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Mark Scheme (Results)

Summer 2012

International GCSE Geography 4GE0 01

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Summer 2012
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Section A: The natural environment and people

Question 1 – River environments

Question Number	Answer	Mark
1(a)(i) Type 4 item	A mouth	**1**

Question Number	Answer	Mark
1(a)(ii) Type 3 item	Accept - North to South or South or southerly	**1**

Question Number	Answer	Mark
1(a)(iii) Type 1 item	Award 1 mark per valid and explicit source if pertaining to this river e.g. treatment works (1); power station cooling (1); city waste (1); industrial waste (accept industry) (1); agricultural run-off/fertilisers (1); litter from recreation (1); navigation fuels (1); fishing boats (1) … Accept generic sources.	**3(3x1)**

Question Number	Answer	Mark
1(b)(i) Type 2 item	Max marks require full definition referring to both flood (i.e. formed by deposition during flooding; made of silt/alluvium ..) and plain (i.e. flat land surrounding river). Award 1 mark for partial definition with accuracy as far as it goes. Description sought.	**2**

Question Number	Answer	Mark
1(b)(ii) Type 1 Item	Max mark response can be text-only, diagram-only or combination of both. Max credit for four stages/processes formation sequence identified as below. Award 1 mark per stage/process: e.g. outside of meander erosion (1) > tight horseshoe meander formed (1) > neck erosion/cutting off (1) > peripheral oxbow lake remains (1). e.g. meander bends meet (1); breakthrough … (1); hydraulic action/abrasion (1); straight river and lake (1). Linked explanation.	**4**

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Question Number	Answer	Mark
1(b)(iii) Type 1 item	Credit up to two valid factors with 1 mark each e.g. industrialisation (1); population growth/more people (1); rising living standards/richer people (1)... 2nd mark available in each case for development of factor into full reason e.g. rising living standards (1) more water-using devices such as flushed toilets, dishwashers... (1); richer people (1) emerging economies (1).	**4(2+2)**

Question Number		Indicative content
1(c) Type 1 item		Candidates are expected to have undertaken practical primary data collection in the field for a river water quality investigation. Those experiencing only virtual fieldwork should also be able to write about quality indicators (e.g. colour; odour; bacteria; animal life; freshwater invertebrates; litter ..) and procedures i.e. site selection; several samples at different sites/depths; systematic sampling; field equipment (e.g. pH testing kit; Trent biotic index ..); equipment use; recording. Credit textual and/or diagrammatic (e.g. site selection; water extraction; identification charts …) responses.
Level	Mark	Descriptor
Level 1	1-2	Expect some reference to indicators and outlining of basic procedures e.g. look if any fish or dumped trolleys; take water samples; subject water to tests... Generic and partial account.
Level 2	3-4	Expect some description of at least one field procedure, especially use of equipment and its associated indicator. A range of tests addressed shallowly.
Level 3	5-6	Expect thorough description of at least two tests of quality and their associated equipment, including use (e.g. pH strips; filter solids..). Indicators to be explicit. Good answers will refer to site selection and sampling. Detailed and comprehensive account.

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Question Number		Indicative content
1 (d) **Type 1 item**		Naming of dam and/or reservoir required for credit exceeding L2+ (4 marks) e.g. Three Gorges Dam; Kielder reservoir … Accept local, more obscure examples. Explanation required for L3 responses. Advantages offered likely to include : HEP, irrigation, flood control, water supply, regulated flow, navigation, leisure opportunities .. (depending on choice of structure) with explanation hopefully. Disadvantages likely to include : building cost, displacement & re-settlement, land loss from drowning, ecosystem disturbance, depositional landforms damaged, encourages water use … Advantages and disadvantages required for L2+ credit and beyond; maximum of 6 if not named.
Level	Mark	Descriptor
Level 1	1-3	Expect either a simple two-sided response or a reasonable one-sided effort (i.e. advantages or disadvantages) either generic or case-specific.
Level 2	4-6	Expect either a balanced, generic response or a case-specific response in which advantages/disadvantages lack explanation/detail/range. Unbalanced but strong on one-side, maximum 5.
Level 3	7-9	Expect a balanced case study-style answer dealing with a range of advantages/disadvantages in an explanatory fashion.

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Question 2 – Coastal environments

Question Number	Answer	Mark
2 (a)(i) Type 3 items	1. beach (1) 2. cliffs (1) N.B. 1. beach only required	**2(2x1)**

Question Number	Answer	Mark
2(a)(ii) Type 2 item	Credit any two recognised ecosystems as per Fig. 2a i.e. coral reef (1); (sand) dunes (1); mangrove or saltmarsh (1); estuary (1).	**2(2x1)**

Question Number	Answer	Mark
2(a)(iii) Type 4 item	B. sediment supply	**1**

Question Number	Answer	Mark
2(b)(i) Type 2 item	Full and accurate definition = 2 marks e.g. a river mouth widening into sea (1) where freshwater and sea water mix (1) tidal effects felt (1) … Part or single-point definition = 1 mark.	**2**

Question Number	Answer	Mark
2(b)(ii) Type 1 item	Award 1 mark to each of stages in process depending on beach location e.g. low coast beach with debris moved onshore : loose material available – sand/gravel (1); waves move material/swash effect (1); deposition when wave energy drops (1); backwash/longshore drift extend beach (1). e.g. wave-cut platform beach: erosion; fallen material disaggregates (1); cliff retreats (1); beach material produced in situ (1). Accept beach on spit but max of 3 if focus on spit formation. Response in text and/or diagram.	**4**

