Mark Scheme (Results)

Summer 2013

GCE Geography (6GE01) Paper 01
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 <u>meaning</u> 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	Accept	Reject	Mark
1 (a)(i)	A decreased interception ❶ F increased overland flow ❶	B increased interception C increased precipitation D increased condensation E decreased condensation	**(2)**

Question Number	*Answer*	Mark
1 (a)(ii)	C Landslide ❶	**(1)**

Question Number	Answer	Mark
1 (b)	There is a range of possible reasons including: • Logging / timber ❶ Resources for export / help with debt ❶ • Clear space for farming / food crops ❶ • Clear space for biofuels ❶ • Clear space for aquaculture (mangrove) ❶ • Urban expansion / sprawl ❶ • Firewood ❶ Accept other valid reasons. Reject answers obviously linked to developed countries specifically.	**(2)**

Question Number	*Answer*	Mark
1 (c)	Explanations should focus on how urban growth puts more people at risk from flooding by: • Expanding the area of impermeable surfaces ❶ and therefore increasing overland flow ❶ decreasing through-flow / groundwater flow ❶ • Decreased vegetation cover which reduces interception ❶ • Drainpipes and sewers accelerate water flow towards rivers ❶ increasing the risk of flash floods ❶ • Therefore rivers more likely to reach a high peak discharge / bankfull / capacity / ❶ and inundate floodplains where people live ❶. • Credit ideas that people in developing cities might be at increased risk due to slums in high risk locations such as flood plains / steep slopes ❶ idea of increasing population density increasing risk ❶ **NB** no mark for just saying '*population is increasing so more people affected*' or similar. • May use increased vulnerability/lack of capacity to cope ideas/terminology linked to developing world cities. • Accept coastal flooding if linked to urban growth / urban areas. Point mark each explanation ❶ and any extension or	**(5)**

detailed example (no mark for a named country / city with if no further detail).❶

Question Number	Answer	Mark
2(a)(i)	Figure 2 shows that sunspots 1650-2010: • Fluctuate ❶ e.g. from under 5 to 75+ ❶ • Troughs and peaks ❶ and provides specific dates / values ❶ • Most recent maxima is the greatest ❶ at around 78 sunspots ❶ • Evidence of increase / rapid increase over time ❶ especially 1750-2010 ❶ 1 mark for each correct description + 1 mark for correct use of data. No credit for explanations.	**(3)**

Question Number	Answer	Mark
2(a)(ii)	Explanations should focus on: • High numbers of sunspots increase solar energy / sun's radiation output / increases global temperatures ❶ (or the reverse for fewer sunspots – only credit one) • They are caused by intense magnetic activity on the sun's surface ❶ and this emits solar flares / coronal mass ejections ❶ darker spots = greater radiation emissions. • Medium term trends in sunspot numbers have been linked to warmer / cooler climates in the past ❶ e.g. Medieval Warm Period / Little Ice Age (Maunder Minimum)❶. • Sunspots following an irregular cycle that lasts about 11 years which has been linked to <u>short term</u> climate change ❶ gives details of recent seasonal extremes ❶. Award ❶ mark for each explanation and a further ❶ mark for a valid extension or example.	**(3)**

	Do not credit explanations linked to glacial/interglacial terminology.	

Question Number	Answer	Mark
2(b)	The focus of the answer should be an explanation relating to **past** climate change. • Scientific methods / technology may have been unreliable or inaccurate ❶ e.g. early telescopes for sunspots ❶ or other offer examples e.g. thermometers / temperature records ❶; modern climate recording with accurate instruments only began c.1850 ❶ and even then did not cover the whole globe ❶. • Unreliable / subjective nature of proxy data sourced from pictures / books / other written or artistic sources ❶ and may use actual examples e.g. Thames frost fairs / glacier photographs / grape harvest data ❶. • Tree ring records / dendrochronology extends back only about 8000 years ❶ and is regional not global (pollen also local) ❶. • Makes valid / comparative observations regarding the accuracy of ice core data ❶ and may offer specifics ❶ or notes that even ice cores do not cover all of Earth's history ❶. • Allow idea of bias data/ research; altered scientific data. • Credit reference to other valid types of evidence. Do not expect differentiation between 'incomplete' and 'unreliable', but for full marks at least one of these ideas must be covered. In each case, award ❶ mark for each explanation and a further ❶ mark for any extension or example.	**(5)**

