the right reason even if the wrong letter has been written.*	**(2)**

Question Number	Answer	Mark
1 (b)	Award 1 + 1 marks for identifying two reasons e.g. • coastal location • flood plain location • no defences • flat land • El Nino / ENSO (not La Nina) • storms (do not accept tropical cyclones) • tsunami (but not if linked to S A Fault system) • urban impermeability • catchment shape / topography • there may be other valid reasons Award 1 + 1 marks for some development of each of these e.g. impermeability prevents infiltration; coastal location increases flooding from storms; El Nino /ENSO brings unusual weather that can trigger coastal/river flooding; applied use of local knowledge e.g. San Gabriel river. Do not credit sea-level rise as the reason but credit use of SL rise knowledge as a development of why the coastal location causes flooding.	**2+2** **(4)**

Question Number	Answer	Mark
1 (c)	Expect explanations (and not just descriptions) of: • Additional explanation of conservative boundary processes (1) could include Pacific plate moving faster than N. American plate (1) at 5-9 cm/ yr compared with 2-3 cm / yr (1) with both in moving north-western direction (1) strain build over time leads to release (1). • Also credit explanation of convection cells in asthenosphere (1). • Credit tsunami (but not if linked to S A Fault). • Landslides / mudslides are another hazard type explained by earthquakes(1) or coastal undercutting (1) or rain / saturated soils (1). • Accept specific knowledge of volcanoes in northern California (1) where there is a destructive boundary region (1) and may outline subduction processes (but do not simple assertion "there are volcanoes in California"). May know Lassen Peak (1). Credit San Andres Fault if an indication is given of its scale / importance. Do not credit human factors.	**(5)**

Question Number	Answer	Mark
2 (a)	C 58% fall	**(1)**

Question Number	Answer	Mark
2 (b)	• Dark ocean surface reflects less light / lower albedo (1) • More light absorbed warming the water (1) • Surface air temp. becomes warmer / more melting (1) • Shows awareness of positive feedback (1) Point mark.	**(3)**

Question Number	Answer	Mark
2 (c)	W / Disruption to Arctic food chains X / Ocean temperature change	**(2)**

Question Number	Answer	Mark
2(d)	Focus of answer can either be people in the Arctic (may or may not state they are indigenous peoples) or a wider range of players / groups. • Greenlanders themselves – range of opportunities including agriculture, tourism, mineral rights, specific economic or lifestyle benefits (e.g. heating costs, but do not accept "better weather"). • Oil / energy companies – access to Arctic mineral / oil resources as ice melts. • Travel / shipping TNCs – transport routes (North-west passage). • Scientists – study opportunities e.g. geology. ❶ mark for each benefit that is linked to a group of people (could be local or global community) and ❶ mark for any extension /example. Very generalised descriptive answers are likely to be self-penalising; benefits should be clear and specific.	**(5)**

Question Number	Answer	Mark
3(a)	1 mark for use of GDP data. 1 mark for either of the following: • higher temperature = greater GDP loss • Increased data uncertainty as temperature rises	**(2)**

Question Number	Answer	Mark
3(b)	Likely observations (1 mark) are: • Poor hit hardest by losses as they have so little anyway. • Richest may suffer the greatest actual (insured) losses. Award marks for other ideas and development, such as: • Some locations may experience greater temperature rises e.g. high latitudes (1) or may experience greater precipitation losses rises e.g. Saharan Africa (1) which may impact on farming incomes and hence GDP(1) or other sectoral losses specified e.g. tourism (1) Costs of adaptation could be far higher in these places too. • Credit development of sea-level rise ideas. • Other people / places e.g. G8 nations can afford adaptation measures (smaller % dent in GDP) (1) industries / economy may be more resilient / less effected e.g. financial services (1). Max 3 if does not link to Figure 3 or acknowledge / imply that some groups will suffer fewer losses.	**(4)**

Question Number	Answer	Mark
3(c)	• Examples of adaptation costs include flood walls, flood barriers etc. (1) Do not credit mitigation costs (e.g. turbines, solar) • Costs are rising as GHG emissions rise (1) linked to industrialisation of NICs etc. (1) • Increasing events / problems require more spending on strategies (1) may have examples e.g. sea-level rises (1) temperature increases (1) hurricane frequency (1) or other physical changes. • Links these changes with specific costs e.g. Thames Flood Barrier replacement (1), refugee relocation e.g. Maldives (1) • Failure to introduce more mitigation measures means that impacts & costs will be worse. (1) Max 4 if answer does not address "keep rising" and simply describes existing adaption costs.	**(5)**