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Question Number	Answer	Mark
2(b)(iii) Type 1 item	2 marks available for each way offered. Merely stating/identifying valid way = 1 mark e.g. tourism (1); deforestation (1); industrialisation (1) … Award 2nd mark in each case if way developed e.g. tourism (1) – divers damage coral reef by breaking off coral as souvenirs (1); trampling damages sand dune vegetation (1) ; deforestation (1) – for aquaculture/prawn ponds damage mangrove (1). N.B. expect reference to type of ecosystem threatened for max marks in each case. Ecosystem to be implicit. Distinctiveness rule applies.	**4 (2+2)**

Question Number		Indicative content
2(c) Type 1 item		This item looks for a description of the practical fieldwork needed to gather data about beach profiles and/or beach sediment characteristics (as per spec). Max for beach plan/profile or sediment analysis or combination of both. Max of L1 if other aspects e.g. vegetation. Credit references to site selection (e.g. transect; transect interval ..), identification of equipment (e.g. clinometer; tape measure; ranging poles; sediment size chart ..) and equipment use description (e.g. systematic sampling for profile; random sampling using quadrat for sediment analysis). Recording of collected data to receive limited credit and not needed for max marks. Accept use of GIS (Google Earth) for profiles. Annotated diagrams to receive reward but text needed for Level 3 marks.
Level	Mark	Descriptor
Level 1	1-2	Expect some basic points about aspects of the collection process (e.g. measured sediment size using ….; did it at various places…) or description deals only with one of site selection, equipment identification or equipment use.
Level 2	3-4	Expect nature of data collected (e.g. beach angle; sediment size ..) and equipment used to be explicit, and a "sense" of ensuing data/results.
Level 3	5-6	Expect aspects of each of beach variables, equipment and its use to be explicit. Focus on collection tasks needed. Expect a "feel" of actual fieldwork undertaken. May refer to site selection, e.g. transect choice considerations.

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Question Number		Indicative content
2 (d) **Type 1 item**		This is a case-study item seeking knowledge and understanding of a named coral reef and/or mangrove stand management scheme. Good responses will address not only practice and policy in detail but also refer to the ecosystem threats (e.g. pollution; tourism; anchorages...) that they are intended to minimise. Expect naming to be either organisational (e.g. Soufriere Marine Management Area, St. Lucia; South West Tobago Marine Reserve …) or reef (e.g. Great Barrier...) or mangrove stand (e.g. Port Douglas, Queensland...). MPAs (Marine Protection Areas) and reef management traditionally focuses on zoning, fisheries management and research/education (e.g. Bahamas Reef Environmental Education Foundation). No named area maximum 6.
Level	Mark	Descriptor
Level 1	1-3	Expect shortlist of simple, generic statements e.g. protect from tourists; create MPA; have rules and regulations; police the area; educate people to conserve area...
Level 2	4-6	Expect either long-list of simple generic statements or some development of limited range of management actions e.g. rule banning coral exports by tourists... Outline explanation of work of an MPA.
Level 3	7-9	Expect either a number of developed management actions generic to reefs/stands (L3-/7 marks) or for better reward a case-study style response based on the work of a named MPA agency. Top responses will also refer to the environmental threats management aims to mitigate.

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Question 3 – Hazardous environments

3 (a)(i) Type 3 item	South-west (SW) (1); west or westerlies (W) (1). Accept – blowing north-easterly (1); SW > NE (1).	**1**

Question Number	Answer	Mark
Question Number	Answer	**Mark**
3 (a)(ii) Type 4 item	B. south-east	**1**

Question Number	Answer	Mark
3 (a)(iii) Type 2 item	Credit any attempt to indicate that situation would have differed e.g. ash not over UK (1); no ash (1); ash blown to north of UK (1); ash over N. Pole (1)...	**1**

Question Number	Answer	Mark
3(a)(iv) Type 2 item	Accept any up to two feasible and distinctive, including linked impacts e.g. air travel disruption (1); planes cannot fly (1); travellers stranded (1); loss of tourist income (1); import/export difficulties (1); ash falls to ground (1); ash cloud blocks out sunlight (1); less sunshine/darker skies (1)...	**2 (1+1)**

Question Number	Answer	Mark
3(b)(i) Type 2 item	Award max marks where definition is full and accurate e.g. an erupting volcano or one likely to/capable of erupt (1) ejecting material (1) currently/at any time/in the near future (1). Part-definitions to be given 1 mark e.g. an erupting volcano (1); ejections of lava... (1).	**2**

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Question Number		Indicative content
3(b)(ii) **Type 1 item**		Max marks available for pure text, pure diagram or combination of text & diagram answers. It is hoped that candidates will recognise Iceland's position on the Mid-Atlantic Ridge and understand the processes operating along such constructive plate boundaries. Based on use of Figure 3.
		Answer
	4	Award 1 mark for each of the following stages in the formation sequence :
		Identification of Mid-Atlantic Ridge (1); separating plates idea/constructive margin (1); rising lava fills gap between plates/upwelling (1); lava accumulates/shield volcano... (1)

