Mark Scheme (Results)

Summer 2017

Pearson Edexcel GCE in
Geography (6GE01)
Unit 1: Global Challenges

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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.

Spelling, Punctuation and Grammar Marking Guidance

- The spelling, punctuation and grammar assessment criteria are common to GCSE English Literature, GCSE History, GCSE Geography and GCSE Religious Studies.

- All candidates, whichever subject they are being assessed on, must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.

- Spelling, punctuation and grammar marking criteria should be applied positively. Candidates must be rewarded for what they have demonstrated rather than penalised for errors.

- Examiners should mark according to the marking criteria. All marks on the marking criteria should be used appropriately.

- All the marks on the marking criteria are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the marking criteria.

- Examiners should be prepared to award zero marks if the candidate's response is not worthy of credit according to the marking criteria.

- When examiners are in doubt regarding the application of the marking criteria 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.

- Handwriting may make it difficult to see if spelling, punctuation and grammar are correct. Examiners must make every effort to assess spelling, punctuation and grammar fairly and if they genuinely cannot make an assessment, the team leader must be consulted.

- Specialist terms do not always require the use of complex terminology but the vocabulary used should appropriate to the subject and the question.

- Work by candidates with an amanuensis, scribe or typed script should be assessed for spelling, punctuation and grammar.

- Examiners are advised to consider the marking criteria in the following way:
  o How well does the response communicate the meaning?
  o What range of specialist terms is used?
  o How accurate is the spelling, punctuation and grammar?

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.

Question Number	Answer	Mark
1(a) (i)	• Population density is higher along the coast/decreases inland (1) particularly in the south –west and west (1) • Highest density in and around major cities (1) • Density lower adjacent to border with Nevada (1) • Northern and eastern California have lower density (1) *Allow other accurate descriptions.* *Credit accurate use of data to support any one point.*	**(2)**

Question Number	Answer	Mark
1(a) (ii)	Higher population density increases disaster risk because: • More people to evacuate/ rescue/provide food and water/ medical care for (1) • More people therefore higher density of buildings (1) • More likely for residents to live in dangerous locations (may specify)/ high rise housing (1) • Densely populated areas may include poor/migrants/ disadvantaged groups (1) who may be isolated from training/warning schemes so more at risk (1) • Capacity to cope is reduced as services are stretched. • Allow one mark for an example with a detail *Do not credit more people without an explanation of why this increases disaster risk. Do not credit vulnerability unless qualified/explained (e.g. poor).*	**1,1,1** **(3)**

Question Number	Answer	Mark
1(b)	**Correct answer:** **A** - A place with a vulnerable population where two or more disaster types occur **Incorrect answers:** B – Incorrect as has no mention of how many disaster types occur C – Incorrect as has no mention of how many disasters occur D – Incorrect as only mentions hydro-meteorological hazards, with no specific mention of how many occur	**(1)**

Question Number	Answer	Mark
1(c)	Hydro-meteorological hazards include tropical storms/ floods/ droughts. Landslides occur as a secondary hazard. No mark for simply identifying these. No marks for simply identifying vulnerable factors like poor housing/low incomes. These must be linked to a hazard. • Philippines is in typhoon belt (allow cyclone) 5-20°N (1) and makes link with rotation/Coriolis Force (1) • Sea temperatures around 26°C(1), allowing warm, moist body of air to develop(1) • Floods can follow as a hazard after typhoons or monsoons (1) and may provide details, e.g. low pressure drives storm surges/higher sea levels (1) or because of inland rainfall (1) • Landslides also occur because of heavy rain adding weight to soil/rock so slope fails (1), worsened by human activity (deforestation, mining, building on slopes) (1) • La Nina leads to an intensification of the normal pattern (intense rainfall) (1) as well as el Nino (results in drought, e.g. 2015). (1) Explanations of reverse in trade winds and changes to sea temperature (1) • Role of deforestation(1) and/or steep sided mountains(1) in some areas which speeds runoff/ intensifies flooding(1). • Flash floods on impermeable surfaces in cities (1) • Allow "low-lying" so at risk from flooding/storm surges(1). • Allow points about human vulnerability if linked to specific hydro-meteorological hazards (e.g. weak housing susceptible to strong winds/cyclones). Allow lack of sea defences. *Credit other valid explanations and extensions/examples with a detail. Do not credit earthquake or volcanoes.*	**(5)**