Question Number	Answer	Mark
4 (a)(i)	• More landlines in N Am / N Am has lots of both • More mobs in S Am • Less variation within N Am / more variation in S Am • More mobs everywhere • Canada #1 landline • Argentina #1 mob • Peru has least (of either)	**(3)**
Question Number	Answer	Mark
4 (a)(ii)	• Wealth variation ideas (with extension marks for talk of hubs, shanties, TNCs etc.) • Infrastructure difficulties (e.g. costs of building landline in some Amazonia c.w. mobile) • Development over time, with some countries choosing to by-pass landline roll-out ("leap-frogging" etc.). Award 1 mark for each idea plus extension marks.	**(3)**

Question Number	Answer	Mark
4(b)	E global hub	**(1)**

Question Number	Answer	Mark
4(c)	So long as physical factors are addressed, credit discussion of non-physical factors too (question asks how physical factors have contributed, so non-physical factors may play a role too). • Coastlines provide access – e.g. for setting up SEZs while continentality may limit trade opportunities • Strategic location for trade e.g. Pacific rim / gives access to range of markets • Resources for trading - oil in Middle East • Accept climatic and hazard ideas if linked to connectivity in some convincing way • Accept other valid / linked suggestions • Credit good examples if used in a way that develops the explanation (expect more than "e.g. Sahara") Max 3 if a range of physical factors are described but no explanation as to how this affects connectivity. Mention of both switched-on and switched-off required for max 5.	**(5)**

Question Number	Answer	Mark
5 (a)	B Spain and Portugal	**(1)**

Question Number	Answer	Mark
5 (b)	D Post-accession labour flow	**(1)**

Question Number	Answer	Mark
5(c)	Possibilities include: • Higher earnings in UK than many other destinations, as Figure 5 shows • UK may have greater job vacancies (e.g. construction industries or farm work, tourism) • UK has a generous minimum wage • Advantageous exchange rate in 2005 • Types of job on offer suit skills of migrants (e.g. UK NHS needing Polish dentists) • English a well-known language • Bright lights reasons e.g. London / UK as a global hub • Established bridgehead e.g. Poles came to UK in 1930s, or joining friends from 2004 • Only UK, Ireland and Sweden had a restriction-free entry policy for A8 migrants in 2005 ❶ mark for basic idea, ❶ mark for extension / example. Award max 2 for generic UK pull factors with no understanding of why other destinations not chosen.	**(4)**

Question Number	Answer	Mark
5(d)	Accept a broad interpretation of social to include cultural impacts, effects on people and demography / population. Unemployment can be classed as a social impact. Likely foci include Mediterranean and A8 nations. • Social positives include cultural melting pot ideas and may offer specifics (e.g. for UK, Spain) • Social negatives include hostility / xenophobia and may have examples (e.g. for UK, Spain) • Pressures on health and education services and impacts for people • Keenness of major parties to be 'tough on immigration' (e.g. UK point system / caps) as response to social concerns of electorate • Migrants entering local elections e.g. Brits in Spain – may cause social tensions ❶ mark for each basic idea and ❶ mark for any extension /example. Accept any combination of ideas but must use specific European /EU examples for full marks	**(4)**

Question Number	Answer	Mark
6(a)	C £52 billion	**(1)**

Question Number	Answer	Mark
6(b)	Award should focus on impacts of an ageing population. • Some state costs are raised locally through council taxes e.g. bus passes ❶ • Lack of workers paying local taxes ❶ so high dependency ratio ❶ Additionally credit explanation of why number of elderly varies from place to place (specifics are not required): • Selective migration of elderly ❶ and may offer specific examples of coastal towns or scenic migration hotspots (1) as well as some detailed reasons for in-migration / counterurbanisation ❶ • Out-migration of the young ❶ and may offer some detailed reasons for the movement ❶ • Fewer impacts in areas with a youthful population e.g. some urban areas.❶	**(4)**

Question Number	Answer	Mark
6(c)	Economic challenges could relate to jobs, taxation, pension costs, government and council spending, etc. • Fewer working people paying contributions currently than dependents making demands • May quote other examples e.g. NHS care • May have data e.g. number of under-16s less than the over-65s • May provide life expectancy data and makes links with rising costs treating dementia etc ❶ mark for each basic idea up to a maximum a 3 marks for a list of problems. ❶ mark for each extension that illustrates a challenge e.g. idea of dependency.	**(5)**

Question Number	Indicative content
7 (a)	**Hazard vulnerability** – Figure 7 steers candidates towards considering a range of physical and human factors. Very basis ideas only have been provided; good answers should do much more to address how levels of risk / vulnerability could be assessed /measured or should give greater details about hazards e.g. hazard type /magnitude / return periods **Local area** – some candidates may use their own local area(s), following the Specification; others may use a hazard hotspot(s); or approach could be theoretical: any approach is acceptable.