Question Number	Answer	Mark
3(b)(iii) **Type 1 item**	Award 2x1 marks for identifying 1-2 valid and distinctive factors e.g. volcanic soil (1); geothermal energy (1); birthplace (1); risk awareness (1); attractive landscape…(1) In each case award 2nd mark where factor developed into reason for living there e.g. volcanic soils (1) fertile/high crop yields (1); attractive landscape (1) make money from tourists (1); risk awareness (1) stay because ignorant of risk (1).	**4(2+2)**

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Question Number		Indicative content
3(c) **Type 1 item**		This is a fieldwork question where the focus is on the practicalities and mechanics of measuring and recording two identified weather elements, wind (speed and direction) and temperature. Both traditional instrumentation (i.e. anemometers; wind vanes/socks; Stevenson Screen thermometers) and modern e-measurement is acceptable for description. Measuring site selection, descriptions of equipment use and reference to data recording (e.g. logging sheets; spreadsheets; tables…) are expected.
Level	Mark	Descriptor
Level 1	1-2	Expect instrument-weather element naming (e.g. anemometer for wind speed) but limited reference to procedures of collection or recording. Accept outline statements about e-measurement, micro-climate recordings using appropriate portable equipment or references to secondary data collection.
Level 2	3-4	Expect some description of procedures (including micro-climatic and e-measurement). For one element only, expect thorough reference to data collection procedures with max. of L2+ (4 marks) if recording covered. Outline descriptions of both element's collection (e.g. read the thermometer scale and wrote down …) acceptable.
Level 3	5-6	Expect both elements addressed with their measuring instruments and description of procedures for accurate collection (e.g. anemometer in open; max and min temperatures recorded at same time each day...). Reference to recording required e.g. logging sheet. Sound description of process of e-measurement and recording or micro-climatic practical enquiry.

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Question Number		Indicative content
3(d) **Type 1 item**		The response should relate to either volcano or earthquake management, in particular to one named eruption or earthquake event. Accept a tsunami event. Good answers will evaluate how effectively they were managed. Expect reference to prediction, to the pro-active preparations made to reduce impact (e.g. earthquake-proof buildings) and to preparations for effective reactive management (e.g. emergency services). Case-study material preferred, especially re actual event (e.g. Boxing Day 2004 tsunami; Japanese March 2011 earthquake & tsunami...). Fully accept also case-study material for hazard-prone areas in general e.g. Japanese earthquake management. Limit purely generic responses on tectonic management to L2 marks. Comments from the opinions survey on hazard management fieldwork very relevant.
Level	Mark	Descriptor
Level 1	1-3	Expect simple statements about basic tectonic management procedures to mitigate impact e.g. preparations such as shelters; emergency aid; building design...
Level 2	4-6	Expect some evaluative comments in relation to preparation and practices (e.g. well prepared for event; low death toll; prediction difficult but buildings withstood tremors…). Sound answers but where event in location where little or no hazard management. Needs to relate to specific event and cover some hazard management techniques.
Level 3	7-9	Expect strong evaluative tone re the effectiveness of the management strategies/practices e.g. Christchurch coped fairly well because emergency services well resourced but better building design would … Balanced response including positive and negative aspects of hazard management. Expect both pro-active and reactive management addressed, esp. at top of level. Case-study style material expected. Justification for comments expected at top of level.

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Section B People and their environments

Question 4 – Economic activity and energy

Question Number	Answer	Mark
4(a)(i) Type 4 item	77	**1**

Question Number	Answer	Mark
4(a)(ii) Type 4 item	Primary	**1**

Question Number	Answer	Mark
4(a)(iii) Type 2 item	Fell/decrease or equivalent in data e.g. 33 > 22%(1)	**1**

Question Number	Answer	Mark
4(a)(iv) Type 1 item	Award 1 mark for either valid de-industrialising area named e.g. Manchester (1); South Wales (1) expect town/city or region) or for term, de-industrialisation (1). Reserve 2 description marks for one valid effect with 1 mark for basic point and 2nd mark for development e.g. high unemployment (1) > male unemployment (1) or poverty/deprivation (1); derelict run-down open spaces (1) > empty former factories (1) or unemployment (1) > but people moved into tertiary work (1)…	**3**

Question Number	Answer	Mark
4(b)(i) Type 2 item	Point mark (3x1) with 1 mark per valid informal sector characteristic e.g. self-employed (1); irregular hours (1); casual status (1); tax-free (1); no employment rights (1); no documentation/registration (1); might be illegal (1); no state benefits (1)…	**3**

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Question Number	Answer	Mark
4(b)(ii) Type 1 item	Mark on a 2+2 primary: informal basis allowing 3+1/1+3 in special circumstances where one done particularly well. Award 1 mark per valid factor e.g. Primary: traditional rural societies (1); pre- or early industrialisation (1); little agricultural mechanisation (1); farming only work available (1)... Informal: large migrant population in urban areas (1); slow economic development (1); government bureaucracy less developed (1); no benefits/welfare safety net (1)… Developed factors e.g. little agricultural mechanisation > large farm-working population in primary sector (2); slow economic development > small formal job creation…	**4**

Question Number	Answer	Mark
4©(i) Type 2 item	Reserve 1 mark for plotting of each statement. For mark expect 3 bars plotted with reasonable accuracy e.g. 6 = disagree slightly taller than 4 = don't know for statement 5. The 4 other plots are straightforward re axis points i.e. 20,25,5 & 40.	**2(1+1)**

