



A-LEVEL

Geography

GEOG3 Unit 3 Contemporary Geographical Issues
Mark scheme

2030
June 2016

Version 1.0: Final Mark Scheme

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this Mark Scheme are available from aqa.org.uk.

GEOG3 General Guidance for GCE Geography Assistant Examiners

The mark scheme for this unit includes an overall assessment of quality of written communication. There are no discrete marks for the assessment of written communication but where questions are 'Level' marked, written communication will be assessed as one of the criteria within each level.

- Level 1:** Language is basic, descriptions and explanations are over simplified and lack clarity.
- Level 2:** Generally accurate use of language; descriptions and explanations can be easily followed, but are not clearly expressed throughout.
- Level 3:** Accurate and appropriate use of language; descriptions and explanations are expressed with clarity throughout.
- Level 4:** Accurate and mature use of language; descriptions and explanations are expressed coherently and confidently.

Marking – the philosophy

Marking is positive and not negative.

Mark schemes – layout and style

The mark scheme for each question will have the following format:

- a) Notes for answers (nfa) – exemplars of the material that might be offered by candidates
- b) Mark scheme containing advice on the awarding of credit and levels indicators.

Point marking and levels marking

- a) Questions with a mark range of 1-4 marks will be point marked.
- b) Levels will be used for all questions with a tariff of 5 marks and over.
- c) Two levels only for questions with a tariff of 5 to 8 marks.
- d) Three levels to be used for questions of 9 to 15 marks.
- e) Four levels to be used for questions of 40 marks.

Levels Marking – General Criteria

Everyone involved in the levels marking process (examiners, teachers, students) should understand the criteria for moving from one level to the next – the 'triggers'. The following general criteria are designed to assist all involved in determining into which band the quality of response should be placed. It is anticipated that candidates' performances under the various elements will be broadly inter-related. Further development of these principles will be discussed during the standardisation process. In broad terms the levels will operate as follows:

Level 1: attempts the question to some extent (basic)

An answer at this level is likely to:

- display a basic understanding of the topic
- make one or two points without support of appropriate exemplification or application of principle
- give a basic list of characteristics, reasons and attitudes
- provide a basic account of a case study, or provide no case study evidence
- give a response to one command of a question where two (or more) commands are stated e.g. “describe and suggest reasons”
- demonstrate a simplistic style of writing perhaps lacking close relation to the terms of the question and unlikely to communicate complexity of subject matter
- lack organisation, relevance and specialist vocabulary
- demonstrate deficiencies in legibility, spelling, grammar and punctuation which detract from the clarity of meaning.

Level 2: answers the question (well/clearly)

An answer at this level is likely to:

- display a clear understanding of the topic
- make one or two points with support of appropriate exemplification and/or application of principle
- give a number of characteristics, reasons, attitudes
- provide clear use of case studies
- give responses to more than one command e.g. “describe and explain...”
- demonstrate a style of writing which matches the requirements of the question and acknowledges the potential complexity of the subject matter
- demonstrate relevance and coherence with appropriate use of specialist vocabulary
- demonstrate legibility of text, and qualities of spelling, grammar and punctuation which do not detract from the clarity of meaning.

Level 3: answers the question very well (detailed)

An answer at this level is likely to:

- display a detailed understanding of the topic
- make several points with support of appropriate exemplification and/or application of principle
- give a wide range of characteristics, reasons, attitudes
- provide detailed accounts of a range of case studies
- respond well to more than one command
- demonstrate evidence of discussion, evaluation, assessment and synthesis depending on the requirements of the assessment
- demonstrate a sophisticated style of writing incorporating measured and qualified explanation and comment as required by the question and reflecting awareness of the complexity of subject matter and incompleteness/ tentativeness of explanation
- demonstrate a clear sense of purpose so that the responses are seen to closely relate to the requirements of the question with confident use of specialist vocabulary
- demonstrate legibility of text, and qualities of spelling, grammar and punctuation which contribute to complete clarity of meaning.

Level 4: answers the question with depth, flair, creativity and insight

In addition to the requirements of Level 3, an answer at this level is likely to:

- provide strong evidence of thorough, detailed and accurate knowledge and critical understanding of concepts and principles and of specialist vocabulary.
- give explanations, arguments and assessments or evaluations that are direct, logical, perceptive, purposeful, and show both balance and flair.
- demonstrate a high level of insight, and an ability to identify, interpret and synthesise a wide range of material with creativity.
- demonstrate evidence of maturity in understanding the role of values, attitudes and decision-making processes.

Annotation of Scripts

It is most important that examiners mark clearly, according to the procedures set out below.

- All marking should be done in red (except online marking).
- The right hand margin should be used for marks only.
- The overall mark for a question must be ringed at the end of the answer.
- The total mark for the question must be transferred to the front of the script.
- Where an answer is marked using a levels response scheme, the examiner should annotate the scripts with 'L1', 'L2', 'L3' or 'L4' at the point where that level has been reached in the left hand margin. In addition, examiners may want to indicate strong material by annotating the script as 'Good Level...'. Further commentary may also be given at the end of the answer. The consequent mark should then appear in the right-hand column. Where an answer fails to achieve Level 1, zero marks should be given.

Other mechanics of marking

- All errors and contradictions should be underlined.
- Various codes may be used such as: 'rep' (repeated material), 'va' (vague), 'NAQ' (not answering question), 'seen', etc.
- Use a wavy line to indicate weak dubious material (avoiding crossing out).
- If the rubric is contravened, then all answers should be marked, but with the best answer being counted and the mark transferred to the front of the script. Then cross out the material which has been discounted.
- Unless indicated otherwise, always mark text before marking maps and diagrams. Do not give double credit for the same point in text and diagrams.