Question Number	Answer	Mark
3 (a)(i)	C lacking access to sufficient food for a healthy life ❶	**(1)**

Question	Answer	Reject	Mark
3(a)(ii)	Credit the following **human** factors: • Civil war or international conflict (displacement, food supplies diverted to armies) ❶ • Population growth ❶ Rising poverty ❶ • Rising food prices / declining food availability / cash crops or biofuels rather than food crops ❶ • Land degradation / desertification ❶ Lack of water to grow food ❶ • Global warming ❶ Credit other valid **human** factors.	Physical factors: Drought Earthquakes / volcanic eruption Climate change El Nino	**(1)**

Question	Answer	Mark
3(b)	Award 1 mark for a **located** hazard and 1 mark for the link to food shortages. • Drought in Indonesia/ Australia ❶ leads to crop failures /yields reduced/ crop damage from wildfires ❶ • Heavy rain leads to flooding / landslides in Peru / Bolivia ❶ destroys crops ❶; transport links disrupted / crops cannot be planted in saturated ground / stored crops damaged by flood waters / credit reference to reduced ocean fish supply. Only credit a general phrase such as '*harder to grow crops*' '*cannot grow crops*' once. Credit other valid responses. **NB:** No marks if hazard un-located (continents are too vague for credit), or El Nino incorrectly reversed.	**(4)**

Question number	Answer	Mark
3(c)	**Food supplies in Africa:** • Increased drought / seasonality / decreased reliability of rainfall/ rising temperatures ❶ specific details of how food supply would fail ❶ vulnerability of subsistence farmers / dependence on cash crops ❶ specific locations / examples ❶ or details of ITCZ shift ❶ • Increased rainfall in some regions ❶ located example of benefit ❶. • Coastal inundation ❶ specific details of why crops would fail e.g. salinisation ❶ specific locations / examples ❶ **Ecosystems in the Arctic:** • Warming of tundra / Arctic causes migration northwards of biomes / vegetation belts ❶ may have details of thermal growing season ❶ or species e.g. melting ice affecting ice dependent seals / polar bears ❶. • Food webs / chains modified ❶ and provides details ❶ • Invasive species ❶ e.g. spruce bark beetle ❶ • Must focus on ecosystems and not people/economic benefits. **Mark as 3+3**	**(6)**

Question Number	Accept	Reject	Mark
4 (a)(i)	1. Pakistan or Nigeria, or Australia ❶	Germany, France, Portugal, Lithuania, Romania.	**(2)**
	2. Lithuania or Romania ❶	Pakistan, Germany, Nigeria, France, Australia, Portugal.	

Question Number	Answer	Mark
4(a)(ii)	Figure 4 is a stimulus resource, do not expect direct reference to it: • European migrants allowed in unlimited numbers under	**(4)**

EU rules ❶ may provide details e.g. since 1993 ❶.
- Enlargement in 2004 ❶ when UK agreed to allow A8 workers in unlimited numbers 2004-2011❶.
- Business community was pro-immigration ❶ entrepreneurs welcome to create employment ❶
- Fill job vacancies /plug skills gaps ❶ specific examples e.g. NHS dentists needed / fish processing / farm labourers ❶.
- Polish or other EU diaspora/enclaves already in place historically ❶.
- Students welcomed to UK universities ❶.
- To counter ageing population ❶ and provides extension ❶

Credit generalised accounts e.g. 'workers were needed for 'DDD' jobs' award up to 2 marks only.