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Question Number		Indicative content
4(c)(ii) **Type 1 item**		The question is assessing data analysis and evaluation skills and is expecting better candidates to be able to go beyond the simple bar by bar reading and delve into the broad pattern of the renewable versus non-renewable debate. Max of Level 1 for those simply writing out the general view per statement. Be aware that candidates might go for a list approach where a developed conclusion worthy of 2 marks (therefore, 3 such conclusions = Level 3). Accept some commentary on nature of questionnaire survey (e.g. sample size of 50...) Overall the respondees like renewables (esp. re warming & clean air) but there are some mixed feelings and a strong don't-know element over efficiency, sustainability and unsightliness. Own fieldwork conclusions suggestive of L2 & L3.
Level	Mark	Descriptor
Level 1	1-2	Expect comments to focus on a statement by statement approach e.g. most thought renewables help with global warming ….
Level 2	3-4	Expect some reference to the broad pattern in the type of energy source debate e.g. renewables generally popular; five statements support renewable use; pros and cons of both renewables and non-renewables... Expect a good range of statements referred to and some reference to numbers in support or otherwise.
Level 3	5-6	Expect genuine attempt to draw overall conclusions e.g. renewables supported on environmental grounds but their inefficiency recognised. Numerical support for conclusions will be given and the degree of support or otherwise referred to (e.g. almost everyone thought - 46/50 - renewables offered cleaner air...) Top responses will also notice large numbers of undecided e.g. statement 5, and may attempt to justify views expressed (e.g. mining accidents re statement 5). May compare with own fieldwork findings.

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Question Number		Indicative content
4(d) **Type 1 item**		This case-study item looks for an explanation of the location and growth of one high-tech industry such as pharmaceuticals, biotechnology, electronic goods, motor vehicles … (e.g. Mini assembly, Oxford; Ipad assembly, China ..). Good answers will deal with both location e.g. M4 corridor... and growth i.e. more output; more employees … Key explanatory factors are likely to be highly-skilled labour, R&D and universities, low-cost labour for mass production, operations of TNCs, access to motorways and airports, multiplier effects, clustering, government policies (e.g. tax incentives ..) .. Growth factors might be broad-based e.g. advertising; fashion/trend; price... Focus on hi-tech. Accept examples where not all stages of chain involve manufacturing, e.g. R&D.
Level	Mark	Descriptor
Level 1	1-3	Expect a limited range of isolated factors with answer focussing on general development of the industry and location-growth distinction blurred. Factors likely to be broad and generic.
Level 2	4-6	Expect some development of a number of key factors pertinent to named industry. Location-growth distinction likely to be sharper with some reference to growth factors emerging towards top of level.
Level 3	7-9	Expect location description and a range of well-developed relevant factors influencing that location and the industry's growth there. Both aspects of question addressed with distinction between them evident. Expect a case-study style detail.

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Question 5 – Ecosystems and rural environments

Question Number	Answer	Mark
5(a)(i) Type 3 item	A. food shortage (1) B. fewer working hours (1)	**2(1+1)**

Question Number	Answer	Mark
5(a)(ii) Type 2 item	Credit up to any two valid ways e.g. fewer pesticides available/cannot afford pesticides (1); fewer animal vaccinations (1); more pests because less attention to animal/crop welfare/less cattle feed so less resistant disease (1)…	**2 (1+1)**

Question Number	Answer	Mark
5(a)(iii) Type 4 item	C. Subsistence (1)	**1**

Question Number	Answer	Mark
5(a)(iv) Type 2 item	Accept any observation from Figure 5a that matches definition of subsistence i.e. low productivity (1); rural poverty (1); low farm investment (1); low income (1).	**1**

Question Number	Answer	Mark
5(b)(i) Type 1 item	Adopt 3 x 1 marking strategy for linked explanation e.g. Little food so mortality rises (1) so population drops (1) young and/or old die changing age-structure (1) malnutrition a push factor (1) > out-migration to urban area (1) > rural depopulation/loss of working-age population (1)	**3**

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Question Number		Indicative content
5(b)(ii) **Type 1 item**		The ways of increasing food production in LICs expected are: introduction of irrigation; development of glasshouses; GM crops; green revolution initiatives, especially HYVs; hydroponics (without soil); intermediate technology initiatives...
		Answer
	4 (2+2)	Award 1 mark for identifying a valid way of raising production, perhaps from list above. Accept other valid and distinctive ways.
		2nd marks available in each case where factor developed, especially if it clarifies how production is actually raised e.g. glasshouses (1) speed up growth so more crops harvested per year (1).