Question Number	Answer	Mark
2(a)	**One** reason is asked for - one mark for reason and 2nd mark for extension. • Low lying land/flood plain/delta/confluence of rivers/high drainage density (1) so saturated land/overflowing rivers following intense/monsoon rainfall (1) • In path of prevailing winds (1) so regularly affected by storm surges/tropical storms (1) • Areas of impermeable surfaces(1) would experience less infiltration so would be more likely to flood(1) • Lack of defences/mangroves removed (1) so more likely to flood from storm surges/tsunami(1) • Risk of sea level rise(1) causing flooding in low lying area of the Mekong Delta(1)	**1+1** **(2)**

Question Number	Answer	Mark
2(b)	• Warmer ocean temperatures (global warming) increased evaporation (1) storm events more intense rainfall (1). • Increased frequency of low pressure systems/tropical storms (1) so ground becomes saturated (overland flow) (1) rivers overflow their banks (1). • Deforestation (1) increased urbanisation (1) decreases infiltration and/ or increases overland flow/flash flooding (1). • Increased sedimentation (1) decreases the capacity of the river basin (1). • More river management (1) takes more water directly to the river so it floods (1). • More ice/snow melt (1) linked to global warming (1). *Credit other valid reasons. Must be 2+2.* *Do not credit sea level rise (question is about **river flooding**). Do not credit global warming unless explanation makes link to intensity of rainfall/snow melt.*	**(1+1)** **(1+1)** **(4)**

Question Number	Answer	Mark
2 (c)	Suitable answers include: • River barriers/ walls, e.g. Thames (1) (not sea walls)(1) Demountable/ temporary barriers (1) • Houses built on stilts (1) • Sandbags(1) • Evacuation strategies/warning systems/education (1) • Dredging (1) • Land use zoning (1) • Wetland restoration (1) Allow other flood adaptations/ management strategies if relevant to **river** flooding	**(1)**

Question Number	Answer	Mark
2(d)	• Thermal expansion of ocean water (1) as molecules move more vigorously/have more kinetic energy (1) Credit additional details like 0.74°C rise in temperatures in twentieth century(1). • Melting of land ice/ice caps/ice sheets adds volume to ocean (1) e.g. Himalayan glaciers/Siberia/Greenland/ Antarctica with a detail about contribution(1). • Changes in albedo (less ice so less reflective surfaces) (1) leading to positive feedback and more melting (1). • Enhanced greenhouse effect (1) linked to more fossil fuel use leads to heating(1). *Credit other valid reasons. Max 2 for explanation about enhanced greenhouse effect. Do not credit isostatic (relative) sea level change as question asks for global. Do not credit melting sea ice (Arctic).*	**(4)**

Question Number	Answer	Mark
3 (a)(i)	• Scenario A shows a levelling off about 2015 to 2030 (an overall rise of 1°C) (1) • Scenario B rises steadily until 2030 and increases more rapidly until 2100 (about 4°C rise overall) (1) • Both scenarios show a slight increase of about 0.5°C until 2015 (1) • Accurate use of data in either case (1) *For full marks must ensure that there is either direct (in use of language) or implied comparison.*	**(3)**

Question Number	Answer	Mark
3(a)(ii)	• Emission reduction strategies preventing temperature rise (1) may give examples (e.g. global agreements such as Paris December 2015 agreement (1) • Natural causes including volcanic eruptions lead to ash in stratosphere which reduces temperatures despite ongoing rise in enhanced greenhouse effect (1) NOT Milankovitch/ longer time scale. • Business as usual approach leading to enhanced greenhouse effect/ ongoing rise in emissions (1) e.g. industrial growth in Asia (1), or population growth (1) increased use of fossil fuels/continued (1) lack of global agreement/ action on reduction in emissions (1) • Time lag from emissions throughout 20th century (1) means any reductions will take centuries to reduce rise in temperatures (1) • Hard to predict due to uncertainties (1) • Credit diminishing fossil fuel reserves (e.g. peak oil/ coal/ gas) (1) *For full marks, must have drawn evidence from both scenarios.*	**(4)**