Level	Mark	Descriptor
Level 1	1-4	Little structure. Unselective use of Figure 7 or makes very basic suggestions using own knowledge e.g. lists hazard types. There are frequent written language errors.
Level 2	5-7	Some structure. Some competent suggestions linked to Figure 7 using some own knowledge. Some geographical terminology is used. There are some written language errors.
Level 3	8-10	Structured account. Identifies several key elements of vulnerability and offers good suggestions of how these might be assessed / measured / identified. Appropriate geographical terms show understanding. Written language errors are minor.

Question Number	Indicative content
7 (b)	**Major hydro-meteorological hazards** – the Specification identifies floods, storms (cyclones / hurricanes) and drought **Distribution** – some HM hazards have a global distribution that can be explained with key factors i.e. drought (Hadley Cell / tropics subsiding air / rain shadows) and tropical storms (Coriolis / sea temperatures). Floods require a more case by case approach so do not expect too much although some may make links with El Nino / La Nina events. Increased coastal floods may be linked with global warming (credit this so long as distribution is focus). *If only one MAJOR type addressed (e.g. has coastal and river flooding) max 10. If multiple types addressed credit best two.*

Level	Mark	Descriptor
Level 1	1-4	Little structure. Basic or inaccurate statements about some hazards / distributions. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-8	Some structure. A partial answer that describes the distribution of two HM hazards or explains the distribution of one competently. Limited / generalised details or examples. Some geographical terminology used. Some written language errors.
Level 3	9-12	Structured account that explains the distribution of two HM hazards competently (do not expect balance). Geographical terms show understanding. Written language errors are minor.
Level 4	13-15	Well-structured, balanced account of HM hazards that explains the distribution of two types accurately and uses appropriate geographical terms to show a high level of understanding. Written language errors are rare.

Question Number	Indicative content
8 (a)	**Contribution of the data shown** – art & texts can fill data gaps where there is lack of scientific (quantitative) evidence, generally in the medium-term (expect references to Little Ice Age and Medieval Warm Period pre-dating modern CO2-producing era). However, there are issues with validity. A discussion of other data types e.g. pollen, ice cores, can be credited, provided the historical data in Figure 8 are also discussed. **Natural climate change** – Focus is on natural cycles / factors e.g. sunspot decades, volcanic ash events, longer-term warming / cooling (early human art gives Milankovitch / ice age clues).

Level	Mark	Descriptor
Level 1	1-4	Little structure. Very basic points only e.g. how art shows climate of the time. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Some structure. Some examination of the usefulness of different types of evidence or makes some connection with actual natural climate change trends / factors. Some geographical terminology used. Some written language errors.
Level 3	8-10	Well-structured account that examines, i.e. looks at, the advantages that different types of data bring in the specific context of natural climate change. Appropriate geographical terms show understanding. Written language errors are minor.

Question Number	Indicative content
8 (b)	**Human causes more to blame** – Expect the unprecedented nature of recent 'hockey stick' CO2 (and other gases) rise to be clearly outlined and set in historical context (1750+). May outline how onset of industrial period / range of industrial activities coincides with increase in CO2 ppm from 280+. Other activities e.g. deforestation, farming may be looked at. Another approach would be to give reasons why natural causes can be ruled out. **Many scientists** –there is scope for good answers to acknowledge the lack of complete consensus and suggest reasons for this.

Level	Mark	Descriptor
Level 1	1-4	One or two simple / general statements only e.g. sweatshop exploitation. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-8	Some structure. A partial answer that describes a couple of changes or provides a longer list of ideas. Limited / generalised details or examples. Some geographical terminology is used. There are some written language errors.
Level 3	9-12	Structured account that attempts to explain some positive and negative changes (do not expect balance). Examples & explanation are more specific. Geographical terms show understanding. Written language errors are minor. *Max 10 if either positives or negatives missing.*
Level 4	13-15	Well-structured, balanced explanation of a range of positive and negative changes. May volunteer a final assessment (though not required). Uses appropriate geographical terms & exemplification to show understanding. Written language errors are rare.

Question Number	Indicative content
9 (a)	Green strategies – Figure 9 shows a local sourcing (anti-'food miles') initiative. Recycling, renewable energy, organic produce are other examples (amongst others) that could be discussed Become more popular – The Specification links 'green strategies' such as local sourcing with the environmental costs of recent globalisation and people's rising concerns. Good answers will demonstrate understanding of this, or of urgent need for climate change mitigation, rather than simply asserting that green / sustainable / clean strategies are a good thing.