Question Number	Answer	Mark
5(c)(i) **Type 1 item**	Credit each valid labelled arrow up to max of 2 (e.g. sheep droppings into soil (1); bees from corn to corn (1); soybeans taking nitrogen from air through roots to soil (1); weeds drawing water/nutrients away from crops (1)).	**2 (1+1)**

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Question Number		Indicative content
5(c)(ii) **Type 1 item**		This item requires candidates to understand the concept of a farming system/farm as an ecosystem (i.e. interactions, including between living components) and to apply this concept to their completed Figure 5b e.g. soil inputs and outputs with plant growth balanced by nutrient inputs from dead plants. Marks to be awarded for the quality of the evidence supporting the one conclusion that the farm is a system/ecosystem. Expect better candidates to introduce the ecological input, process and output idea but accept ideas of an economic system with fertiliser inputs paid for by market sale of outputs. Top responses to indicate that there is limited evidence shown so more fieldwork evidence is needed. Accept own fieldwork observations, e.g. comparisons.
Level	Mark	Descriptor
Level 1	1-2	Expect a few very simple relationships/observations e.g. soil provides nutrients for crops; animal waste fertilises soil and improves crop growth; animal waste can spread disease to other animals. Avoid credit direct and undeveloped "lifts" from Figure 5b but expect focus on labelled arrows.
Level 2	3-4	Expect either some explicit clarification of the term, farming system or some reference to the input, process and output idea. Relationships will be explicit, wider-ranging and go beyond the labels e.g. the role of rain.
Level 3	5-6	Expect clear understanding of the farm as a system to be explicit, the use of inputs (e.g. soil nutrients; rain...) affecting outputs (e.g. crop yield ..) and a series of thorough working relationships. Top responses to point out need for further fieldwork.

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Question Number		Indicative content
5(d) **Type 1 item**		This is a case-study question seeking the reasons why a named national park or protected area was awarded special conservation/protection status. Accept any recognised National Park in UK or worldwide and any of the several kinds of protected area e.g. wildlife sanctuaries, marine parks, SSSIs...; the key is any area where regulations/laws limit human exploitation of resources. Candidates should be writing about their chosen area's landscape and ecological value, biodiversity, its cultural value, its accessibility for recreational use by visitors, its need for socio-economic support... Better candidates may refer to the need for conflicts of interest to be managed. No valid named area maximum of L2+(6). Expect detail of natural beauty, especially for top level.
Level	Mark	Descriptor
Level 1	1-3	Expect reference to basic features of an aptly named area e.g. natural beauty... or broad generic statements of intent e.g. biodiversity conservation...
Level 2	4-6	Expect some clear reasons behind the decision to award conservation status to named area e.g. sound descriptions of landscape and area's physical geography. For top of level expect more than purely natural/ecological value.
Level 3	7-9	Expect explanation of a range of special characteristics, perhaps uniqueness that needs preserving that the area possesses. Top answers will also offer some indication of what conservation status offers i.e. management, laws/regulations... Answer to have clear case study feel with clear match between characteristics offered and area named.

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Question 6 – Urban environments

Question Number	Answer	Mark
6(a)(i) Type 4 item	B. congestion (1)	**1**

Question Number	Answer	Mark
6(a)(ii) Type 2 item	Tall or multi-storey buildings (1); high-rise (1)	**1**

Question Number	Answer	Mark
6(a)(iii) Type 1 item	Award 1 mark to each valid and distinctive problem e.g. high crime (1); pressure on services (1); shanty towns (1); unemployment (1); labour shortages (1); limited public transport (1); lower environmental quality (1); limited drainage and sewerage (1); rising poverty (1); disease (1); high property prices (1)… N.B. problem needs to implicit (caution with one-word answers e.g. poverty).	**3 (3x1)**

Question Number	Answer	Mark
6(a)(iv) Type 3 item	Mega-city (1)	**1**

Question Number	Answer	Mark
6(b)(i) Type 1 item	Allow 1 mark for basic clarification of each term: brownfield site (e.g. previously used for (1); derelict (1)); greenfield site (e.g. no previous building (1); farmland or wooded (1); never used (1)). Expect difference between two types to be explained/explicit for award of max marks e.g. recycled land as opposed to land not built on previously. 3rd mark could also be for valid example e.g. factory clearance on brownfield site or comparative comment so difference explicit.	**3**

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Question Number		Indicative content
6(b)(ii) **Type 1 item**		This item calls for knowledge and understanding of the changing nature of HIC inner city areas. The best answers need description of traditional HIC inner cities e.g. social deprivation; poverty; crime; unemployment and recent HIC inner city redevelopments i.e. renewal and regeneration schemes re housing, leisure, retail… (e.g. apartment blocks; shopping malls; sporting complexes…). Descriptions of the changing fortunes of an actual inner city area e.g. Stratford, East London and the 2012 Olympic developments likely to be max. Maximum 2 if no change.
		Answer
	4	Award up to 2 marks on a points marking basis to traditional inner city area descriptions e.g. social deprivation (1); derelict, run-down spaces (1); dirty rivers (1); old factories (1); high unemployment (1)…
		Award 2-3 marks on a points marking basis for descriptions of recent redevelopments to renew, regenerate and re-brand the area e.g. new international sports facilities (1); major retail complexes (1); gentrification of residential areas (1) > smarter houses (1) social class shift (1); canal redevelopment schemes (1)… Areal descriptions of the new inner city e.g. Salford Quays likely to be worth 3 marks with max if what came before also given. 3-4 marks must show change.

