



# **Mark Scheme (Pre-Standardisation)**

Summer 2018

Pearson Edexcel GCSE

In Geography (6GE04/01)

Unit 4: Geographical Research

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## General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

## **QUESTION 1 - Assess the view that earthquakes have a greater impact on people and places than volcanic eruption.**

- Explore the varying impacts of both volcanic hazards and earthquake hazards on people.
- Research a range of volcanic and earthquake hazards in countries at different stages of development and different scales to investigate their effects.

### **INDICATIVE CONTENT**

**The general topic** is the impact of hazards on people. (4.3.EQ3)

**The focus** requires 'impact' to be broken down into its component parts; death and injury on the one hand and property damage and insurance losses on the other hand and a comparison to be made between volcanic and earthquake hazards. (4.3.EQ3 b2 and b3)

**The framework** chosen may be by:

1. Levels of development – a developed world/developing world dichotomy with appropriate case-studies to illustrate.
2. Type of tectonic hazard – there are three main types – earthquakes, volcanoes and (secondary) tsunami – best approach would probably be case-study led.
3. Extent of disaster – the size of the event from overwhelming events that challenge any management system to mid-scale and minor events that pose fewer challenges to management systems.

#### **Key analytical points:**

- Volcanic hazards are generally more localised in direct/primary impacts on people and their property.
- However, there can be (geographically) extensive secondary impacts that have been very costly, e.g. Eyjafjallajökull eruption impact on economy.
- Historically, secondary effects can be very considerable as with the Laki eruption.
- Past and future supervolcanic events suggest that volcanic hazards have potential to wreak very extensive and long term damage both to life and property - these change historical directions.
- Earthquakes feature high on 'death and destruction' disaster lists so if one excludes extreme volcanic events then the answer is largely affirmative.
- May cover tsunami which have widespread impacts on both people and property.

#### **So in conclusion:**

- Mostly true.....
- ..but important qualifications

#### **Case studies used are likely to include:**

1. California – Loma Prieta
2. Montserrat
3. Iceland - Eyjafjallajökull
4. Laki/Mt Toba
5. Yellowstone
6. Asian tsunami/Japanese tsunami

## **QUESTION 2 - 'To what extent do different climates produce different types of cold environment'. Discuss.**

- Explore the climatic reasons why cold environments vary and how they have varied over time.
- Research a range of different cold environments, both glacial and periglacial, to investigate the causes of their distinctive environments.

#### INDICATIVE CONTENT

**The general topic** is the relationship between climate and cold environments. (4.4. EQ2)

**The focus** is the degree to which it is possible to infer the nature of cold environments from climate data. (4.4. EQ2 b2, b3 and b4)

**The framework** chosen may be by:

1. Types of cold environments – different types of glacial environment; continental scale and alpine glacial, and periglacial environments, both active and relict.
2. A range of case studies of different cold environments – perhaps relict and active.

**Key analytical points:** Cold environments are complex with periglacial and glacial landscapes co-existing in some locations, especially in alpine glacial environments.

- Many cold environments reflect past climate as much as they do current climate – destruction between relict and active environments.
- Cold environments are a function of climate which is impacted by altitude and aspect as well as latitude and continentality/oceanality.
- Seasonality is important, especially summer temperatures and daylight length in controlling firnification.
- The key variables are temperature and precipitation with precipitation the critical factor in the broad, large scale explanation of periglacial/glacial distinction.
- Time is a key variable in determining 'type' of environment – changes during Quaternary driving several stadial and inter-stadial periods.
- Pre-glacial landscape/topography/geology is important, especially on a local scale.

**So in conclusion:**

- Almost a truism that climate is the most important factor in determining different types of glacial environment
- ....but 'climate' is a very broad term and there are other factors to consider.

**Case studies used are likely to include:**

1. Upland glaciated regions of the UK (the Lake District) or Europe
2. Periglacial landscapes, e.g. Alaska
3. Greenland/Arctic
4. Siberia
5. Quaternary

**QUESTION 3 - 'Desertification is the main cause of food insecurity in the developing world'. Discuss.**

- Explore the linkages between the physical and human causes of food insecurity in the developing world..
- Research a range of different dryland locations in the developing world to investigate why they are experiencing food insecurity.

#### INDICATIVE CONTENT

**The general topic** is the various causes of food insecurity. (4.5. EQ2)

**The focus** is the degree to which it is plausible to argue that desertification is the 'main' cause as judged, perhaps by the numbers suffering from food insecurity. (4.5. EQ2 b1 and 4.5.EQ3 b4)

**The framework** chosen may be by:

1. An overview of economic, political, social and environmental causes of food insecurity.
2. A 'case-study' approach by area/region exploring various, perhaps overlapping reasons for food insecurity.

**Key analytical points:**

- Food insecurity is widespread but most evident in sub-Saharan Africa and south-Asia.
- Clearly desertification plays a role in the food (in)security of sub-Saharan Africa but..
- ...'desertification' has complex causes of its own including population growth, migratory shifts through displacement because of political turmoil (civil war) and also environmental causes.
- Drought is complex but a major cause of desertification.
- Loss of productivity and through land purchases exacerbates falling domestic production as does transfer of land from food crops to non-food crops.
- Both outside and inside critical regions food insecurity may be largely driven by price rather than output suggesting desertification is not critical.

**So in conclusion:**

- In some parts of the world this is largely true although desertification has multiple causes in itself but...
- ...globally it is much more contentious so scale matters here.