Section A**Option 1 – Plate Tectonics and Associated Hazards**

01	<p>Notes for answers:</p> <p>The Hawaiian Island chain provides substantial evidence in support of hot spot theory. Figure 1 suggests that there is a plume of magma which is fixed beneath the surface of the Pacific Plate. The repeated eruptions of active volcanoes creates new land which rises out of the Pacific Ocean. This theory works in conjunction with plate tectonic theory. As the Pacific Plate moves north west under the force of convection currents, the volcanic islands move away from the plume and the volcanoes become extinct. Over time, erosion and weathering reduce the size of the volcanic islands. Essentially the islands further west are the oldest and the islands to the east are younger and still have active volcanoes.</p> <p>Mark scheme</p> <p>Level 1 (1-4 marks) Basic (mid point 3) Basic understanding of hot spot theory and evidence provided in Figure 1 to support this. Limited reference to plumes of magma linked to active volcanoes and extinct volcanoes to the north west. Limited awareness that older volcanic islands in the chain lie to the north west and vice versa.</p> <p>Level 2 (5-7 marks) Clear (mid point 6) Clear understanding of hot spots and the evidence provided in Figure 1 to support this. Clearly aware of the impact of the hot spot on the active volcanoes but also clearly aware of the plate movement which causes volcanoes to become extinct. Also aware of increasing age to the north west.</p>	[7 marks]
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02	<p>Notes for answers:</p> <p>Igneous intrusions such as dykes, sills, laccoliths and batholiths are all relict features of previous volcanic activity:</p> <p>Sills form when magma intrudes between rock layers, forming a horizontal or gently-dipping sheet of igneous rock. The intrusion will often remain beneath the surface of the rock only to be revealed when weathering of the surrounding rock (often less resistant) leaves the sill exposed. Whin Sill is a good example in the UK. It protrudes as a long narrow strip of rock on which Hadrian's Wall was built.</p> <p>Dykes form when magma pushes up towards the surface through cracks in the rock. Dykes are vertical or steeply-dipping sheets of igneous rock. These vertical intrusions often have horizontal cooling cracks. They cut across the bedding planes of the rocks into which they have been intruded. Dykes often occur in groups where they are known as dyke swarms. Many Scottish Islands, such as Mull and Skye, have clusters of dykes all associated with one intrusive event.</p> <p>Batholiths are large scale, deep-seated intrusions that form as magma slowly makes its way toward the surface. Dartmoor forms part of a large batholith that extends under Cornwall and beyond. The granite was intruded at depth into the surrounding sedimentary rocks during the Carboniferous period, probably about 309 million years ago. The present surface is not far below the original top of the intrusion.</p> <p>Some may support description and explanation with sketches. This is valid.</p> <p>There will be a trade-off between breadth and depth. Full marks are available for either one landform/feature or two or more features in appropriate detail.</p> <p>Mark scheme</p> <p>Level 1 (1-4 marks) Basic (mid point 3) Basic description which is likely to be partial and may confuse the different intrusive features and processes. Explanation is also basic and partial. Unlikely to refer to examples. May be unbalanced or only describe or explain.</p> <p>Level 2 (5-8 marks) Clear (mid point 6) Clear description with clarity on characteristics. May still be unbalanced at the bottom end. Both description and explanation must be present for Level 2. Explanation is clear and appropriate. May refer to named examples.</p>	[8 marks]
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03	<p>Notes for answers:</p> <p>This nature and impact will largely depend upon the case study chosen. Some may consider tsunami as impact of earthquake under water. This is acceptable.</p> <p>'Nature' should consider the characteristics of the event and include location, cause and scale.</p> <p>'Impacts' are likely to be separated into immediate and longer term and stronger responses will show a clear difference between the two.</p> <p>Some may classify impacts into social, economic and environmental. This is a valid approach.</p> <p>E.g. The Sichuan earthquake of 2008:</p> <p>The earthquake occurred 92 km northwest of the city of Chengdu in eastern Sichuan province and over 1500 km from Beijing, where it was also strongly felt. The magnitude was 7.9 on the Richter scale. The epicentre was in the mountains of the Eastern Margin of Qing-Tibet Plateau at the northwest margin of the Sichuan Basin. The earthquake occurred as a result of motion on a northeast striking thrust fault that runs along the margin of the basin.</p> <p>70,000 people died with over 350,000 reported as being injured. Major infrastructural damage occurred to buildings, roads and airports. All of the highways into Wenchuan, and others throughout the province, were damaged, resulting in delayed arrival of the rescue troops.</p> <p>Expect longer term impacts to consider the further deaths from injured people and also problems related to homelessness and economic losses related to the damage. These impacts should also be specific to the chosen case study.</p> <p>Discussion may compare impacts in contrasting locations.</p> <p>Mark scheme</p> <p>Level 1 (1-4 marks) Basic (mid point 3) Basic understanding of the nature of the earthquake which is largely generic. Basic impacts considered with little sense of place. Narrow range of impacts. Limited or no discussion.</p> <p>Level 2 (5-8 marks) Clear (mid point 6) Clear understanding of the nature which offers appropriate breadth and clarity, specific to the chosen earthquake. A range of impacts which are appropriate and specific to the chosen example. Clear discussion. May be unbalanced at the bottom end.</p> <p>Level 3 (9-10 marks) Detailed (mid point 9) Detailed understanding of the nature of the event with specific location</p>	[10 marks]
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	information and other factual information. A detailed range of impacts which are appropriate and specific to the chosen location. Detailed discussion.	
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Option 2 – Weather and Climate and Associated Hazards