Question Number	Answer	Mark
6(c)(i) **Type 2 item**	Award 1 mark for each accurate plot i.e. sites 4 (1) and 5 (1). No further mark if candidates plot curve.	**2(1+1)**

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Question Number		Indicative content
6(c)(ii) **Type 1 item**		This item is intended as an assessment of the candidate's ability to analyse and conclude on collected and presented fieldwork data (i.e. Figures 6b and 6c). Total EQ scores reveal a pattern of high CBD core environmental quality, falling to the CBD edge before starting an upward trend from the inner city towards a suburban peak. Good candidates will identify this broad pattern and refer to the three underlying EQ indicators (i.e. street cleanliness; building appearance; building occupancy) that cause the pattern. Three full conclusions supported by data (e.g. low EQ on CBD edge with empty buildings and fairly dirty streets) or full pattern identified and supported = Level 3. Accept support from own fieldwork.
Level	Mark	Descriptor
Level 1	1-2	Expect either an outline pattern (e.g. EQ goes down from CBD then up towards suburbs) or individual reading of some data collection site EQ scores or a couple of broad comments e.g. it is uneven; pattern same for total and each individual indicator.
Level 2	3-4	Expect either a full pattern description as in indicative content above or two full conclusions on individual sites using underlying indicator scores or broad comments e.g. unevenness; rises with distance from CBD; pattern same for all columns.
Level 3	5-6	Expect the full pattern description with good reference to underlying indicator scores or three full conclusions (see indicative content). May be reference to own fieldwork. Expect reasons for conclusions.

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Question Number		Indicative content
6(d) **Type 1 item**		This HIC-LIC comparative item about rural-urban fringes requires candidates to be familiar with shanty towns/squatters on LIC city fringes and higher-income housing, leisure facilities and retail complexes/business parks/industrial estates on HIC city fringes. Reasons behind this difference are sought i.e. rural-to-urban migration, uncertain land ownership and less developed infrastructure in LICs; suburbia, building and car park space and road transport access in HICs. Accept references to bid-rent and land values, and planning regulations or none. Examples of developments and reasons applicable to named cities e.g. peripheral shanty towns around Mumbai; Meadowhall retail centre on edge of Sheffield. Accept that LIC knowledge restricted to shanty towns.
Level	Mark	Descriptor
Level 1	1-3	Expect either the basic HIC-LIC difference (i.e. shanty towns versus retail complexes etc...) or an outline account of developments around either HIC or LIC cities.
Level 2	4-6	Expect identification of developments around both HIC and LIC cities and outline reasons for both or sound explanation of one of the locations (HIC or LIC).
Level 3	7-9	Expect both the developments and reasons for HIC locations to be sound and comprehensive with some depth of explanation. Shanty town locations developed. Named examples may be offered at this level. Expect reasons for differences to be explicit.

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Section C Global issues

Question 7 – Fragile environments

Question Number	Answer	Mark
7(a)(i) Type 2 item	Accept 28 (1), 29 (1) or 30 (1) billion tonnes	**1**

Question Number	Answer	Mark
7(a)(ii) Type 4 item	C. fossil fuel burning (1)	**1**

Question Number	Answer	Mark
7(a)(iii) Type 2 item	Increase/rise (1) or equivalent	**1**

Question Number	Answer	Mark
7(a)(iv) Type 2 item	Credit up to any two valid changes e.g. more extremes (1); stronger storms (1); droughts (1); changing rainfall patterns (1); seasonal shifts (e.g. earlier UK spring) (1) .. Accept valid place-specific changes e.g. irregular Indian monsoon (1)	**2(2x1)**

Question Number	Answer	Mark
7(b)(i) Type 2 item	Accept up to any two recognised natural causes e.g. orbit changes (1); volcanic dust/volcanoes (1); solar activity/sunspots (1)...	**2(2x1)**

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Question Number		Indicative content
7(b)(ii) **Type 1 item**		This item is about climate change mitigation (i.e. acting to reduce the effects of global warming) based on the view that big cuts in carbon emissions will be needed; see Figure 7a where Forecast 3 would need to apply. Such cuts will be difficult to implement. Candidates should refer to threats to economic growth and living standards in HICs, climate change deniers, failure of emerging economies to agree to sacrifice consumption, difficulty in changing habits, inefficiency of alternative energy sources viz-a-viz fossil fuels, sheer size of cuts needed … N.B. climate change adaptation not acceptable.
	Mark	Answer
	4	Award 1-2 marks for appropriate reference to Figure 7a e.g. need to cut emissions (1); 33% cut in 2010 emissions by 2035 (1) ..
		Award 2-3 marks for arguments around economic growth, emerging economies and alternative energy sources. Point mark but award 2 marks for developed point e.g. BRICS countries unwilling to cut (1) when they not responsible for most of increased emissions (1).

Question Number		Indicative content
7(b)(iii) **Type 1 item**		This item is about climate change adaptation (i.e. acting to tolerate the effects of global warming) by asking for a description of the adaptations that might be made if we are to live with the consequences of global warming and climate change. Answers should vary according to the location being discussed. In a UK context valid comments might include new drought-resistant crops being planted; hotel-building as sea-and-sun holiday possibilities grow; changed house design to accommodate heatwaves better; water transfer to semi-arid areas; adopt new clothing styles; environmental refugees being allowed to immigrate … N.B. climate change mitigation not acceptable.
	Mark	Answer
	4	Award up to 2 marks for generic changes on a point marking basis e.g. grow different crops (1); build houses differently (1); use less water (1)... Changes to be distinctive.
		Reserve 2 marks for description/development of basic changes e.g. Mediterranean-type agriculture such as vines better suited to increased summer heat. Two developed statements of change = max marks.