Question Number	Answer	Mark
4(b)	Answers must focus on pull factors of migration to the UK from former colonies / the Commonwealth: • Migration from ex-colonies was permitted / encouraged in 1950s and 1960s ❶ due to need for post-war reconstruction /worker shortages ❶ specific examples e.g. London Underground / NHS recruitment ❶ or special circumstances e.g. acceptance of Ugandan refugees (1970s) ❶ • Post WWII some colonial service-people stayed on in the UK ❶ • Higher pay / range of work in UK compared with poor source countries at that time ❶ • Identifies specific economic opportunities e.g. Indian doctors moving for NHS work ❶ • Opportunity to send remittances home ❶ • English-speaking therefore suited to UK workplace / schools /universities ❶ fewer intervening obstacles ❶ • Joining family members / permitted marriages ❶ • NHS free health care available/free education ❶ • May have knowledge of / affinity with UK way of life e.g. Caribbean Christians ❶ London hub/world city ❶ Credit other relevant factors. **Do not credit references to EU migration.** **Max 3 if no link to ex-colonies / commonwealth.**	**(4)**

Question Number	Answer	Mark
5(a)(i)	• Fewer workers needed due to mechanisation / use of pesticides/fertilisers / green and gene revolutions ❶ • Land ownership / tenure changes / farm expansion ❶ • Raised aspirations linked to education/empowerment of women ❶ • Shift to specialised cash crops / TNCs promoting plantations ❶	**(2)**

	Credit other reasons linked with agricultural modernisation.	

Question Number	Answer	Mark
5(b)	Answers could focus on developed or developing world megacities: • Wide range of employment provided by different TNCs ❶ or by large businesses e.g. assembly industries offer many roles ❶ may have examples e.g. service employment in call centres❶ • Government employment ❶ • Range of opportunities from high to low paid work ❶ • More opportunity to set up own business ❶ • Informal sector also provides range of opportunities ❶ e.g. street vendors selling water sachets/SIM cards etc ❶ this can be linked to scale of megacities e.g. making a living scavenging from very large rubbish dumps ❶ other valid examples ❶ **Maximum 2 marks if no examples of locations or types of employment.** Named megacity/country not essential.	(4)

Question Number	Answer	Mark
5(c)	Explanations should focus on why megacity growth creates environmental problems: • Rapid growth in transport / economy (cars, trucks) creates congestion ❶ and overwhelms transport networks ❶ leading to high levels of urban air pollution e.g. NOx and particulate matter ❶ (do not credit CO2 / global warming) • Rapid population growth creates high demand for housing ❶ which can often not be met leading to the development of slums / informal housing ❶ which lacks adequate sanitation / water supply leading to environmental health issues / disease ❶ loss of greenspace or similar / urban sprawl ❶ • Landslide / flood risk when housing built in high risk locations ❶ • Rapid growth means that city planners must keep up - moving goalposts ❶ and developing world cities lack the finance to invest and improve ❶ • Urbanisation and industrialisation (maybe linked to TNCs) ❶ lead to increases in solid waste ❶ which has to be land-filled / incinerated ❶ • Lack of legislation to limit environmental damage ❶. Award ❶ mark for each explanation linked to growth and a further ❶ mark for any extension or example. Maximum 3 for a list of environmental problems not linked to growth. **NB** examples must be from the developing world.	(5)

Question Number	Answer	Mark
6 (a)(i)	• Industrial / transport companies, so polluting/high CO_2 emissions ❶ • Some workers could be exploited ❶ • Corruption endemic/ 'way of life' in some countries ❶ • Sub-contracting brings weak governance e.g. sweatshops. ❶ • May have factories / offices based in developing world so less stringent health & safety / environmental laws ❶ Credit other valid reasons.	**(2)**