04	<p>Notes for answers:</p> <p>Description should consider the atmospheric and environmental conditions which lead to photochemical smog creation. There are physical and human factors which combine to create the photochemical smog.</p> <p>Whilst smog can occur naturally, it is most common in cities where fossil fuels are burned, particularly petroleum. Transport, industry and domestic use are the main factors responsible for generating pollution such as nitrogen oxides and volatile organic compounds which leads to the formation of photochemical smog. Other chemical compounds include aldehydes and tropospheric ozone.</p> <p>However this on its own is not enough to create the photochemical smog. The weather is a strong contributing factor. When the weather is sunny, warm and dry with low wind speed (typical of high pressure anticyclonic conditions), photochemical smog is likely to be present as the sunlight reacts with the chemical pollutants. Areas with these hot climates are more likely to experience photochemical smog when combined with high population densities and widespread burning of fossil fuels. Ground level ozone is the main product of photochemical smog.</p> <p>Topography is also a contributing factor. Expect reference to basins and their contribution made to photochemical smog when other circumstances are evident. Some may refer to temperature inversions.</p> <p>Answer should refer to Figure 2 and the haze which is created with a visible yellow/orange sky line.</p> <p>Mark scheme</p> <p>Level 1 (1-4 marks) Basic (mid point 3) Description of the conditions is basic and / or partial. May consider only one of human or physical factors. Comment is basic or absent.</p> <p>Level 2 (5-7 marks) Clear (mid point 6) Clear description of the conditions shown in Figure 2. Considers both physical and human factors. Comment is clear and appropriate.</p>	[7 marks]
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05	<p>Notes for answers:</p> <p>Credit responses which consider general interrelated factors which create the climate of the British Isles but also those which consider variations within the British Isles.</p> <p>Expect to see reference to some of the following:</p> <ul style="list-style-type: none"> • Latitude – the relatively high latitude reduces the sun’s energy and leads to lower temperatures than found further south. This also creates the seasonal variations. • Relief – some may refer to the impact of relief which creates variation within the British Isles, particularly rainfall and temperature variation. • Ocean currents – The Gulf Stream and North Atlantic Drift create warmer conditions than would otherwise exist, given the relatively high latitude. • Prevailing winds and air masses – South-westerly wind brings warm, wet weather to the British Isles. Air masses also interact to create frequent depressions, another aspect of the climate. Air masses also create highly variable weather conditions. • Island – Surrounded by water, meaning generally higher rates of precipitation and the moderating effect of the sea on temperatures. • Reference to jet streams also permissible. <p>e.g. Prevailing south westerly wind picks up moisture as it crosses the Atlantic Ocean. This partially explains the increased propensity for rainfall as the air mass reaches land and rises (cooling and condensing). The same southwesterly wind also combines with the North Atlantic Drift which brings a warmer current of water than would otherwise exist at this latitude. This brings warmer temperatures in winter, but also this warm moist air meets other major air masses which then explains the formation of depressions.</p> <p>Mark scheme</p> <p>Level 1 (1-4 marks) Basic (mid point 3) Basic awareness of one or more factors. Listing with little attempt to relate any of the factors. There may be error or significant omission at the bottom end.</p> <p>Level 2 (5-8 marks) Clear (mid point 6) Clearly aware of two or more factors. Considers how these factors interrelate and interact e.g. in winter, the North Atlantic Drift and prevailing wind combine to produce higher temperatures than expected for the latitude, compared to other places of similar latitude.</p>	[8 marks]
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06	<p>Notes for answers:</p> <p>Some responses may consider a period of stormy conditions rather than an actual single date event. This is permissible. There should be specific information related to the actual causes of the event and impacts should offer a sense of place.</p> <p>October 2013 East coast storm:</p> <p>Causes: The storm was due to a fast-moving, vigorous Atlantic depression, bringing both very strong winds and heavy rain. Winds gusted widely at 50-60 knots (58-69 mph) and reached 60-70 knots (69-81 mph) across south-east England. The highest recorded gust speed was 86 knots (99 mph) in the Isle of Wight.</p> <p>Impacts: Most of the storm's impacts were due to damaging gusts of wind. Four people were killed in Kent, Watford and west London, mainly as a direct result of strong winds. There was severe disruption to transport networks with train services for commuters suspended for three days as a result of trees and other debris on the line, reduced flights from Heathrow and Gatwick, disruption on roads, and ferry services cancelled. Over 620,000 homes were left without power as branches brought down power lines. Amongst other impacts, the Helter-Skelter on Clacton Pier (Essex) was blown down.</p> <p>Some may classify impacts into social, economic and environmental or shorter/longer term. This is a valid approach.</p> <p>Mark schemes</p> <p>Level 1 (1-4 marks) Basic (mid point 3) Basic awareness of the causes which are largely generic offering basic information. Impacts also generic with little or no sense of place. Limited or no discussion.</p> <p>Level 2 (5-8 marks) Clear (mid point 6) Clear awareness of the causes of the storm with specific information about the causes. Impacts are also clear with an emerging sense of place. Clear discussion.</p> <p>Level 3 (9-10 marks) Detailed (mid point 9) Detailed awareness of the causes with information which is accurate. Impacts are detailed and highly specific with a strong sense of place. Detailed discussion clearly evident.</p>	[10 marks]