Question Number	Answer	Mark
3(b)	• Ice cores from Antarctic and Greenland (1) allow analysis of CO_2 in trapped air bubbles which allow inference of temperature (1) oxygen isotopes indicate past temperatures (1), less O_{18} indicates colder and vice versa (1). • Pollen records peat bogs (1) from indicate that plants from warmer/colder climates have grown in different geographical locations compared to the present day (1) • Carbon-14 dating from wood preserved in peat bogs (1)allows us to date plant remains up to 50 000 years ago, and to suggest climate at the time (1) • Past sea levels can be indicated by looking at raised beaches or drowned valleys (1)and these can infer temperature/ice extent(1) • Tree rings/dendrochronology from ancient trees (1) indicate temperature/rainfall during growth(1) • Allow discussion of geological and fossil records *Credit other valid suggestions.* *One mark for a list of sources, e.g. ice cores and pollen records and carbon dating =1.* *Do not allow: photos, thermometers, weather records, paintings, as not "longer term".*	**(4)**

Question Number	Answer	Mark
4(a)(i)		**(2)**

Number of airports in top ten in:	2000	2014
USA	5	4
EUROPE	4	2
OUTSIDE USA AND EUROPE	1	4

One number correct= 0, Two or three correct= 1,
Four correct= 2

Question Number	Answer	Mark
4(a)(ii)	Globalisation of business/tourism/migration has lead to an increase in passengers using Asian airports. European airports have seen an increase in numbers of passengers, but a fall in their ranking. • Increase in numbers using all airports, linked to cheap flights and increased incomes so more global travel (1) New locations/airports are now advertised/ accessible (1). • Growth of wealth/switched on economies in Middle East/ Asia so more can afford to travel (1) • Globalisation allows cheap flights to be booked by internet (1) • Two Asian hubs (Beijing and Hong Kong) have entered top 10, linked to educated middle class in China/Hong Kong (1) so TNCs have located there and this has increased business/leisure journeys (1) • Chinese workforce has significant disposable income and is able to travel because of changed government attitude (1) • TNC outsourcing to Asia has increased business flights (1) whereas growth in Dallas is small (1). • TNC investment in airport hub/hotels/tourist destinations in Dubai (Emirates) (1) result in increased tourist/ business passengers (1). • Population growth/increase consumer spending in Asia (1) so more people travel for work/leisure/study (1). *Accept other reasonable suggestions for growth/decline in passenger numbers, and/or ranking in top 10.* *Max of 2 if no link to airports/countries in Figure 4.*	**(1+1)+1 or (1+1+1)** **(3)**

Question Number	Answer	Mark
4(b)	• Internet/SMART phones enable conversations/ exchange of information/ideas • Online financial transactions allow businesses to trade globally/migrants to send remittances • Mobile phones allow real time conversations /news/warnings/messaging on social media • Fibre optic cables/satellites allow use of devices even in remote locations • Video conferencing/Skype/face time contribute by allowing business to operate globally/families to stay in touch Specific technology example is not needed if contribution to shrinking world is stated e.g. instant connectivity. *No mark for simply naming a type of technology e.g. mobile phone/laptop as this must be linked to how it "shrinks" the world.*	**1,1** **(2)**

Question Number	Answer	Mark
4(c)	Places are poorly connected to global trade networks because: • Majority of population have low incomes/subsistence farmers so there is a lack of investment in infrastructure (1) so farmers can only trade locally(1) • Government has other priorities (1) such as investing in water supply/security (1) • Lack of TNC investment in internet connectivity/electricity (1) as so few can afford to use it in poorer communities (1) • Political reasons: government decisions to limit connections by refusing to join trade blocs(1), or political instability discourages investment(1). • Isolation causes physical difficulties in providing connections for trade in landlocked states (1) or mountainous terrain (1) impact of natural hazards • Expensive to connect sparsely populated areas in remote locations (1) • Lack of natural resources (1) • War or internal conflict (1) may lead to sanctions e.g. Zimbabwe (1) *One mark for a list of basic statements, e.g. 'People are poor, no one lives there, less airports'.* *Allow one mark for an example with a detail. Credit extended points.*	**1+1** **1+1** **Or** **1,1,1,1** **(4)**

Question Number	Answer	Mark
5(a) (i)	**Correct answer:** B – South-east England **Incorrect answers:** A – Lower proportion of jobs in this region that South-east England C - Lower proportion of jobs in this region that South-east England D - Lower proportion of jobs in this region that South-east England	**(1)**