Question Number	Answer	Mark
6(a)(ii)	• Adopting Fair Trade rules or similar ❶ and give details of why this works (cut out 'middlemen', guaranteed prices) ❶ • Reducing carbon footprint ❶ through efficiencies, fewer flights, replanting trees, more renewable energy ❶ • Introduce monitoring / codes of practice for own branch plants ❶ or out-sourced work / suppliers ❶ • Introduce / update company policies e.g. minimum age / wage of employment for workers in mines / operations ❶ or makes other valid suggestions ❶ • In each case, award ❶ mark for each suitable action and a further ❶ mark for any extension or example. Credit other valid actions: **Mark as 2+2**	**(4)**

Question Number	Answer	Mark
6 (b)	**Strengths** • Lower carbon footprint/lower food miles (or similar) ❶ and explains emissions reduction - is greener/ more sustainable ❶ • Local food often organic ❶ outlines benefits of this e.g. biodiversity due to no pesticides ❶ • Benefits local farmers by raising their incomes ❶ may provide example ❶ • Consumers know the provenance of their food if bought locally ❶ **Weaknesses** • Higher costs (e.g. organic) may deter shoppers ❶ • Poor farmers in LDCs lose trade ❶ may have examples ❶ • Local produce may still have high environmental costs e.g. heated greenhouses ❶ • Lack of availability year round ❶ some goods can't be grown locally e.g. bananas ❶ • Local quality/flavour less good ❶ local goods not necessarily free range/organic ❶ Credit other valid ideas.	**(5)**

	Must have both strengths and weakness for 5.	

Question Number 7 (a)	Indicative content

Figure 7 relates to population change in Southern California. Details of this data should be covered in the answer, but credit reference to other places e.g. other developed world locations such as Tokyo, or in the developing world e.g. Bangladesh.

- **Numbers** – rising by 7.2 million in 27 years – more people at risk; might also refer to young people at risk.
- **Households** – rising by 1.8 – more homes; possibly higher population densities making response harder (parallels with locations such as Tokyo or Kobe earthquake)
- **Ethnicity** – white population falls by 12%, whereas Black and Hispanic population rises by 12% - parallels with Hurricane Katrina may be drawn by some (where poorer black community was worse-hit). Marginal groups may occupy marginal / risk-prone land so more at risk. May be recent migrants so low-income and / or not aware of risks.
- **Over 65s –** increases by 8% - Elderly, low-income people may lack insurance; may have restricted mobility so require assistance; reluctance to prepare or evacuate.
- **Living in poverty –** increases by 6% - vulnerable group who may have lower coping capacity / less resilience and so greatly add to the disaster risk.

Overall, there are more people and an increase in vulnerable groups in this area.
Credit applied use of the disaster risk equation.
More vulnerable people with less capacity to cope increases the risk.

Credit counter-arguments that better prediction / preparation / mitigation for some hazards counter-acts increased vulnerability in developed countries like the USA.
NB Reference to Figure 7 is required for Level 3.

Level	Mark	Descriptor
Level 1	1-4	Basic use of data from Figure 7 and /or other examples, to support idea that more people means that a disaster is more likely; lacks reasons. Response lacks structure. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Uses some data from Figure 7 and / or other examples to suggest reasons how a range of specific population changes could impact on vulnerability / risk of disaster. Some structure. Some geographical terminology is used. There are some written language errors. Max 7 if no reference to California
Level 3	8-10	Uses Figure 7 in detail and refers to California; range of

| | | suggestions that explore the reasons why the specific changes shown increase the human disaster risk. Includes use own knowledge / examples.
 Well-structured response. Appropriate geographical terms show understanding. Minor written language errors. |

Question Number 7 (b)	Indicative content

This question focuses on the physical processes that cause geophysical hazards (earthquakes, volcanic activity, landslides + tsunami and other secondary hazards).
- Answers which drift into disasters and their impacts will be self-penalising.
- Reference to hydro-meteorological hazards can only be credited when linked to landslides.