Option 3 – Ecosystems: Change and Challenge

07	<p>Notes for answers:</p> <p>For description, expect to see reference to the increased number of sightings of Japanese Knotweed in 2013-15 compared to 1983-5. In 1983-5 large areas of the country appeared to be unaffected by the weed. However, there were concentrations in a number of locations within the British Isles. Some may refer to the concentrations by geographical location or by county. Either approach is acceptable. Particular concentrations are found around the mouth of the River Severn, Suffolk, Shropshire, Cheshire and Staffordshire (or the northern part of the English / Welsh border). Smaller pockets were noted in Hampshire and towards the Western part of Cornwall. The rest of the sightings were fairly well dispersed. Many of the upland areas of the UK were unaffected as was most of Ireland (apart from a few coastal locations). By 2013-15 the number of sightings has dramatically increased. There were more sightings in Northern Ireland with the Republic of Ireland still largely unaffected. Some may note that the upland areas of Britain were still largely unaffected but there were generally very few areas unaffected. Some may concentrate on areas experiencing a large increase in sightings (such as the south east). Other may see a connection between the concentrations of knotweed and the areas of most dense population in Britain.</p> <p>Accept any reasonable description provided the focus is upon change.</p> <p>Comment is likely to consider the issues connected with managing this invasive species. The sightings in 2013-15 suggest that measures to control the growth of this species have been ineffective. The species are now affecting most parts of Great Britain and Northern Ireland.</p> <p>Other responses may comment on the more generic impacts of unplanned introduction of new species upon ecosystems and the threats that these species pose to native species of flora and fauna. This is a valid approach.</p> <p>Mark scheme</p> <p>Level 1 (1-4 marks) Basic (mid point 3) Basic awareness of the changing patterns with limited description. Comment is basic or absent.</p> <p>Level 2 (5-7 marks) Clear (mid point 6) Clearly aware of the increased number of sightings with accurate place / location reference and clear description of the changing pattern. Comment is appropriate and clearly derived from the resource.</p>	[7 marks]
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08	<p>Notes for answers:</p> <p>The direction of the response largely depends upon the biome studied.</p> <p>Tropical equatorial rainforest:</p> <p>Expect to see reference to vegetation adaption including layers (Ground, Shrub, under canopy, canopy and emergent layers). Specific plant adaptations such the buttress root system of Ceiba tree are designed to maximise scarce nutrient supplies in the shallow soils. Other responses may consider the drip tip as a way to shed excess water and prevent growth of algae. Lianas are adapted to act as parasites, using host species of tree as support and for the provision of nutrient and water. Epiphytes may also be considered. The Lianas use the tree to get to the light above the canopy. Some may also consider ground layer vegetation, adapted to survive with very little sunlight.</p> <p>Animals are adapted in many ways not just in relation to soil and moisture characteristics. Animals are adapted to cope with large amounts of rainfall: anacondas can swim for example. Other animals have adapted by becoming nocturnal, sleeping during the higher temperatures during daylight.</p> <p>Allow credit for those animal adaptations which are not directly related to climate and soil, but linked to vegetation e.g. tree dwelling species of monkey or birds such as toucan adapted with stronger beaks to break into available food supplies.</p> <p>Mark scheme</p> <p>Level 1 (1-4 marks) Basic (mid point 3) Basic understanding of the adaptations. Vegetation or animals is either basic or absent. May be unbalanced. Lacking specific detail on species and adaptation. Describes adaptation with limited explanation of the value of the adaptations.</p> <p>Level 2 (5-8 marks) Clear (mid point 6) Clear understanding of the adaptations. Both elements are evident, though it likely that more content will be based around vegetation adaptation. Clear information on specific species and explanation of the adaptation.</p>	[8 marks]
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<p>09</p>	<p>Notes for answers:</p> <p>Hydrosere succession:</p> <p>Expect to see reference to specific terminology such as seral stages, succession, pioneers and climatic climax.</p> <p>Insects such as pond skaters and water beetles would typically be the first species to arrive at an empty pond. They fly between ponds, bringing spores of other creatures such as diatoms and algae. Microscopic plant and animal material may also be blown in by the wind. Herons and ducks will visit the water in hope of food. In the process they may carry seeds of plants and eggs of animals. These will stick to the legs and feathers, especially if they have been treading in the mud of a well-established pond before arrival. If there is an inflow of water to the pond that will also bring in new organisms.</p> <p>As the temperature rises in late spring to early summer, algae will quickly begin to grow on the surface covering it over with blanket weed. This will give some shelter and refuge to the insects that have migrated here. The diatoms multiply and begin to bloom. The process of immigration continually brings in new species that, if they like the conditions, will stay and begin the process of multiplication. This will lead to a community of plants and animals establishing.</p> <p>Plants like frogbit or rooted ones like lillies take over the deeper water. They provide shelter for animals and begin to change the abiotic conditions like reducing the effect of the wind on the surface. Each year dead organic matter produced by these plants begins to accumulate at the bottom. In time this makes the pond shallow and reedmace, sedges and rushes start to take root.</p> <p>By now the pond is little more than a swamp with damp ground around it. Young trees like alder and willow may be developing and competing with the reeds. Many of the sedges are quite small and will have been out-competed already.</p> <p>With the reduction in the variety of plant communities the variety of animals declines. The pond diversity diminishes as trees develop a canopy which will eradicate many of the plants.</p> <p>Discussion will be evident in the understanding of the dynamic nature of the process and interaction of the different processes in the drive towards equilibrium by nature. Some may consider interruptions to the stages in their discussion.</p> <p>Mark scheme Level 1 (1-4 marks) Basic (mid point 3) Basic understanding of the processes and stages leading to the creation of a climatic climax community. Limited awareness of the range of species involved in the stages or the characteristics of each stage.</p>	<p>[10 marks]</p>
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	<p>Limited or no discussion.</p> <p>Level 2 (5-8 marks) Clear (mid point 6) Clear understanding of the processes or stages. Understands the sequences which leads to the creation of the climatic climax and the interrelated factors at play. Clear understanding of the plant species or vegetation types at each stage. Clear discussion.</p> <p>Level 3 (9-10 marks) Detailed (mid point 9) Detailed understanding of the processes or stages and how dynamic interactions occur to create new stages in the drive to the climax community. Strong sense of place and detailed understanding of species changes at each stage. Detailed discussion.</p>	
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Section B**Option 4 – World Cities**

