

GCE 2005
January Series



Mark Scheme

Geography Specification B

(GGB4)

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Question 1

- (a) Immediately after the ice sheets had retreated (15,000 years ago?), Britain had a periglacial climate with tundra conditions prevailing. The maximum temperatures would have been only 6 - 7°C in the Summer months with temperatures well below freezing in the Winter. With time, temperatures slowly increased. There was a slight glacial advance 10,000 years ago, when tundra conditions re-established themselves over Northern Britain.

About 8000 years BC, boreal forests were established across Britain. Temperatures had risen, and Summers were warmer than today, but Winters were colder - the climate was much more continental. Similarly, Winters were drier than at present. As sea levels rose from 6000 to 3000 BC, Britain become more maritime. Winters became milder, Summers cooler, with equable rainfall. This continental and then maritime pattern was repeated in the period of time from 3000 BC to 0 AD.

During the last 2000 years there have been similar periods of cooler and warmer temperatures. For example, during Roman times the climate was warmer as evidenced by the cultivation of vines in Southern England. This also encouraged the growth of extensive deciduous woodlands. From 1550 to 1800, a Little Ice Age occurred across Europe. The River Thames froze, and the weather also was stormier with many storms affecting the East coast of England.

Global warming is now said to be causing temperatures to rise, and ppt levels to increase.

Level I - simple statements of climatic change with no attribution to clear time periods since the Ice Age; or a good description of one climatic fluctuation only. **0 - 3**

Level II - more than one good description of climatic fluctuations since the Ice Age with clear statements of time period for each stated change. **4 - 7**

- (b) A variety of sources of evidence could be identified. They could include:

Dendrochronology, pollen analysis, historical records, written and drawn/painted, and landform evidence, e.g. evidence of glaciation/fluvioglaciation. Depending on the source identified, candidates would be expected to then provide some elaboration of how the source could be used to show that climatic change has occurred.

For example, pollen analysis provides information of dominant plants at a time in the past. They deposited pollen, which became preserved in areas such as a wet peat bog (anaerobic conditions). Since the type of vegetation at one time is a response to the climate at that time, we can use changes in pollen types in the same peat bog to provide evidence of climatic change.

Level I - simple statements of pieces of evidence, or identification of methods, but with no elaboration of any; or a detailed outline of one piece of evidence only. **0 - 3**

Level II - an elaborate account of more than one piece of evidence. **4 - 7**

- (c) Global warming is the gradual warming of the Earth's atmosphere due largely to human activities across the globe. It is attributed to an increase in "greenhouse gases" include CFCs, CO₂, methane, and nitrous oxide.

1 mark for each correct statement **0 - 4**

- (d) The effects of global warming on the BI may be:

- Rise in sea level flooding marshes, wetlands and destroying sand dunes;
- The overwhelming of coastal defences;
- The flooding of low lying cities, e.g. London and its underground system;
- Changes to farming - longer growing seasons (vineyards again?), great incidence of insect borne diseases, more storm damage of crops.

Level I - simple statements of effects, or identification of effects, but with no elaboration of any; or a detailed outline of one effect only. **0 - 3**

Level II - an elaborate account of more than one effect. **4 - 7**

Question 2

(a) E.g. The Growth of the EU

1970 - consisted of Italy, France, Belgium, Netherlands, Luxembourg and West Germany, i.e. central Western Europe.

1973 - UK, Eire and Denmark join, i.e. movement Northwards incorporating one industrial and two agricultural nations.

1981 - Greece, i.e. movement South East and involving a poorer agricultural country.

1986 - Spain and Portugal, i.e. emphasising movement into Southern European countries.

1995 - Austria (central Europe), Finland and Sweden (Northern Europe) - more affluent economies.

2004 – 10 more countries

Level I - simple statements of the grouping of nations with no attribution to clear time periods or chronology; or a good description of one growth “point” only. **0 - 3**

Level II - more than one good description of periods of expansion with clear statements of time period or chronology for each stated change. **4 - 7**

(b) Evidence pointing towards favourable views of the grouping of nations:

A desire to join common trading organisations, e.g. the pressure from a number of European countries to join the EU.