California:
- The San Andreas fault (part of a broader fault zone) marks a conservative plate boundary where two tectonic plates (Pacific Plate, North America plate) slide past each other; can generate earthquakes up to magnitude 8.0; faults frequently 'lock'
- Earthquakes shallow and so more destructive (5 major earthquakes being recorded in the last 100 years)
- Unconsolidated basin / coastal sediments in LA and San Francisco lead to severe shaking with added risk of liquefaction.
- Landslides take place in heavy winter storms where hillsides have been burnt by wildfire and eroded; may link to El Nino.
- Credit reference to volcanoes in Northern California (Mt Shasta, Lassen Peak); this is the southern end of the Cascades volcanic arc subduction zone (North American plate / Juan de Fuca plate); wet partial melting magma generation.

Philippines:
- The dense oceanic Philippines plate is being subducted beneath Eurasian plate (June 1991 Pinatubo; also Mt Mayon) which can generate earthquakes and volcanic eruptions.
- Landslides / mass movement can result from tropical monsoon climate, subject to heavy rainfall which can lead to land sliding / made possible because of deforestation of many hillsides.
- Role of heavy rainfall in lahar risk.
- Tsunami risks associated with subduction zone.

Some answers may compare geophysical hazards in the two locations e.g. arguing that volcanic hazard are more common in the Philippines / tsunami risk is higher.

Level	Mark	Descriptor
Level 1	1-4	Descriptive response lacking range and detail; a few ideas relating to earthquakes or another hazard or wrongly focuses on human factors. Response lacks structure. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-8	Descriptive answer with some explanations: provides some details on the hazards found in both places 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 geophysical hazard types in the two locations, with some balance. May go beyond tectonics and include landslides. Some process knowledge. Structured answer with some exemplification. Some geographical terms used to illustrate understanding. Written language errors are minor. Max 10 if only Philippines or California.

Level 4	13-15	Detailed, wide-ranging explanation of a range of geophysical hazards, balanced between the two locations. May compare or contrast (but do not expect this). Good process knowledge. Well-structured with good exemplification. Uses appropriate geographical terminology to show understanding. Written language errors are rare.

Question Number 8 (a)	Indicative content

The focus of this answer is Figure 8 and the 4 ice stores shown, in the northern hemisphere. Answers should provide detailed suggestions of how each contributes to rises in temperature and sea level:

	Sea level	Temperature
Arctic Ocean ice (floating sea-ice)	Melting sea-ice has no *direct* effect on sea level, but could contribute *indirectly* due to positive / albedo feedback and rising temperatures.	Significant change to surface albedo (ice / snow = 40-80%, ocean water under 10%), meaning more heat is retained, warming ocean water, so more melting (feedback).
Greenland ice sheet	Greenland melting completely = 7m eustatic rise in global sea level; some might notes melting rates have been reported as increasing in the last 10 years (faster than some expectations)	Possible disruption to ocean circulation in the North Atlantic (thermohaline circulation) as cold fresh water enters the ocean; could disrupt W Europe's climate.
Eurasian permafrost (permanently frozen ground)	Minimal impact directly, but if CO_2 / methane release occurs, temperatures could rise leading to thermal expansion of the oceans.	Large quantities of methane and CO_2 could be released as frozen dead organic matter decomposes / methane is released from sea-bed permafrost.
Himalayan glaciers	Leads to rising sea level but less important than ice sheets.	Minimal impact; small changes to albedo.

Stronger answers are likely to be those which discuss albedo and thermal expansion. Credit reference to other stores not on Figure 8 e.g. Antarctic ice sheet, if relevant.
For information: the IPCC estimated in 2007 that the contributions to sea level rise 1993-2003 were: thermal expansion 1.6 mm/ yr, glaciers and ice caps 0.8 mm/ yr and Greenland 0.2 mm / yr.