10	<p>Notes for answers:</p> <p>Expect to see a broad overview of the table. In basic terms the amount of waste being disposed of has reduced considerably over the period in question (-9.1%). Better responses will manipulate data as opposed to direct lift. Some will spot that rate of decline is slowing over the period and may use figures to support (2010/11 -4%, 2011/12 -3.2%, 2012/2013 -1.9%). In terms of total disposal, there is a similar pattern decline in the tonnage. The rate of decline in use of landfill is slowing but there is a reverse trend in the use of incineration. Some may convert data into percentage increases or decreases.</p> <p>Comment may come in many forms:</p> <ul style="list-style-type: none"> • Increased incineration comes with significant issues around air pollution and local objection (NIMBY) and is arguably unsustainable as a waste management strategy • Decreases in the rate of decline suggest a new approach is needed as existing counter measures are having less impact • Landfill is still a major component yet this is a finite facility so waste management is still arguably unsustainable • While recycling continues to increase, it is still well short of the potential for recycling. Estimates are that up to 80% of waste could be recycled. However it is encouraging to note that over half of our waste is now recycled. <p>Level 1 (1-4 marks) Basic (mid point 3) Basic interpretation of the data in the table. Lifting of data to support basic points made. Comment superficial, basic or absent.</p> <p>Level 2 (5-7 marks) Clear (mid point 6) Clear interpretation of the data in the table. Manipulation of data is evident. Comment is clear, reasonable, appropriate and relevant.</p>	[7 marks]
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11	<p>Notes for answers:</p> <p>An area experiencing urban decline will experience some or all of the following typical characteristics:</p> <ul style="list-style-type: none"> • High rates of unemployment leads to higher than average benefit claiming • Low educational attainment in the local schools creating a cycle of deprivation and low aspiration • Higher than average rates of specific health problems in the local community which may in part lead to higher than average dependency ratios • Poor quality housing, low house value, high levels of rental and lots of vacant properties • Lack of civic pride and increased graffiti and vandalism and a generally higher than average crime rate particularly in terms of theft, burglary, anti-social behaviour and drugs. • Higher than average outward migration by the more skilled. • Higher than average inward migration of international migrants who are often attracted to cheaper accommodation. • Environmental characteristics may also be used to indicate decline. <p>The typical causes relate to unemployment through recession or industrial restructuring. As unemployment levels increase, poverty also increases. This leads to social problems. Those who can move out do so. This further exacerbates problems in those communities as the cycle of deprivation ensues.</p> <p>Some may consider the economic, social and environmental connections in articulating causes. This is a legitimate approach.</p> <p>Mark scheme Level 1 (1-4 marks) Basic (mid point 3) Basic description of the characteristics. Causes lack development.</p> <p>Level 2 (5-8 marks) Clear (mid point 6) Clear description of the characteristics. Causes are clearly developed.</p>	[8 marks]
12	<p>Notes for answers:</p> <p>The focus is likely to be on improving retail facilities. Many city centre regeneration schemes also include housing development and other</p>	[10 marks]

	<p>tertiary services i.e. creation of employment opportunities beyond retail.</p> <p>This is valid.</p> <p>Liverpool One: This has been a huge investment into regenerating an under utilised part of the city centre of Liverpool. The main services are retail (including Debenhams and John Lewis department stores) and leisure (restaurants, a cinema complex and a 36-hole adventure golf centre). There is also a small public park and development of apartments and offices.</p> <p>The complex was opened in 2008 and is the largest open air shopping complex in the UK. It cost in excess of £900 million to build and has its own transport hub (at Paradise Street) as part of the development.</p> <p>Evaluation: The complex has dramatically increased the number of shoppers to the city centre and boosted the local economy as a result. However, many argue that there are access problems and there have been some disputes around public rights of way.</p> <p>Also, it has had a knock on effect in other part of the city centre and there is a direct link to decline in the south west of the city centre. This was caused when John Lewis relocated. This has alienated local businesses.</p> <p>Without doubt though, the overall impact has been an overwhelming success.</p> <p>Max L1 for generic regeneration with only implicit focus on town/city centre.</p> <p>Mark scheme Level 1 (1-4 marks) Basic (mid point 3) Basic understanding of the attempts to regenerate the area in question. Support is vague and lacking in specific detail. Limited evaluation. Limited sense of place and largely generic.</p> <p>Level 2 (5-8 marks) Clear (mid point 6) Clear understanding which has a clear grasp of the regeneration strategy. Support is clear and sense of place emerges. Evaluation becomes clearer.</p> <p>Level 3 (9-10 marks) Detailed (mid point 9) Detailed understanding displayed. Strategy is detailed and sense of place emerges strongly. Evaluation is detailed and thorough.</p>	
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Option 5 – Development and Globalisation