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Question Number		Indicative content
7(c) **Type 1 item**		Candidates may gain some credit for responding to the photographic image i.e. Figure 7b which suggests migration and changing settlement patterns, and no agricultural possibilities. It is hoped that they will be stimulated into writing about reduced agricultural output, soil erosion, malnutrition, famine and refugees (e.g. sand covers roads and farmland > cannot farm or travel and lose home > migrate > refugee camps > attempt to cross borders...). Good candidates may also refer to the nature of desertification i.e. soil erosion and spreading deserts rendering an area into one of little human use. Examples from Sahelian countries may be offered.
Level	Mark	Descriptor
Level 1	1-2	Expect basic observations from the photographic image e.g. abandoned; farming impossible; drought
Level 2	3-4	Expect some explanation of consequences inferred from the image presented as isolated statements e.g. water shortages/farming difficulties > refugees; malnutrition/famine as harvests fail…
Level 3	5-6	Expect a comprehensive and linked account of the problems facing a recently desertified area i.e. soil lost > agriculture fails > people malnourished and hungry > people homeless and migrate > some starve > refugee camps. Named place examples and the desertification process may feature at this level. Well-made linked explanation.

Question Number		Indicative content
7(d) **Type 1 item**		This case-study question of a named threatened tropical rainforest expects candidates to be able to explain the following main causes of deforestation i.e. commercial timber extraction and use of the cleared land for agriculture, settlements (especially for former city dwellers), mining and transport routes. Amazonia, Indonesia and West Africa are likely locations of the offered case study material. No area named max of L2.
Level	Mark	Descriptor
Level 1	1-3	Expect relevant causes as generic factors or one cause developed (e.g. Brazil wants money so cuts trees for export)
Level 2	4-6	Expect some explanation of the key causes addressed in a generic manner or a case-study approach with a limited range of factors (e.g. timber wanted for export; space wanted for crops and new settlements because population growing).
Level 3	7-9	Expect case-study material set in named location with explanation of a range of key causes.

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Question 8 – Globalisation and migration

Question Number	Answer	Mark
8(a)(i) Type 3 items	1. Europe (1) 2. Accept either East Asia/Pacific (1) or Middle East (1)	**2(2x1)**

Question Number	Answer	Mark
8(a)(ii) Type 2 item	1. Americas (1) 2. accept any valid reason e.g. security fears (1); competition from new destinations (1); exchange rate changes (1); other regions have opened up to mass tourism (1)..	**2(2x1)**

Question Number	Answer	Mark
8(a)(iii) Type 2 item	Increase or rise (1) or equivalent	**1**

Question Number	Answer	Mark
8(b)(i) Type 2 item	Award 2 marks to full and accurate definition e.g. people moving home (1) because they choose to (1). Expect reference to both migration and voluntary for max. 1 mark responses will be part-definitions, perhaps dealing with voluntary only i.e. moving when not forced (1). Accept economic migrants (1).	**2**

Question Number	Answer	Mark
8(b)(ii) Type 1 item	Award 2 marks to push factors and 2 marks to pull factors. In each case, 1 mark reserved for clarifying the term (e.g. a negative reason about living where you are (1) or expressed by example such as drought (1)) with 2nd mark for explaining its migration effect (e.g. to force you to leave (1) or to attract you into a place (1) for pull factor). Award 1 mark if basic point i.e. lots of push and/or pull then migration occurs. Accept e.g.s as explanation.	**4(2+2)**

Question Number	Answer	Mark
8(b)(iii) Type 1 item	Expect answers to focus on immigration management though accept emigration issues. 1 mark for each stated valid and distinctive issue (e.g. illegal immigration (1); controlling numbers (1); refugee and asylum-seekers (1); hard to get balance right (1) ….). Award 2nd mark in each case if issue developed/explained (e.g. economy needs migrant labour (1); compassion (1); EU membership (1)...)	**4(2+2)**

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Question Number		Indicative content
8(c) **Type 1 item**		This item requires candidates to know and understand the rise of the global economy (economic globalisation and interdependence), the global shift in manufacturing and the changing role of China and/or India as emerging economies /NICs in world manufacturing and global development. The photographic image should stimulate of these countries becoming the manufacturing workshop of the world and having a major role in world trade, especially goods exports. Reasons offered for this changing role are likely to include labour costs & outsourcing, massive domestic populations (40% of global) & big markets, government policies, foreign investment, modern transport, large local markets, supplies of resources and raw materials … Better candidates may link the rise of the manufacturing capacity of these two countries to the rise of the global economy seeking to define the latter and explain both. No case study knowledge required for L3.
Level	Mark	Descriptor
Level 1	1-2	Expect basic comments about the changing role of India or China globally e.g. playing a big part; industrialising; exporting manufactures; growing rapidly; taking over…
Level 2	3-4	Expect some attempt to explain this rise and growth e.g. cheap labour; government support... May refer to global shift and role of TNCs (HIC & their own) in relocating production.
Level 3	5-6	Expect some well developed reasons for the economic rise of China and/or India on the back of global shift in manufacturing. May develop the global economy concept and its rise.