Level	Mark	Descriptor
Level 1	1-4	Unselective references to melting ice and/or sea-level rises; does not differentiate clearly between ice stores. Process understanding partial. Response lacks structure. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Some range of suggestions of how ice stores contribute to temperature and / or sea-level rise, with some reference to processes. Some structure. Some geographical terminology is used. There are some written language errors. Max 6 if only temperature or sea level rise.
Level 3	8-10	A range of suggestions, linked to both global sea-level and temperature rises with good understanding and some detail on processes; refers to the majority of the stores shown. Well-structured response. Appropriate geographical terms show understanding. Minor written language errors

Question Number 8 (b)	Indicative content

Answers should focus on explaining:
- Why some nations will suffer from sea-level rise i.e. what the impacts / consequences will be, and then;
- The reasons why some nations will suffer more than others

Impacts of sea-level rise:
- Loss of farmland e.g. in locations such as the Nile Delta and Bangladesh
- Potential disruption of low-lying capital city / global hubs e.g. London, Bangkok, Jakarta, New York (Hurricane Sandy could be mentioned); the high costs of defending vulnerable coastlines e.g. Thames Barrier style defences
- Displacement of people from delta regions / low lying coasts; increased potential for conflict
- Increased risk from natural hazard impacts e.g. storms / erosion worsened by rising sea levels
- There are broader environmental impacts e.g. those experienced by Arctic nations.

Some nations are likely to suffer more than others because of:
- **Economic vulnerability:** high levels of poverty, lack of GDP available to adapt at a national level and also the individual level; expect examples of vulnerability / resilience / lack of it e.g. Bangladesh could be contrasted with the Netherlands (Delta Project).
- **Physical vulnerability:** coastal relief, deltas, atolls (Maldives),subsidence (e.g. Jakarta, Bangkok) off-setting effects of isostatic uplift; more local vulnerability may extend into inland areas e.g. along Nile valley, rias, fjords. Contrasts could be made with countries which have fewer areas close to sea level.

There are also extreme cases such as the Maldives and Tuvalu, where there may be 'no where to go' as all land is vulnerable.
Credit ideas that vulnerability can be reduced even in the developing world e.g. Hulhumale island construction in the Maldives; agreements to evacuate, sea defences.

Level	Mark	Descriptor
Level 1	1-4	One or two generalised statements about how land will be lost; lacks full understanding e.g. of the timescales. Response lacks structure. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-8	Descriptive response including a range of impacts and affected places, with some details; limited explanation and likely to lack comparison. Some structure. Occasional use of geographical terminology used. Some written language errors.
Level 3	9-12	A response which explains a range of impacts for some nations, with some specific details and some attempt to compare highly affected and less affected places. Structured answer with some exemplification. Some geographical terms used to illustrate understanding. Written language errors are minor.
Level 4	13-15	Detailed response which explains a range of contrasting impacts for specific nations; considers in detail the reasons for differential impacts.

| | | Well-structured with good exemplification. Uses appropriate geographical terminology to show understanding. Written language errors are rare. |

Question Number 9 (a)	Indicative content

The data shown relates to exports of goods in containers (electronics, clothes, food etc).
• Asia dominates export trade with 207.9m twenty-foot units, over twice as much as Western Europe (86.7m)
• North America is in 3rd place with 45.6m followed by Latin America, Middle East then Africa (22.9m)
In terms of growth:
Asia is growing fastest at 16.6% followed by North America, Latin America, Africa, Western Europe and the Middle East. Africa growing at similar pace to rest but from low starting point.

Suggestions:
• Pattern is highly skewed towards Asia (China 'workshop of the world') plus other NICs such as South Korea, Taiwan. Growth rates suggest this is accelerating further. Asian trade may be taking place within region, or exchange with other regions e.g. USA, Africa.
• Developed world regions of W Europe and N America are still important in terms of global exports (which generate wealth) e.g. German cars. Growth is slower so developed world falling behind Asia.
• Africa has the smallest share of this type of global trade; could comment that this is true of global trade generally; lack of manufactured goods exports.
• Middle East has a low share; could comment that its exports of oil and gas are not transported by container so perhaps Figure 9 is not a good indicator of wealth from exports.