13	<p>Notes for answers:</p> <p>There are a variety of ways of approaching this question.</p> <p>Some may define sustainable tourism as an economic activity which helps provide an income for local people whilst conserving the local environment for future generations to enjoy.</p> <p>In terms of Figure 5 some critical issues emerge:</p> <ul style="list-style-type: none"> • The development is clearly built from natural materials and is not taking up any land (built on water). This certainly addresses some elements of the sustainable tourism aims. However, even the construction phase will have used up substantial local resources. • The development is small in scale which will again minimise any negative environmental impact. However, it is arguably too small to bring any major economic benefit to the community housing just a small number of tourists. • It is hard to tell what fixtures and fittings exist within the complex and what facilities and services it has. In order to meet the sustainable tourism aims, it should not generate any substantial waste products. • Transport to and from this rather isolated resort will inevitably use energy and some may argue that this is unsustainable. <p>Whilst sustainable tourism is a laudable aim, the scale of such initiatives measured against the potential revenue from such a small number of visitors make the economic benefits somewhat questionable.</p> <p>Mark scheme</p> <p>Level 1 (1-4 marks) Basic (mid point 3) Describes the image with limited critical engagement. A basic understanding of sustainable tourism emerges. Limited use of the evidence provided in Figure 5.</p> <p>Level 2 (5-7 marks) Clear (mid point 6) Clear understanding of the concept of sustainable tourism emerges. Critical engagement is evident. Clear use of Figure 5 to support response.</p>	[7 marks]
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14	<p>Notes for answers:</p> <p>BP</p> <p>Spatial Organisation:</p> <p>The UK and Ireland arm of the business employs over 15,000 people. The company has:</p> <ul style="list-style-type: none"> • A corporate campus in Sunbury upon Thames employing 4,500 people • A petrochemical plant in Hull • Over 40 offshore oil and gas drilling rigs • Around 1100 petrol and diesel retail outlets. <p>Approximately 1/3 of the company's operation is conducted in the USA. Beyond this, the company has major operations in Asia, Australia, South America and mainland Europe.</p> <p>Reasons for growth:</p> <p>BP grew consistently over the 20th century to become one of the world's largest energy companies and one of the largest companies in the world of any economic sector.</p> <p>The company has continued to seek out and exploit new oil and gas reserves since its inception in 1908 when a group of British Geologists found oil in the Middle East. As oil revenues increased, the increased capital allowed the company to diversify into other aspects of the production process such as refining and development of petro chemicals. Technology has also aided the growth of the business by allowing previously out of reach reserves to become viable. The oil rigs in the North Sea are a good example of this. The company has continued to grow by controlling all aspects of its production and retail. Its growth has also been fuelled by a growing demand for its products i.e. oil and gas. As global development has continued at pace (most recently in China, India and Brazil) and subsequently new markets have opened up, demand for oil and gas continues to grow. BP has also begun to diversify into alternative energy operations. This part of its business is set to grow in the coming years.</p> <p>Some may consider growth at a local level due to local advantages.</p> <p>Growth of TNCs can be organic (internal) or by acquisition. Some may contrast these two features of growth.</p> <p>Mark scheme: Level 1 (1-4 marks) Basic (mid point 3) Named example has only basic characteristics in terms of spatial organisation. Reasons for growth are limited and basic.</p>	[8 marks]
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	Level 2 (5-8 marks) Clear (mid point 6) Clear description of characteristics in relation to spatial organisation. Named example has clear reasons for growth.	
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15	<p>Notes for answers:</p> <p>Specific detail will depend upon the chosen case study. Responses could be categorised into environment, social and economic.</p> <p>BP</p> <p>Environmental:</p> <p>Substantial concerns have been raised in recent years in relation to health and safety around its oil and gas exploration activities. The Prudhoe Bay disaster and The Deepwater Horizon explosion and oil spill are just a few of the recent environmental issues arising out of its operations. While BP has a good safety record in general, it has been blighted by these and other incidents throughout the history of its operations.</p> <p>Social:</p> <p>BP employs highly qualified and technical staff, so unlike other industries where cheap labour is exploited and workers are often paid low wages without good working conditions, BP does not have this problem. Forecourt staff in the retail operation are likely to be paid lower wages. A survey of BP wages reveals a highly skilled workforce of geophysicists, scientists, engineers and analysts, earning salaries ranging from \$70 000 to \$150,000 dollars. Company satisfaction rates are also very high. It is clear that BP staff are, in the main, happy to be employed.</p> <p>Economy:</p> <p>As with all TNCs, a fair criticism is that of leakage. The principle is that host countries enjoy the employment opportunities at a certain level within the organisation but the highest paid posts are reserved for the origin country staff. This means that staff migrate into the area and their wages are returned home. Also profits are returned to the country of origin so that host country's economic gain is minimised.</p> <p>The overall assessment is that BP is a good employer and brings many social benefits to its employers as well as the ancillary businesses which support its operations. The environment has been damaged by recent accidents in some places around the world. Economically, whilst wages are high, there will be the inevitable problem of leakage.</p> <p>Mark scheme Level 1 (1-4 marks) Basic (mid point 3) Basic awareness of the impact of the TNC on the host country. Example chosen offers only basic information. Assessment is partial, implicit or absent.</p>	[10 marks]
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	<p>Level 2 (5-8 marks) Clear (mid point 6) Clearly aware of the impact of the TNC on the host country. Appropriate range of impacts with clear information pertinent to the named example. Assessment is clear.</p> <p>Level 3 (9-10 marks) Detailed (mid point 9) Detailed awareness of the impact of the named TNC on the host country. Assessment is detailed with depth.</p>	
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Option 6 – Contemporary Conflicts and Challenges