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Question Number		Indicative content
8(d) **Type 1 item**		This can be a case-study item. Candidates should be aware of various attempts to make tourism more sustainable e.g. ecotourism projects; measure carrying capacity; better coastline planning; cleaner beaches; reducing water consumption and laundry washing in hotels .. as well as having access to a named sustainable tourism development e.g. Galapagos Islands, Bhutan… Accept sustainable tourism developments in a national park e.g. limit visitor damage; job creation for local residents… Better answers need to directly address this issue of sustainability, what it is (both environmental & economic) and how it is being increased.
Level	Mark	Descriptor
Level 1	1-3	Expect relevant initiatives identified or one example of such a named sustainable tourism scheme outlined or sustainability ideas covered (e.g. the three-legged sustainability stool).
Level 2	4-6	Expect a sound attempt to deliver a case-study example or a range of generic attempts offered. Increasing sustainability needs to be present, especially at middle/top of level i.e. minimising environmental impact; lasting into the future. Expect some evidence of explanation (explaining how more sustainable).
Level 3	7-9	Expect clear evidence of explanation for a range of generic initiatives and/or one named case study how sustainability enhanced. Case study not essential for max marks but likely to be a feature of such answers.

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Question 9 – Development and human welfare

Question Number	Answer	Mark
9(a)(i) Type 3 item	67 years (1)	**1**

Question Number	Answer	Mark
9(a)(ii) Type 3 item	1. HIC (1). 2. LIC (1).	**2(2x1)**

Question Number	Answer	Mark
9(a)(iii) Type 2 item	1. Credit for – as healthcare spending rises life expectancy rises – or equivalent including : both go up together (1), positive correlation(1) 2. Accept – Japan (1); Spain (1); USA (1).	**2(2x1)**

Question Number	Answer	Mark
9(b)(i) Type 2 item	Award 2 marks for full and accurate definition e.g. production of goods and services within country in one year. Part-definitions e.g. a country's output (1); how rich country is(1)	**2**

Question Number	Answer	Mark
9(b)(ii) Type 1 item	Award up to 2 marks per indicator with 1st mark for identification (e.g. employment by sector (1); energy consumption (1); birth rate (1); death rate (1); infant mortality rate (1)...) and 2nd mark for either definition of term or description of how it indicates development (e.g. HICs consume more energy than LICs (1)). N.B. accept wide range of indicators including social e.g. democracy, womens' rights, nutrition, education … for 1st mark. Differentiate with 2nd mark. Distinctiveness rule.	**4(2+2)**

Question Number	Answer	Mark
9(b)(iii) Type 1 item	Award up to 2 marks per way with 1st mark for identification of valid and distinctive change (e.g. rise of BRICS (1); some LICs developing (1); importance of Gulf states (1); emergence of NICs/Asia Pacific (1); shift away from W Europe (1); more MICs in Africa (1) ..) and 2nd mark for developing the point (e.g. gas exports made Qatar richest per person country (1); exemplification such as "African Lions" or "Asian Tigers" (1); W Europe lost manufacturing jobs to Asia (1)). Full credit for reference to Figgure 9a. Statements of change required.	**4(2+2)**

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Question Number		Indicative content
9(c) **Type 1 item**		This item can be a case-study question. Candidates should be aware of the symptoms and causes of deprivation versus affluence at local scale/within urban areas, and have access to a case study of quality of life disparities within one named city. The photographic image should stimulate candidates to write about urban contrasts and disparities and the reasons that lie behind them (e.g. local government policies including failings; access to services; social segregation; industrialisation; rural-to-urban migration; low wages; high birth rate; ethnic groupings…)
Level	Mark	Descriptor
Level 1	1-2	Expect recognition that urban contrasts/disparities exist by stating relevant generic indicators, perhaps based on observations from the image e.g. housing quality; modern flats versus shanties; transport and services in places; rich people and poor people live in different areas according to what they can afford ...
Level 2	3-4	Expect some attempt to explain the existence of deprived urban areas (e.g. large rural-to-urban migration flows and inadequate housing; cheap housing around factories...) and affluent urban areas (e.g. local government built good physical infrastructure; wealthy business people congregate...) with each treated separately. One-sided answer maximum 3.
Level 3	5-6	Expect a series of genuine developed reasons for urban contrasts in terms of an overall city pattern (e.g. segregation of different socio-economic and ethnic groups; emergence of shanty towns of squatters in some locations; politicians and planners favouring developments in some localities...)

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Question Number		Indicative content
9(d) **Type 1 item**		This is a case study item. Accept any form of population management, including international migration (e.g. EU), internal migration flows and ageing population (e.g. Japan) but expect population reduction and birth control (e.g. Chinese one-child policy). Credit responses addressing more than one type of change e.g. ageing and immigration in UK (i.e. increase pension age; increasing geriatric care; immigration points system …). Named example needed for Level 3. No named country maximum 6.
Level	Mark	Descriptor
Level 1	1-3	Expect identification of relevant population change e.g. rapid population growth and basic points with regard to its management e.g. control births...
Level 2	4-6	Expect some explanation of population policy and practice. Policy may be multi-faceted e.g. birth control; trans-migration; rural development to discourage rural out-migration... Expect wider answers or deeper answers on one strand at top of level.
Level 3	7-9	Expect a case study style answer related to named country and addressing policy intentions and how it works in practice. Expect to read about more than one simple policy e.g. birth control. Evaluative comments on how the population issue is being managed by the policy needed for top of level.

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