Level	Mark	Descriptor
Level 1	1-4	Little structure. Very basic assertions about local food / green strategies causing less pollution. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Some structure. Some explanation of links between green strategies and need to curb environmental damage brought by globalisation / carbon footprint ideas. Some geographical terminology used. Some written language errors.
Level 3	8-10	Structured account. Sound explanation for reasons why increasing effort is made by people to change their patterns of consumption to help redress recent concerns about globalised economic activity. Appropriate geographical terms show understanding. Written language errors are minor.

Question Number	Indicative content
9 (b)	**Globalisation** – Good definitions of the term should be rewarded **Positive and negative effects for people** – These could be social, economic, cultural, environmental, etc. Negative aspects likely to include sweatshop exploitation, cultural dilution and impacts of industry (e.g. Shell in Nigeria). Positives may include poverty alleviation, economic growth (for rich people / places), spread of more liberal values / equality / education for women.

Level	Mark	Descriptor
Level 1	1-4	One or two simple / general statements only e.g. sweatshop exploitation. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-8	Some structure. A partial answer that describes a couple of changes or provides a longer list of ideas. Limited / generalised details or examples. Some geographical terminology is used. There are some written language errors.
Level 3	9-12	Structured account that attempts to explain some positive and negative changes (do not expect balance). Examples & explanation are more specific. Geographical terms show understanding. Written language errors are minor. *Max 10 if either positives or negatives missing.*
Level 4	13-15	Well-structured, balanced explanation of a range of positive and negative changes. May volunteer a final assessment (though not required). Uses appropriate geographical terms & exemplification to show understanding. Written language errors are rare.

Question Number	Indicative content
10 (a)	**Severe housing problems** – Figure 10 shows high density urban conditions, inviting discussion of whether newcomers face informal / shanty-style problems (also accept developed world megacity problems). Severity of problems can be addressing through quantity issues (not enough housing) and /or quality issues (state of housing). Credit all valid interpretations. **Arrival of newcomers** – Figure 10 shows Lima has experienced rapid in-migration since 1940s, suggesting housing crisis would have been acute / rapid growth of poor informal housing as population soared by millions during each successive decade.

Level	Mark	Descriptor
Level 1	1-4	Little structure. Unselective use of Fig. 10 and may focus solely on photo evidence for lack of space without relating this to building newcomer pressure. Geographical terminology rarely used. Frequent written language errors.
Level 2	5-7	Some structure. Some explanation of how newcomers are linked with housing problems in Lima or other megacities. Some geographical terminology is used. There are some written language errors.
Level 3	8-10	Structured account. Sound explanation, based on Fig. 10 and own ideas, of range of housing problems linked to on-going newcomer arrivals. States / implies severity Appropriate geographical terms show understanding. Written language errors are minor.

Question Number	Indicative content
10 (b)	**Causes of rural-urban migration** – key push / pull factors should be outlined. Enabling role of transport / technology might be explored e.g. Amazonian highways. Credit international rural-urban movement (e.g. rural Poland to London region). **Feed megacity growth** – good answers should go beyond generic rural-urban push/pull and makes links with megacity attractions (e.g. SEZs in urban China). May recognise some countries may have TNCs active in rural areas too, mechanising agriculture etc. **Using examples** – this is a requirement but limited use should not restrict level access if other level criteria are met. *Max 10 if either push or pull aspect missing.*

Level	Mark	Descriptor
Level 1	1-4	One or two simple assertions only e.g. people move for work. Geographical terminology rarely used. Frequent written language errors.
Level 2	5-8	Some structure. A partial answer describing some generalised factors causing rural-urban migration flow(s). Limited /generalised use of examples. Some geographical terminology used. Some written language errors.
Level 3	9-12	Structured account giving an explanation of rural-urban migration causes that are specific to named megacities. Geographical terms show understanding. Written language errors are minor.
Level 4	13-15	Well-structured, detailed explanation of rural and urban factors causing migration. Content is specific to world megacities. Uses appropriate geographical terms and exemplification to show understanding. Written language errors are rare.

Further copies of this publication are available from
Edexcel Publications, Adamsway, Mansfield, Notts, NG18 4FN

Telephone 01623 467467
Fax 01623 450481
Email publication.orders@edexcel.com
Order Code US030488 January 2012

For more information on Edexcel qualifications, please visit
www.edexcel.com/quals

Pearson Education Limited. Registered company number 872828
with its registered office at Edinburgh Gate, Harlow, Essex CM20 2JE

Ofqual

Llywodraeth Cynulliad Cymru
Welsh Assembly Government

Rewarding Learning