16	<p>Notes for answers:</p> <p>The specification refers to identity, ethnicity, culture, resources (including territory) and ideology as the significant elements in the nature and origin of conflict.</p> <p>The information provided offers a number of potential issues as the basis for conflict in the area:</p> <ul style="list-style-type: none"> • Russia has never completely relinquished its interest in Crimea, maintaining a military base. There is a long history of involvement in Crimea by Russia. Some may suggest that the decision to hand Crimea over to Ukraine has seemingly never been accepted by Russia. • Russian is the main language and ethnic origin for the majority of its population. This would suggest that the majority of the population would prefer to be led by a Russian government as opposed to a Ukrainian one. • Religious difference may also underpin the conflict with ethnic Crimeans (Tatars) being Muslim and Russians being mainly Russian Orthodox Christians. The Tatars are likely to be against any annexation by Russia given their history of forced deportation by Stalin in 1944. • The Ukrainian government feel that this move to annex Crimea is illegal and clearly see this annexation as a serious threat to their sovereignty. <p>Mark scheme</p> <p>Level 1 (1-4 marks) Basic (mid point 3) Lifts heavily from the text without synthesising the information. Shows a basic understanding of the geographical basis of the conflict. Comment is basic or absent.</p> <p>Level 2 (5-7 marks) Clear (mid point 6) Clear understanding of the geographical basis of the conflict. Clearly synthesising the information provided with appropriate, clear comment.</p>	[7 marks]
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17	<p>Notes for answers:</p> <p>The nature of the response depends upon the chosen case study.</p> <p>Afghanistan economy:</p> <p>The war in Afghanistan fought against the Taliban by the US and its allies has created a number of economic issues. The cost of the war to the US is estimated at over \$400 billion.</p> <p>The Afghanistan economy has been improved as a result of billions of dollars of inward investment since 2002. However the war itself has stifled its own economic development, effectively meaning that the foreign money is propping up the economy. 36% of the population still live in extreme poverty due to unemployment.</p> <p>Many mining resources remain untapped as a direct result of war. There is a lack of investment in mining and without stability it is difficult to see how the economy can take advantage its own resources.</p> <p>Environment:</p> <p>Air strikes and bombings have disturbed wildlife and affected patterns of migration for a number of bird species such as cranes and pelicans. Poaching is rife and the impact of landmines on domestic herds and wild animals has been significant.</p> <p>The biggest impact is that of the creation of large numbers of refugees who move into areas unable to sustain large numbers of people and their domestic livestock.</p> <p>Over 1 million Afghan refugees live in the North West Frontier Province in Pakistan, and in Iran, there are over 2 million Afghan refugees. A national park near Quetta was invaded by 15 000 people, decimating the woodland and wildlife. Eleven new refugee camps have been opened up as new refugees pour into the country and existing camps become overfilled.</p> <p>Mark scheme</p> <p>Level 1 (1-4 marks) Basic (mid point 3) Description is basic. Limited sense of place emerges. Response may be unbalanced in either economic or environmental coverage. Narrow response which is generic in nature.</p> <p>Level 2 (5-8 marks) Clear (mid point 6) Clear description of both environmental and economic issues. Clear sense of place and appropriate breadth of issues. May still be a little unbalanced.</p>	[8 marks]
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18	<p>Notes for answers:</p> <p>Case studies are not explicitly required but most will support responses with one.</p> <p>Reasons for separatism might include economic depression, a minority language or culture with a different history, a minority religious grouping, collapse of the state, weakening the political power that held the regions together (e.g. the USSR, Yugoslavia)</p> <p>Scottish independence:</p> <p>Reasons for:</p> <p>Economically Scotland would stand to gain access to the oil revenues of the North Sea. There are different opinions as to whether Scotland would be better off and some concerns that Scotland would actually be worse off once the full ramifications had been accounted for. Nevertheless those in favour of independence felt they would be better off financially as a separate country, setting their own tax arrangements and direction for economic growth.</p> <p>Historically and culturally, Scottish separatists do not wish to be part of the UK. Although a long time ago, history of war and monarchy still leaves a feeling that Scotland has been absorbed into the UK without its own clear identity. Also, until recently Scottish history was not taught in schools. It is symbolic issues such as these which have created a desire to gain full independence from the UK.</p> <p>Consequences of:</p> <p>There is much debate around this issue. Some feel that Scotland would be better off, particularly as a direct result of oil and gas revenues. However this is disputed. Scientists and engineers are in disagreement about exactly how much oil is left under the North Sea. There is general agreement that resources are depleting.</p> <p>Had Scotland chosen independence in 2014, the Bank of England confirmed that Scotland would not be able to use Pounds Sterling. This would have created uncertainty for the Scottish economy being created for those who work across the border (both ways) and also for financial institutions based in the UK but with branches in Scotland. In fact many said that they would leave Scotland if its people chose independence.</p> <p>Some may also refer to greater powers of autonomy though this is likely to be accompanied by a debate about the role of SNP at Westminster.</p> <p>Mark scheme Level 1 (1-4 marks) Basic (mid point 3) Basic coverage of both reasons for and consequences of. May be unbalanced or have one strand missing. Basic discussion which may simplify the complexity of the issue.</p>	[10 marks]
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	<p>Level 2 (5-8 marks) Clear (mid point 6) Clear awareness of both the reasons for and the consequences of separatism. May still be a little unbalanced in favour of one strand. Clear discussion and awareness of the complexity of the issue. Support where used is clear.</p> <p>Level 3 (9-10 marks) Detailed (mid point 9) Detailed awareness of the both elements. Well balanced. Detailed discussion and full awareness of the complexity. Support where used is detailed and appropriate.</p>	
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Section C - Mark scheme for the essay questions

Assessment criteria	Level 1 1-10 (midpoint 6)	Level 2 11-20 (midpoint 16)	Level 3 21-30 (midpoint 26)	Level 4 31-40 (midpoint 36)
Knowledge of content, ideas and concepts	Basic grasp of concepts and ideas; points lack development or depth.	The answer is relevant and accurate. Reasonable knowledge. Imbalanced theories	Sound and frequent evidence of thorough, detailed and accurate knowledge	Strong evidence of thorough, detailed and accurate knowledge
Critical understanding of the above	Incomplete, basic.	Reasonable critical understanding of concepts and principles with some use of specialist vocabulary.	Sound and frequent evidence of critical understanding of concepts and principles, and of specialist vocabulary.	Strong evidence of critical understanding of concepts and principles and of specialist vocabulary.
Use of examples/case studies to support argument	Superficial	Examples show imbalances and/or lack detail and depth	Examples are developed, balanced and support the argument	Examples are well developed and integrated.
Maps/Diagrams (when used)	None	Ineffective	Effective	Fully integrated
Evidence of synopticity: Connections between different aspects of the subject 'Thinking like a geographer'	No evidence	Limited. Some ability to identify, interpret and synthesise some of the material. Limited ability to understand the roles of values, attitudes and decision-making processes.	Strong Some ability to identify, interpret and synthesise a range of material. Some ability to understand the roles of values, attitudes and decision-making processes.	Full There is a high level of insight, and an ability to identify, interpret and synthesise a wide range of material with creativity. Evidence of maturity in understanding the role of values, attitudes and decision-making processes.
Quality of argument – the degree to which an argument is constructed, developed and concluded	Language is basic; arguments are partial, over simplified and lacking clarity. Little or no sense of focus of task.	Arguments are not fully developed nor expressed clearly, and the organisation of ideas is simple and shows imbalances. Some sense of focus of task.	Explanations, arguments and assessments or evaluations are accurate, direct, logical, purposeful, expressed with clarity and generally balanced. Clear sense of focus of task.	Explanations, arguments and assessments or evaluations are direct, focused, logical, perceptive, mature, purposeful, and are expressed coherently and confidently, and show both balance and flair.