Question Number	Answer	Mark
5(a) (ii)	• Largest % in London due to large population/densely populated (1) migration from elsewhere (UK and beyond) attracted by opportunities: theatres, studios (1) universities and colleges (1) multicultural communities generate ideas (1) global hub (1) • Lower connectivity to rest of UK/EU in North-east (1) relocation of BBC to Salford (1) but London still dominates many other media/creative outlets (1) • Loss of jobs in primary and secondary sectors in regions such as southwest or Wales such as farming/manufacturing (1) has encouraged investment in creative industries e.g. film/craft (1) • Investment by local government/universities /other agencies in many areas in education/skills in creative industries in film /media/digital services (1) • Growth of use of internet for creative jobs working from home (1) linked to growth of self-employed/small businesses (1) or high cost of commuting (1) • Many creative industries are footloose so can locate anywhere e.g. North-west (1) • Allow unlocated comments if there is at least one located region linked to a reason. *No credit for 'mirror' points, e.g. 'low % in north-east due to small population and limited migration' if London already credited with 'high population and large scale migration'.* *Do not credit statements like 'more rural in the north'.*	**(4)**

Question Number	Answer	Mark
5(b)	**Note that question says "different" so do not credit same points in both unless scale or reasons explained.** **Developed** Urban environmental pressures include: • **Transport:** overwhelmed by numbers using it, (1)19th/20th century systems need costly updating (1) • **Waste management:** slow and expensive to collect (1), few sites for landfill (1), public objection to burning (1) many are reluctant to recycle (1) • **Lack of green space:** few habitats for wildlife (1), decreased quality of life for residents (1) • **Urban sprawl:** city grows outwards to accommodate demand for housing (1) leads to loss of habitats (1) • Attempts to manage this via green-belt but not fully successful (1) • **Polluted air/ noise/ light:** less of problem in UK since Clean Air Act (1956) onwards (1), but car exhausts (NO_2, CO, CO_2, particulates) are an issue (1), particularly for asthma sufferers as there are so many vehicles (1) • **Derelict land** linked to de-industrialised industry **Developing** Urban environmental pressures include: • **Limited public transport as government has other priorities** (1) so congestion costs time and money and accidents lead to loss of life(1) • **Water supply inadequate for demand:**(1) so many use polluted water or buy expensive bottled water(1) • **Polluted air** linked to factory use/growth in vehicles and low enforcement of regulations about quality (1) • **Sanitation system inadequate or** does not exist (1) in large parts of many megacities so open defection is a problem and spreads disease and contaminates water supply(1) • **Housing:** Only allow if focus is environmental (e.g. loss of habitat/land/water courses*)* *Credit use of details about examples where appropriate.* *Credit extended environmental points.* ***Do not double credit same/mirrored points in each section points unless there is differentiation about scale or reasons.*** *i.e. do not credit "landfill" twice.* *One for list e.g. Problems with transport, housing, water.* *No mark for "Pollution" unless explained.* *Do not credit general pressures, including climate change/global warming unless linked to urban areas.*	**(1+1 +1)+ (1+1 +1)** **(6)**

Question Number	Answer	Mark
6(a)	**Any two from:**	**(2)**

Statement (from resource) Allow use of letter alone (A-E)	Explanation of how this helps the planet or its people Suggested answers (allow other reasonable suggestions)
A Coffee cup lids made from corn fibre which can easily be composted	Reduced landfill so less GHG/loss of habitats (1) Biodegradable so does not stay in soil for so long as plastic (1) less use of oil in manufacture of plastic (1)
B Fair trade products make up 7% of our range	Farmers in developing countries get a higher price for their products (1)
C We recycle our coffee grounds for customers to use as compost	Reduced landfill cuts loss of habitats.(1) Improves soil without using artificial fertiliser (1)
D We use napkins and stationery made from recycled materials	Reduced use of new paper so reduction of deforestation and loss of habitats/carbon sink (1) Less pressure on resources(1)
E Gingerbread biscuit scheme: all profit from each sale is donated to a local charity	Benefits local people in need and builds community links (1)

Note that many of these explanations are interchangeable. Only credit same point once (e.g. reduced landfill could go into A, C or D).