A desire to be part of the single currency - the Euro.

Trade Unionists wanting to adopt the Social Chapter of the Maastricht Treaty.

Farmers wanting to benefit from the CAP.

Environmentalists wanting to adopt a European wide, or UN wide attitude to global warming, and other anti-pollution measures.

Level I - simple statements of pieces of evidence, or of attitudes towards the grouping of nations; or one well-developed piece of evidence only. **0 - 3**

Level II - more than one well-developed piece of evidence, both clearly supporting an attitude in favour of the grouping of nations. **4 - 7**

- (c) Separatist pressure: when people of a region feel alienated from central government, they often seek to gain more political control, autonomy, or even independence. In general, such groups may have a different language, culture or religion from the rest of the state and are often geographically peripheral within the area. They thus feel geographically remote from the centralised government and maintain that they do not receive adequate support, particularly with regard to economic development and growth.

1 mark for each correct statement.

0 - 4

- (d) The consequences of separatist pressure may be either peaceful, non-peaceful or both:
- The establishment/maintenance of own societies and norms – separate cultural identities within a country (eg. The Bretons in France)
 - The protection of a language through the media and education (eg. The Welsh, Catalonia)
 - The growth of separatist political parties and devolved power (eg. The Scots and Welsh Nationalists)
 - Civil disobedience (eg. “The Friends of Owen Glendauer”)
 - Terrorist violence (eg. The Basques, Chechnya)
 - Civil war (eg. East Timor, the Tamils)

Level I - simple statements of consequences, or a detailed development of one consequence only.

0 - 3

Level II - an elaborate account of more than one consequence.

4 - 7

Question 3

A **TNC** is a company, which operates in more than one country, but more so now in a large number of countries across the world. They tend to have their headquarters located in either MEDCs or NICs whereas they have their manufacturing bases or service outlets, in a full range of countries.

Examples include:

Motor vehicles - Ford, General Motors; Petroleum - BP, Exxon; Food, retail and leisure - McDonalds, Walmart, Trusthouse Forte, Time Warner; Banking and telecommunications - HSBC, Orange and many more.

Newly industrialising country (NIC): a country, which since the 1960s has shown rapid growth in manufacturing industry. Examples include Singapore, South Korea, Taiwan and Malaysia, China and Brazil.

TNCs may have a variety of impacts on a host country, some favourable, some unfavourable.

Favourable:

- They provide employment and thereby raise living standards
- They improve the level of skills and expertise within a country
- They cause foreign currency to be brought into a country, improving the balance of payments
- They cause a multiplier effect, increasing economic activity
- They encourage a transfer of technology into the country.

Unfavourable:

- Many jobs are of low skill
- Managerial positions tend to be brought in rather than developed locally
- Most of profits are sent back to home country
- Corners are often cut in terms of health and safety
- They exert political muscle
- Globalisation of decision-making sometimes leads to short-term investment, and the TNC may pull out at short notice.

NICs are the countries, which have seen the most rapid economic growth in recent years. Originally, they attracted manufacturing industry due to their low labour costs, expanding domestic markets, available raw materials, reduced import and export tariffs, and weaker planning legislation. They began to dominate manufacturing in electrical goods, textiles and clothing, shipbuilding, and increasingly have moved into car assembly. Many of the industries were of a low skill basis, with low technology but high labour input. In more recent years, the NICs have developed into countries of origin of TNCs, and have invested in both MEDCs and in other LEDCs. Examples of such companies include Korean Samsung, and Daewoo. This is due to increased profits from inward investment by TNCs from MEDCs over the last 30 years. To remain profitable they have been forced to invest in areas of cheaper labour costs than themselves (Malaysia produces 10% of world's TVs), to gain near access to protected markets (e.g. Daewoo assembling cars in Romania), and to access virgin markets (S. America).