Good answers may note this is only a partial view of global trade – export goods. Europe, USA may be trading in services in return for the goods shown.
Some may offer reasons why pattern exists e.g. global shift of manufacturing, out-sourcing of services, division of labour, global TNC networks.

Level	Mark	Descriptor
Level 1	1-4	One or two generalised descriptive statements about Asia's trade dominance (either growth rates or overall pattern). Response lacks structure. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Some suggestions about what some of the data shows, but partial (growth or volume, or superficial on both). Provides some additional explanation / context e.g. the global importance of Chinese exports. Some structure. Some geographical terminology is used. There are some written language errors.
Level 3	8-10	Detailed coverage of volume and recent growth. A range of suggestions are made as to what the data shows, linked to wider themes. Well-structured response. Appropriate geographical terms show understanding. Minor written language errors.

Question Number 9 (b)	Indicative content

Answers should focus on explaining how TNCs spread / promote globalisaton, and moving beyond this to *examine* their role i.e. bringing in other factors that promote globalisation.

- Expect knowledge of how TNCs re-locate branch plants and call centres (New International Division of Labour) in the developing world, especially in China and other parts of Asia; some TNCs use third party TNCs e.g. Foxconn and Quanta in the case of Apple.
- Develop new markets by global expansion (e.g. Tesco in Thailand) thus tying new areas into the global economy. Also expansion through mergers e.g. Kraft and Cadbury (horizontal integration) and vertical integration (Shell).
- They use globalisation and glocalisation strategies to build customer bases in different countries.
- A sector approach to global trade – food, oil, manufacturing, media, finance – might be taken.
- TNC's have complex global production, sales and communication networks/infrastructure and are very large employers; this promotes migration and 'mixing' e.g. financial / accounting TNCs moving elite workers around the world.
- Some TNCs in oil and mining open up previously isolated areas to resource exploitation e.g. oil in Uganda.
- TNC global brands promote cultural globalisation and the spread of largely 'western' food, media e.g. McDonald's; other consideration of cultural impacts e.g. Disney.
- May encourage migration to cities because of TNC investment.
- Role of investment/FDI: TNCs may contribute to global "losers"/switched off areas as investment is focussed elsewhere e.g. Gambia's growing isolation.

Other factors which might be considered important as part of an examination:
- Technology – communications (internet, fibre optic, satellite, mobiles and social media, gaming) and transport (air lines, shipping, high-speed rail); some might see TNCs in these sectors are being crucial in terms of innovation and new products.
- Sport e.g. Olympics and global football.
- Trade blocs / trade agreements – less linked to TNCs; governments and IGOs promoting agreements to reduce tariffs and increase trade and investment.
- Rising global affluence creating demand and increases trade and consumption.

NB: this question is *not* about the pros and cons of globalisation.

Level	Mark	Descriptor
Level 1	1-4	One or two simple points about TNCs e.g. McDonald's being important but no real evidence to back this up.Response lacks structure. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-8	Describes some of the roles of TNCs; recognises importance but limited range of ideas; answer lacks depth / focus on the question. Does not move beyond TNCs. Some structure. Occasional use of geographical terminology used. Some written language errors.
Level 3	9-12	Explanation of some range of roles of TNCs with some details, linked to globalisation. May begin to offer other factors / examine. Structured answer with some exemplification. Some geographical terms used to illustrate understanding. Written language errors are minor.
Level 4	13-15	Detailed examination of a range of ways in which TNCs have contributed to the growth of globalisation. Likely to offer other factors; may link TNCs to other factors, and may comment on significance; shows a good understanding of globalisation. Well-structured with good exemplification. Uses appropriate geographical terminology to show understanding. Written language errors are rare.

Question Number 10 (a)	Indicative content

Answers should focus on the challenges of an ageing population and why they vary from place to place. Reference needs to be made to Figure 10:
• Inner London shows a low population over 65, with 2-3% of population in age groups over 65.
• On the South Coast there are significantly more old people e.g. 6% in the 65-69 age group, and fewer working age people.
May refer to other locations e.g. rural South Lakeland is popular with retirees.