Question Number	Answer	Mark
6 (b)(i)	• Low wages (1) • Long hours (1) • No access to unions (1) • Poor working conditions (1) • Lack of health and safety regulations (1) • No sick/maternity pay (1) • No pensions (1) • Child labour (1) *Allow other reasonable suggestions. Allow list of ways because question does not require additional comment (e.g. 'contribution of').*	**1,1** **(2)**

Question Number	Answer	Mark
6 (b)(ii)	One reason: one mark for a reason and a second for a valid extension • People are willing to work for low pay/in poor conditions (1) because the alternatives (e.g. starvation, begging or landless labouring) are worse (1) • New migrants arrive every day from rural areas (1) to take the place of any who object to pay/conditions (1) • Fewer strict laws protecting workers' rights (1) and/or these are not enforced(1) • Bribery/ ineffectual government (1) do not protect rights of workers. • Children are a vital part of a family's work force (1) and without their income families may starve (1) *Allow other reasonable suggestions. Do not credit TNCs and profit points.*	**1+1** **(2)**

Question Number	Answer	Mark
6(c)	• Reduction of food miles (1) by encouraging people to shop locally and grow their own food (1) • Transition towns such as "Incredible edible Todmorden" and Totnes (1) encourage use of public transport, fair trade goods, organic purchases etc. (1) • Recycling reduces landfill (1) (cutting methane emissions and loss of habitats) and use of new resources (1) • Charging for waste disposal (1) shopping bags(1) • Car sharing/electric cars or green public transport such as 'Boris bikes' in London (1) reduce use of cars (reduced CO_2 emissions) and crowding on public transport (1) • Congestion zones and park and ride schemes (1) reduce greenhouse gas emissions (1) • Eco-housing e.g. Bedzed (1) reduce carbon footprint. *Question says "attempt" so allow discussion of limited effectiveness in some cases.* *One mark for a list. Allow other reasonable suggestions.*	**(4)**

Question Number	(a)Suggest reasons for the contrasting number of deaths from the landslides shown.
	Indicative content
7a	Reasons included in table include: **Physical factors:** Different causes/magnitude/scale/location (degree of isolation) influence death. Expect use of examples to support points. Combined effect of multiple hazards, e.g. heavy rain and landslide/earthquake may overwhelm the capacity to cope. **Human:** GDP linked to costs, also may indicate spending on defences/response/capacity to cope when disaster occurs so fewer deaths. Poor quality housing on steep slopes is a factor. **Change over time:** learnt from past so fewer deaths, more effective warnings linked to satellite monitoring. **Contrasting number of deaths:** could be considered by location, cause, or number. Other factors which may influence number of deaths include: population density, level of preparation/training, age structure and ethnicity of population (ability to understand/respond to warnings). Recurring landslides may lead to complacency or increased training.

Level	Mark	Descriptor
Level 1	1-4	Poorly structured. Likely to focus on GDP/wealth only with restricted reference to different landslides. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Some structure. Begins to use data from the table from more than one column. Likely to use human **or** physical reasons for contrasts in deaths. Some geographical terminology is used. There are some written language errors. MAX 7 marks if no reference to Figure 7
Level 3	8-10	Well-structured answers that uses a range of data from the table. Likely to use a range of human and physical reasons for contrasts in deaths. Likely to use additional ideas from own knowledge such as training. Appropriate geographical terms show understanding. Minor language errors.

Question Number	(b) Examine how human factors have contributed to an increase in the frequency of natural disasters. **Indicative content**		
7(b)	Disaster occurs when a hazard affects a vulnerable population. Credit reference to risk equation. Natural disasters include earthquakes, volcanoes, landslides, storms, floods and drought. **Human factors** include: • Population growth (particularly in megacities) so more living in dangerous locations (flood plains, steep-sided slopes, and when a disaster occurs more are affected. • Living in earthquake-prone area. • Poverty of many in megacities limits preparation/capacity to cope. • Deforestation and building impermeable surfaces linked to urbanisation may increase flood risk linked to reduced infiltration and more surface flow. • Debt/corruption/war in many countries means adaptation strategies cannot be afforded/implemented. • Accept human contribution to increased frequency e.g. mining, fracking • Allow discussion of human factors that have reduced frequency of disaster (e.g. education, warnings) • Global warming because of increased carbon emissions etc. has contributed to more frequent and more intense storms, floods and droughts. Question asks "have contributed" so allow for discussion of other factors. Some may give detail on how disaster and factor are linked (e.g. deforestation and urbanisation). Question does not mention reporting of disasters, so do not over credit increased communication, GIS monitoring, media etc. "Contribution" to be considered in terms of more/ less important factors.		
Level	Mark	Descriptor	
Level 1	1-4	Descriptive response lacking range and detail; a few ideas relating to more people or poverty. Likely to focus on one or two factors, and/or one or two disaster types. Response lacks structure. Geographical terminology is rarely used. There are frequent written language errors.	
Level 2	5-8	Descriptive answer with some explanations of more than one human reason for more than one disaster type. May not address frequency. Provides some details on these but has limited depth or narrow range. Some structure. Occasional use of geographical terminology used. Some written language errors.	
Level 3	9-12	Some detail in an account explaining a range of reasons for increased frequency of disasters. May give explanation of process for some factors/disasters. Structured answer with some exemplification and may consider a range of disaster types. Some geographical terms used to illustrate understanding. Written language errors are minor.	
Level 4	13-15	Detailed, wide-ranging explanation of a range of reasons, explicitly considering contribution to raised frequency of disasters. Likely to give process explanation for some factors/disasters. Well-structured with good exemplification of reasons linked to a range of disaster types. Uses appropriate geographical terminology to show understanding. Written language errors are rare.	