19	<p>Appropriate content for a response to this question should include:</p> <ul style="list-style-type: none"> • An exploration of the developments in understanding and technology including the monitoring techniques. Responses might consider seismography, monitoring of gas emissions, hydrology studies, geophysical measurements and satellite imagery. • Some description of the impacts of volcanoes. • Evidence of where management strategies have assisted in reducing the impact through early warning, detection and therefore evacuation. • Other techniques to assist in managing the impact of volcanoes may be considered such as controlling the direction of lava flows and lahars as well as techniques to manage the impact of air pollution caused by eruptions. • Case studies are likely to feature, most notably contrasting examples, where impacts have been minimised and places where impacts have been severe and unmanageable. <p>Synopticity may therefore be achieved by:</p> <ul style="list-style-type: none"> • a critical understanding of the processes that produce volcanic events and the context in which they are produced • an understanding of the context of varying timescales and spatial variations • a critical understanding of the varying impacts of volcanic events – such as those based on magnitude, speed of onset, duration, areal extent and frequency • an understanding of the vulnerability of different populations to these events • an understanding of the capacity for resilience to these events • a critical understanding of the vulnerability of different regions, particularly an understanding of the differences between richer and poorer areas and the contrast between urban and rural environments • an understanding of the capacity and willingness of people to deal with these hazards. <p>The question requires an assessment approach. The response should come to a view based upon preceding content. Any conclusion is creditable as long as it is reasonable and related to the preceding content and argument.</p>	[40 marks]
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20	<p>Appropriate content for a response to this question should include:</p> <ul style="list-style-type: none"> • An exploration of the evidence to support global warming. • A description of major known causes. • Counter-evidence to challenge the concept of enhanced global warming, such as glacial and interglacial cycles. • An exploration of measures to tackle global warming at local national and international scales. • Evaluation of the impact of measures to tackle global warming. <p>Synopticity may therefore be achieved by:</p> <ul style="list-style-type: none"> • Consideration of wide range of viewpoints and perspectives. • Critical appraisal of the available evidence. • Synthesis of human and physical geographies. • Investigations at a range of scales and a range of time periods. • Contrasting references to examples in different parts of the world and with countries at different levels of development. <p>The question requires an assessment approach. The response should come to a view based upon preceding content. Any conclusion is creditable as long as it is reasonable and related to the preceding content and argument.</p>	[40 marks]
21	<p>Appropriate content for a response to this question should include:</p> <ul style="list-style-type: none"> • A definition of sustainability and other key terms associated with the question such as ecosystem and biome. This may be implicit. • An exploration of the vulnerability of ecosystems and biomes possibly encompassing some of the concepts around fragile environments. • A discussion of a range of human activities which may be considered more and less sustainable. • Case studies which contrast wilderness areas with those contrasting areas affected by human activity. • Concepts of succession and climatic climax and plagioclimax. • A critical engagement with the question. <p>Synopticity may therefore be achieved by:</p> <ul style="list-style-type: none"> • Contrasting examples of human activity • Contrasting different ecosystems and biomes around the world • Considering change over time • Critically engaging with the question by challenging notions of unsustainable human activity – activities which encourage sustainable development • Synthesising human activity with the environmental impact. <p>The question requires an assessment approach. The response should come to a view based upon preceding content. Any conclusion is creditable as long as it is reasonable and related to the preceding content and argument.</p>	[40 marks]

<p>22</p>	<p>Appropriate content for a response to this question should include:</p> <ul style="list-style-type: none"> • definition of the term ‘sustainability’ • knowledge and understanding of sustainability issues in urban areas such as waste management and transport management (and may include other factors such as housing, air pollution, urban ecosystems and water supply). • outlines of the solutions/management strategies adopted by identified areas • a comparison between contrasting urban areas in countries along the development continuum, and within the same level of economic development • case study material/exemplars to support the above. <p>Synopticity emerges from some of the following:</p> <ul style="list-style-type: none"> • evidence in the breadth/depth of case-study material • detailed critical understanding of the sustainability issues identified • detailed critical understanding of the responses to the issues above • detailed critical understanding of the management, where applicable, of the sustainability issues identified • a recognition of the importance of values and attitudes, and of the role of decision makers at a variety of levels • evaluative comments as to whether sustainability can be achieved. <p>This question requires a discursive approach and the response may come to a view. Any conclusion is creditable as long as it is reasonable and related to the preceding content and argument.</p>	<p>[40 marks]</p>
<p>23</p>	<p>Appropriate content for a response to this question should include:</p> <ul style="list-style-type: none"> • Characteristics of countries at different levels of development. • Factors affecting the advantages supporting the development of an area, either natural or human (economic, political, social, environmental and historical). • Barriers to development, either physical or human. • Specific case studies of countries at different levels of development, their reasons for development (or lack of development). • An evaluation of measures to stimulate development by governments and other agencies. • An exploration of the role of TNCs in the development process. <p>Synopticity emerges from some of the following:</p> <ul style="list-style-type: none"> • Awareness of a range of scales and change over time in the development of countries. • Contrasting case studies at different levels of development. • A consideration of physical and human geography in relation to factors affecting development. • Discussion of the role of stakeholders and decision makers in the development process. <p>This question requires a discursive approach and the response may come</p>	<p>[40 marks]</p>

	to a view. Any conclusion is creditable as long as it is reasonable and related to the preceding content and argument.	
24	<p>Appropriate content for a response to this question should include:</p> <ul style="list-style-type: none"> • Economic factors leading to high rates of immigration • Political factors affecting immigration • Patterns of settlement for migrants • Historical perspectives on the development of multicultural societies • An evaluation of the positive and negative impacts of multiculturalism upon the host community, service provision (including health education and housing) and the migrants themselves. <p>Synopticity emerges from some of the following:</p> <ul style="list-style-type: none"> • Consideration of a range of scales. Some may consider multiculturalism beyond the UK. This is creditable, though full marks are available for only a UK focus. • Awareness of change in migration patterns over time • Awareness of social, economic and environmental issues associated with multiculturalism. • An understanding of the role of decision makers, attitudes and values in relation to multiculturalism. <p>This question requires a discursive approach and the response may come to a view. Any conclusion is creditable as long as it is reasonable and related to the preceding content and argument.</p>	[40 marks]