NICs have also become involved in service industries, e.g. call centre work in India. Candidates may also refer to the economic and financial problems that occurred recently in the Far East, with their knock-on effects elsewhere in the world.

G	Level I 0 - 6	Level II 7 - 12	Level III 13 - 17	Level IV 18 - 20
	Simple statements of definitions of terms; or named examples only.	More detailed definition of one term, with valid examples being offered.	Well developed definitions of both terms. Examples may have a degree of elaboration.	
	Simple statements of impacts on host countries or globally.	More detailed statements for one of social or economic impacts. Some use of case study material.	Well developed statements for both social and economic impacts, with good use being made of case studies for both.	
		Simple statements of relative importance.	Detailed statements of relative importance with some recognition of the importance of the role of one of TNCs or NICs.	Recognition of complexity of the issue. Recognition of the changing importance of TNCs and/or NICs over time.
S	Level I 0 - 1	Level II 2 - 3	Level III 4 - 5	
	Information is adequately organised, and presented with a reasonably accurate use of English.	Well-organised and presented with an accurate use of English. Limited examples.	Well-organised and presented in a clear and logical manner with a very accurate use of English. Range of examples.	

Question 4

Vegetation succession: a series of changes, which take place in a plant community through time.

Primary succession where development begins on ground on which there has been no previous vegetation. This will include areas such as lava flows, bare rock and sand dunes. There are several types of primary succession based upon those formed on the land (xeroseres), and those formed in water (hydroseres):

Lithoseres formed on bare rock

Psammoseres formed on sand dunes

Haloseres formed in a salt water environment

Hydroseres formed in a fresh water environment.

Climax vegetation: the end of a succession where the characteristics and species of a plant community will be in balance with environmental conditions.

Climax is usually dominated by the tallest species that can be established in the given conditions. At this stage, the community becomes “closed” as saturation point is reached with all potential niches occupied and thus the progression is ended. This is known as the climatic climax community, the natural vegetation having reached a stable balance with the climate and soils of the area.

A lithosere:

- A bare exposed rock site - colonised by bacteria then lichens
- Decay of lichens - growth of mosses - both assist in weathering, and formation of thin soil
- Development of grasses and small herbs in protected water retaining sites, and fed by humus from decay of lichens/mosses
- Small shrubs established such as gorse and broom
- Pioneer trees such as hawthorn, rowan and alder
- Larger trees begin to dominate such as pine, birch, ash
- Slower growing deciduous trees outgrow and shade these out
- Climatic climax of temperate deciduous forest.

Human activities may include:

- Deforestation - to produce arable land, building land - destruction of natural species
- Afforestation - the planting of conifers in upland areas to meet the demand for paper/pulp
- Improvement of natural grasslands (originally created by deforestation) to produce high quality grazing land for cattle/sheep
- The development and management of heather moorland for grouse (use of fire)
- Planting of hedgerows in medieval times to produce field boundaries.

G	Level I 0 - 6	Level II 7 - 12	Level III 13 - 17	Level IV 18 - 20
	Simple statements of definitions of terms; or named examples only.	More detailed definition of one term.	Well developed definitions of both terms. Examples may be given that have a degree of elaboration.	
	Simple statements of processes leading to the formation of a lithosere.	More detailed statements of process, which deal with more than two stages in the succession.	Well developed statements of process which deal with the full range of vegetation types of a lithosere.	
		Simple statements of effects of human activities.	Detailed statements of the effects of human activities on vegetation. A well-developed case study of a plagioclimax would achieve this level.	Recognition of complexity of the issue. Recognition that human activities can have a variety of effects, and that these may change over time.
S	Level I 0 - 1	Level II 2 - 3	Level III 4 - 5	
	Information is adequately organised, and presented with a reasonably accurate use of English.	Well-organised and presented with an accurate use of English. Limited examples.	Well-organised and presented in a clear and logical manner with a very accurate use of English. Range of examples.	