Question Number	a) Suggest how the changes shown will have impacts on the environment and ecology of the Arctic. **Indicative content**		
8a	Resource suggests impacts could be: • Ongoing changes in ice cover because of warmer temperatures likely to alter food and habitat, e.g. for seals and polar bears. • Thin ice melts more quickly in the spring, altering ocean/atmospheric circulation • Melting permafrost releases CH_4 causing positive feedback loops with further warming • Increased fire risk may devastate habitats and allow growth of alien fire-resistant species • Change in species (lynx/badger/cod) results in disrupted food webs • Growth in biodiversity as species survive further north and at higher altitude. Creation of new habitats e.g. freshwater lakes from melted permafrost. Other ecological or environmental factors may be included from own knowledge such as: • Reduced ice cover will change albedo and may lead to further warming of the surface and accelerated melting • Sea ice and land ice are CO_2 stores • Fires cause additional CO_2 emissions to greenhouse layer • Warming temperatures increase evaporation and cloud formation, leading to a **drop** in temperature and increase rainfall. *Allow idea that ice melt allows shipping/mining as long as impacts are environmental/ ecological e.g. oil spills damage habitat*		

Level	Mark	Descriptor
Level 1	1-4	Poorly structured. Likely to focus on one or more changes and describes the effects rather than explains them. May have inaccuracies. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Some structure. Suggests impacts of at least two changes, and likely to use own knowledge to explain these. May cover both environment and ecological impacts. Some geographical terminology is used. There are some written language errors. MAX 7 marks if no reference to Figure 8
Level 3	8-10	A well-structured answer that explains a range of impacts. Covers both environmental and ecological impacts. Uses own knowledge and may discuss ecological benefits (e.g. wider range of species) as well as losses. Appropriate geographical terms show understanding. Minor language errors.

Question Number	(b) Examine why national and international action are both needed to tackle climate change. **Indicative content**
8 (b)	Question asks for consideration of both national and international actions so expect both to be discussed. Level 4 answers may consider the extent to which both are necessary. Answer may consider either actions that involve adaptation (living with the impacts of climate change) or mitigation (reducing greenhouse gas emissions) or both. **National scale:** - State investment in public transport/recycling schemes, renewable energy or nuclear power. Or through policies/tax systems to encourage use of low emission cars/renewable energies - Governments could also adapt e.g. Provide funding for building walls, manage warning systems/evacuation schemes. Grant planning permission. Organise migration, e.g. Tuvalu to Fiji. Provide education and training - Numerous other schemes are run e.g. by DEFRA/National Trust/Marks & Spencer at a national level - Beware of small scale local schemes (likely to be Level 1-2) that are not national **International scale:** - Expect discussion of Kyoto treaty 1997, and COP conferences, Paris agreement 2015. Carbon trading may be discussed also funding of technology changes for developing countries, including debt relief or reafforestation as part of debt for nature conservation swaps - GM crops used e.g. drought tolerance to cope with changed weather patterns **Reasons why action at both scales is needed include:** - Scale of problem: no single solution is sufficient - Globally, all are affected and together and separately need to find solutions - Economics: Some countries cannot afford to make changes to emissions - Political viewpoint: some governments have other priorities so have been slower to mitigate so international frameworks may not be adopted everywhere - National success can be reduced if no international co-operation