**Case studies used are likely to include:**

1. The Sahel
2. Zones of conflict – south Sudan
3. Land purchases –in Ethiopia
4. Examples of food insecurity elsewhere, e.g Detroit.

#### QUESTION 4 - To what extent does the growth of globalisation inevitably lead to a global culture.

- Explore the relationship between globalisation and global culture.
- Research a range of existing cultures to investigate how different aspects of globalisation have changed them.

#### INDICATIVE CONTENT

**The general topic** is the reasons behind a supposed growth in global culture and loss of cultural diversity. (4.6. EQ3)

**The focus** is whether or not the role of globalisation is central to that growth. (4.6. EQ3 b.2)

**The framework** chosen may be by:

1. Case studies of different societies/places with contrasting levels of integration into global culture through globalisation.
2. Contrasting theories of cultural imperialism and how they approach the role of global media.

**Key analytical points:**

- Global media corporations have become markedly more dominant in recent years.
- Their purpose is profit driven with no specific cultural purpose and/or direction.
- Their influence is both structural in terms of ownership of media outlets..
- ...but also the content of output in terms of film, TV, print media which covertly present a frequently westernised vision of the world, more secular and materialistic than local cultures.
- Global media corporations often have considerable power in the market place by virtue of efficiencies born of scale and very powerful brand marketing.
- New forms of media have become increasingly significant but are much more diverse culturally.
- Not all countries are 'open' culturally and media is strongly controlled and not all global media is as ambiguously 'western' as was the case 10/20 years ago e.g. the growth of Al-Jazeera.

**So in summary:**

- The role of globalisation is critical and the rise of global media is certainly important but the global economy working in real time as a unit is critical.
- The contention that there is such a thing as 'global culture' might be addressed.

**Case studies used are likely to include:**

1. Densification
2. South v North Korea
3. Twitter and Arab 'Spring'
4. China and France resisting global media

**QUESTION 5 - 'The health risks associated with pollution can never be managed effectively'. Discuss.**

- Explore the causes of health risk associated with pollution at different scales.
- Research a variety of ways in which health risks associated with pollution have been managed.

**INDICATIVE CONTENT**

**The general topic** is the management of health risk from pollution. (4.7 EQ4)

**The focus** of this title is the degree to which these health risks can be managed effectively. (4.7.EQ4 b4)

**The framework** chosen may be by:

1. Different causes of health risk including environmental factors, socio-economic status and geographic factors.
2. Models of health risk (ETM, Kuznets).
3. By disease and health risk, e.g., air pollution in urban areas, water pollution in arid and semi-arid regions.
4. By place using case-studies to carry the ideas.

**Key analytical points:**

- Health risk can be expressed in two dimensions – geographic extent and threat to individuals so both breadth and depth of risk.
- The best, indirect, measure of management ‘success’ is probably life expectancy.
- Not all pollution related health risks are equally manageable nor are the same management techniques effective in all areas or cases.
- Growing health risks in some environments associated with industrialisation but also ageing populations.
- Major killing diseases are largely determined by poverty and limited access to basics such as clean water and sanitation and, for the most part these killing diseases are in decline.
- However, there are clear limits to management ‘success’ given mortality.

**So in summary:**

- The statement is hard to support given the uncertainty over what constitutes ‘success’ but life expectancy is rising fast in many (but not all) countries.
- Variations of health risk within countries are very considerable and related to deprivation and inequalities.

**Case studies used are likely to include:**

1. Water pollution in LEDCS Smallpox/malaria eradication campaigns
2. Rising health risks in some locations e.g. Chinese cities.
3. Cancers in developed world; some with environmental causes?

## **QUESTION 6 - Assess the view that the fragility of rural landscapes always makes them vulnerable to leisure and tourism.**

- ☐ Explore the reasons why contrasting rural landscapes are often fragile.
- Research a range of locations that have been affected by leisure and tourism to investigate their vulnerability.

**INDICATIVE CONTENT**

**The general topic** is the fragility of rural landscapes. (4.8. EQ2)

**The focus is** the contention that tourism and leisure will always impact on rural landscapes in a manner that is likely to be negative. (4.8. EQ2 b2 and b3)

**The framework** chosen may be by:

1. Contrasting type of rural landscapes – a range of case studies of different landscapes showing how some are more likely to be damaged than others.
2. Type of tourism or leisure – the pressure exerted rather than the vulnerability of the landscape.
3. Type/level of impact using degree of impact as the controlling variable.

**Key analytical points:**

- Fragility can be assessed through exploration of the complex linkages within naturally functioning ecosystems (in a wilderness).
- Most rural landscapes are not 'wildernesses' but human constructs thus human impact is a significant factor in creating these environments.
- Fragility can be assessed using concepts such as carrying capacity whilst vulnerability can be assessed in terms of short term gains set against long-term sustainability.
- Human Impact can be subdivided into environmental, economic and social impacts some of which will/can be harmful, some positive.
- There may be tensions between environmental protection and economic gains from tourism.
- Maintaining rural populations through the development of sustainable tourism, e.g. Husavik (Iceland) can arrest rural depopulation – a social benefit.

**So in summary:**

- Fragility varies across rural landscapes – not all are 'fragile'
- Environments will always be altered by tourism but the judgment about whether it increases or decreases 'vulnerability' is problematic.

**Case studies used are likely to include:**

1. Alaska
2. Machu Picchu
3. Yorkshire moors
4. Galapagos
5. Antarctica