Challenges include:
• Pensions – met from national taxation / NI (do not vary from place to place) and personal savings; pensions are a challenge as the population ages and dependency increases.
• Free / subsidised services – such as local transport, meals on wheels, community clubs and other services; can be a major drain on Local Authority finances, especially on South Coast (Fig 10).
• Housing / care homes – often locally provided and financed (but also in some cases by the NHS); could squeeze young buyers out of the markets in areas of high housing demand from retirees.
• Also credit opportunities e.g. the value of the 'grey pound' or the challenges local businesses face adapting to profit from it.
• There is also the challenge of image if places become known as 'god's waiting room' or similar, which may deter young people and some business investment.
• Some might recognise varying wealth of retirees e.g. in some south coast areas pensioners may be of more independent means compared to some areas in inner London, so councils have to provide fewer services.
• Very high numbers of people over 80 years of age is likely to sharply increase care costs.

Credit reference to reasons for this imbalance e.g. selective migration to the coast, local life expectancies, high immigration rates of young people (London) which keeps the percentage of older people low.

Level	Mark	Descriptor
Level 1	1-4	One or two generalised descriptive points based on Figure 10. Repeats costs from Figure 10 with little further comment. Response lacks structure. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-7	Suggests some range of challenges with some details: reasons why the numbers of elderly vary *or* some reasons for different levels of spending / degree of challenge. Some structure. Some geographical terminology is used. There are some written language errors.
Level 3	8-10	Detailed range of challenges outlined and a range of reasons for elderly and spending variations between regions such as those shown. Well-structured response. Appropriate geographical terms show understanding. Minor written language errors

Question Number 10 (b)	Indicative content

Answers should focus on the UK only, in terms of age-sex structure, employment or ethnic characteristics. Migration can be internal *or* international, and emigration *or* immigration.

Population *structure* changes:
Includes youthful EU / A8 workers helping off-set the ageing effect and also pushing up average fertility / birth rates / total population. UK birth rate is higher currently than at any time in the last 30 years. May have examples of sex structure in particular locations e.g. young men migrating for work from EU countries or within the UK. Some may address impact on the UK of emigration e.g. elderly to Mediterranean destinations.

Ethnicity *characteristics:*
Impact on ethnic diversity (may include post-colonial immigration and / or more recent immigration or emigration within EU); more of an impact on some locations than others e.g. London, Leicester compared to Liverpool or the North East.

Employment *characteristics::*
May have changed: it can be argued that there has been an influx of lower-skilled workers from the EU and Asia (in the past); alternatively higher skill migrants to London.

Population distribution *characteristics:*
Some might comment that internal migration has increased the South and East's population at the expense of other regions (ageing populations in e.g. rural areas; London's more youthful profile); international migration has boosted London's population recently and some areas of the NW and Midlands in the past: EU migration has impacted (unusually) on East Anglia and even NW Scotland.

NB: do not credit general impacts of migrations e.g. pressure on housing/schools/doctors plus culture etc.

Level	Mark	Descriptor
Level 1	1-4	Identifies a few basic changes linked to aspects of population but limited linkages with any specific migration types / flows. Response lacks structure. Geographical terminology is rarely used. There are frequent written language errors.
Level 2	5-8	Description of some population changes, but lacking detail or range. Likely to use narrow range of migrations or a single case (e.g. A8). Lacks focus on question (e.g. focuses on benefits/costs of migration) Some structure. Occasional use of geographical terminology used. Some written language errors.
Level 3	9-12	Explanation of how a range of changes are the result of migration; refers to more than one type of migration. Provides some supporting details. Structured answer with some exemplification. Some geographical terms used to illustrate understanding. Written language errors are minor.
Level 4	13-15	Detailed examination of a range of changes to population structure and characteristics, linked to different flows of migrants. May comment on the significance of some changes. Well-structured with good exemplification. Uses appropriate geographical terminology to show understanding. Written language errors are rare.