Level	Mark	Descriptor
Level 1	1-4	Descriptive response lacking range and detail about actions linked to climate change, such as Kyoto treaty. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-8	Some structure, suggests some actions linked to lower greenhouse gas emissions or to adaptations to climate change but lacks specifics. May not differentiate between national/international. Answer has some detail about the actions, or some range of ideas. Some geographical terminology is used. There are some written language errors.
Level 3	9-12	Structured account with both national and international scales included, and is likely to differentiate between them. These have detail and examples for one or both. At top end begins to discuss why either or both approaches are needed. Examples used have some details. Geographical terms to show understanding. Written language errors are minor.
Level 4	13-15	Well-structured explanation of a range both national and international scales, with detailed examples. May consider both adaptation/mitigation. Discusses why both scales are needed, and likely to recognise that no single solution exists. Good real-world knowledge. Uses appropriate geographical terms and exemplification to show understanding. Written language errors are rare.

Question Number	a) Suggest how strategies, such as those shown for Tata Group in Figure 9, help TNCs grow their business.
	Indicative content
9a	Strategies used by Tata (a TNC) to grow their business shown in the resource include:
	• Global development/expansion to build new trading opportunities in new continents such as London office
	• Invests in 80 countries, but 32% of revenue is still from India
	• New businesses (Tetley tea) to diversify business and increase profits.
	• Acquisitions to create larger business (through Jaguar Land Rover).
	• Glocalisation through design of Tata Nano for Indian market.
	• Offshoring and spatial division of labour: use of low cost labour in India to cut costs.
	Other ideas not on the resource might include: outsourcing or off-shoring which may be explained and exemplified. Tata plans to sell Port Talbot site may be discussed. Out-sourcing: use other companies to reduce costs. Use of trade bloc system to gain access to new markets (e.g.NAFTA).
	Do not expect specific knowledge of Tata.

Level	Mark	Descriptor
Level 1	1-4	Poorly structured. Likely to focus on one or two ideas lifted from the resource about changes in Tata's businesses with limited explanations. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Some structure. Begins to suggest reasons for the identified changes in business strategies used by TNCs, largely focussed on Tata. Some geographical terminology is used. There are some written language errors. Max 7 if no reference to resource.
Level 3	8-10	Well-structured answer that explains the reasons for range of strategies used by Tata. Likely to go beyond resource to explain and/or exemplify other methods used by TNCs. Appropriate geographical terms show understanding. Minor language errors.

Question Number 9 (b)	**(b) Examine the role of international organisations in accelerating globalisation.** **Indicative content**	
	International organisations (IOs) are numerous, the following groups may be included: Trade blocs (EU and NAFTA likely), OPEC, UN, WB, IMF and WTO, OECD, Commonwealth. Allow TNCs and NGOs if explicitly linked to role in accelerating globalisation. These should be exemplified. Allow comparison of different types of IOs, or comparison of two or more TNCs but the links to globalisation must be made. Each accelerates globalisation (increased links between countries/ people and exchange of goods, people and ideas) in specific ways, • **Trade blocs** facilitate shared business opportunities (tariffs and custom changes) and cultural exchange, EU additionally allowed migration for work/study/tourism/refugees, particularly for Schengen members from 1995. May also slow globalisation e.g. restricting imports from non-members. • **TNCs** contribute to accelerated globalisation in multiple ways (people/goods /ideas/ money/culture), such as through off shoring and outsourcing. Watch out for generalised comments about developmental benefits of TNCS rather than specifics on how they increase globalisation. • **OECD** promotes discussion and cooperation between members, sharing ideas and good practice, thereby spreading 'western values'. • **UN** facilitates international cooperation and discussion, with a particular role in peace keeping. • **World Bank, International Monetary Fund and World Trade Organisation** all play roles in assisting global economic activity. • **NGOs** have multiple roles in taking aid/accessible tech like mobiles/wind-up laptops to developing countries which facilitates global links. Other factors may be considered as the command word is 'Examine' so allow discussion of role of transport and IT in speeding globalisation, alongside or in contrast to role of IOs in higher level answers. In Level 4, expect examination of specific IOs in accelerating globalisation.	
Level	Mark	Descriptor
Level 1	1-4	Descriptive response lacking range and detail; a few ideas relating to one or two IOs. Limited focus on link to globalisation. Response lacks structure. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-8	Descriptive answer with some explanations of role of one or more IOs. Provides some details on how they contribute to globalisation but this may not be specific. There is limited depth or narrow range. Some structure. Occasional use of geographical terminology used. Some written language errors.
Level 3	9-12	Some detail in an account explaining the ways a range of IOs (by type or example) play specific roles in accelerating globalisation. Structured answer with some exemplification. Some geographical terms used to illustrate understanding. Written language errors are minor.
Level 4	13-15	Detailed, wide-ranging explanation of how a range of IOs accelerate globalisation. May consider the role of other factors alongside IOs. Well-structured with good exemplification. Uses appropriate geographical terminology to show understanding. Written language errors are rare.

Question Number	a) Explain the social and economic consequences of changes to the UK population shown in Figure 10. **Indicative content**		
10a	Changes shown: Ageing population, with particular growth in those aged 85+ and with growth in care needs. There are benefits as well as the more obvious costs, Economic consequences: • Pressures on pensions, care homes, NHS and housing provision. • Increased dependency ratio. • Benefits of longer working life, paying taxes and passing on skills and experience. • Benefits of grey pound spending in UK and globally. Social consequences: • Illness and care support likely to increase with growing population. • Particularly of those 85+ with dementia and complex health needs. • Families benefit from longer lives of older members, passing on acquired wisdom and child care. • Volunteers available to help maintain services. • Note that an ageing population may not necessarily have a falling birth rate (e.g. balanced by migration of young). Answers may not differentiate between social and economic, allow this as there is clear overlap.		
Level	Mark	Descriptor	
Level 1	1-4	Poorly structured. Likely to identify one or two consequences (likely to be negative) linked to a growth in ageing population. Unlikely to use data. Geographical terminology is rarely used. There are frequent written language errors.	
Level 2	5-7	Some structure. Explains either or both social and economic consequences with some use of data but limited range. Lacks balance between social and economic and unlikely to mention positives. Some geographical terminology is used. There are some written language errors.	
Level 3	8-10	Well-structured answer that considers a range of consequences. Considers a range of both social and economic consequences with support from data. At top end considers both positive and negative consequences. Appropriate geographical terms show understanding. Minor language errors.	

Question Number	(b) Examine how far people's lives are improved by migration from rural areas to megacities in developing countries. **Indicative content**
10(b)	Question asks about 'people' so answer can discuss • migrants (comparing life in rural areas with urban life) • people already in megacities (allow 8m + in size) Answers may discuss both of these. Answers may consider both improvements and challenges. *MUST be DEVELOPING megacities. But check developed answers in case anything is relevant.* **Possible improvements could include:** • Job opportunities in both formal and informal employment. • Income: higher incomes possible allowing investment or access to housing, education and healthcare. • Services (education/health/IT access) • Family/greater equality of opportunity for women/minority groups • Safety from conflict **Possible challenges could include:** • Many live in poor quality crowded housing in slum areas in dangerous locations (steep slopes/railway lines/flood plains) • Issues of water provision, lack of sanitation, crime. • Possible examples are Mumbai, Manila, Shanghai, Rio de Janeiro. • Limited government/TNC investment in urban areas due to other priorities, (e.g. debt repayment) or lack of infrastructure. • Capacity of urban areas to cope with numbers of migrants is overwhelmed, so any housing/water projects are inadequate. **Possible considerations of consequences for other urban dwellers include:** • More pressure on jobs/housing/water • Increased workforce may attract TNCs who provide employment • Existing megacity dwellers may feel overwhelmed by new migrants who are willing to work for lower wages, but may also benefit from the new work force. There are several possible routes candidates could take to examine the question. E.g. All about improvements OR Benefits and challenges OR considers a comparison between urban and rural, or between existing and new residents.

Level	Mark	Descriptor
Level 1	1-4	Descriptive response lacking range, describing simple urban improvements e.g.jobs, income. May consider simple urban problems e.g. shanty housing. Simple examples. Response lacks structure. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-8	Descriptive answer with limited detail explaining some improvements or challenges in urban areas. Has limited depth or narrow range. Some structure and detail to examples. Occasional use of geographical terminology used. Some written language errors.
Level 3	9-12	Some detail in an account explaining a range of benefits urban areas, likely to focus on improvements and/or challenges for migrants only. Structured answer with some detailed exemplification. Some geographical terms used to illustrate understanding. Written language errors are minor.
Level 4	13-15	Detailed, wide-ranging explanation of how far lives are improved by migration. May compare or contrast improvements and/or challenges, or compare differences between urban to rural. May consider impact on existing urban/rural residents. Well-structured with good exemplification. Uses appropriate geographical terminology to show understanding. Written language errors are rare.