GradeMax



Mark Scheme (Results)

January 2022

Pearson Edexcel International A Level

In Geography (WGE04)

Paper 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 – Evaluate the view that plate tectonic theory explains both the location and magnitude of all tectonic hazards.

Research the varied reasons why some locations are more at risk from tectonic hazards than others.

Research a range of contrasting tectonic hazards to examine the processes that cause them.

Indicative content

The focus of this title is the relationship between the theory and both the distribution of tectonic hazards and their magnitude. There is a likely confusion between 'hazards' and disasters.

The framework chosen may be one of the following.
Type of plate boundary covering constructive, destructive and conservative margins
Type of tectonic hazard – there are three main types – earthquakes, volcanoes and (secondary) tsunami – best approach would probably be case-study led.
Magnitude/frequency of hazard – case-study led using various measurements of intensity/scale mapped against measurements of scale of disaster and the impact of governance.

Key analytical points

A clear understanding of the distinction between hazards and disasters is an essential pre-requisite of a good report.

Location can be addressed at a variety of scales – form 'Ring of Fire' through to local variations within, for example the San Andreas/Hayward fault complex in northern California.

Volcanoes are easier to cover in terms of location although stronger reports might cover complex idea of dormancy and introduce examples of 'dormant' volcanoes that become active, unexpectedly.

Hot-spots should receive attention because they are not entirely explicable in terms of plate tectonic theory – some might add super-volcanoes and even LIPS (large igneous provinces)

However volcanic eruption are unpredictable in terms of their magnitude – some will make a distinction between explosive and effusive eruptions and relate these to different types of boundaries. Others might be able to address the very rough and ready nature of this categorisation.

Earthquakes are far more ubiquitous – the higher their magnitude the more closely are they associated with boundaries – some will introduce the relationship to boundary type – Japan may very well feature here as a case-study.

Earthquake magnitude is partly explained by theory but only in retrospect – in other words there is no predictive set of tools available suggesting that there is a very partial role for theory here.

High magnitude intra-plate earthquakes are not unknown: there are many low magnitude earthquakes that are not explained by plate tectonics beyond the general observation that the surface is mobile.

Not all tsunamis are related to plate movements – for example undersea earthquakes can be caused by landslides.

In summary
Plate tectonic theory explains many but not all locations (hot spots) and even less so the magnitude of these hazards.

Case studies used are likely to include:
'Ring of Fire'
Japan plates and tsunami
Haiti and Chile
Iceland – Eyjafjallajökull
Hawaii

Question 2 – Evaluate the view that poverty is the main cause of malnutrition.

Research the varied reasons for long-term chronic under-nutrition and micro-nutrient deficiency.

Research a range of contrasting examples of malnutrition in developed, emerging and developing countries.

Indicative content

The focus of this title is the relative importance of poverty in driving the global pattern of malnutrition – expect some confusion over the distinction between malnutrition and undernutrition.

The framework chosen may be by the following.

A 'case-study' approach by area/region with different examples illustrating a variation in the causes of malnutrition.
A theoretical approach identifying different causes of malnutrition including poverty but also covering other causes for both short term food supply issues and longer-term societal shifts to poor diets.

Key analytical points

Malnutrition, in all its forms, includes undernutrition (wasting, stunting, underweight), inadequate vitamins or minerals, overweight, obesity, and resulting diet-related noncommunicable diseases. Malnutrition refers to deficiencies, excesses, or imbalances in a person's intake of energy and/or nutrients. The term malnutrition addresses 3 broad groups of conditions

1.undernutrition, which includes wasting (low weight-for-height), stunting (low height-for-age) and underweight (low weight-for-age);

2. micronutrient-related malnutrition, which includes micronutrient deficiencies (a lack of important vitamins and minerals) or micronutrient excess; and

3.overweight, obesity and diet-related noncommunicable diseases (such as heart disease, stroke, diabetes and some cancers).

1.9 billion adults are overweight or obese, while 462 million are underweight.

47 million children under 5 years of age are wasted, 14.3 million are severely wasted and 144 million are stunted, while 38.3 million are overweight or obese.

Around 45% of deaths among children under 5 years of age are linked to undernutrition. These mostly, but not exclusively, occur in developing and emerging countries.

Intergenerational effects of malnutrition are significant.

At the same time, in these same countries, rates of childhood overweight and obesity are rising; obesity can be related to poverty through poor diet (US data) but also through rising wealth.

Significant famines tend to occur in fragile states with problems in food distribution rather than production.

In summary

Depends on the location but at a global scale this is indubitably true – even within developed countries the relationship between poverty and obesity is close.

Case studies are likely to include:

Sahel and sub-Saharan Africa - famines
South Asia – rural/urban contrasts in malnutrition
China and the USA - obesity

Question 3 – Evaluate the view that physical isolation explains most of the global variation in cultural diversity.

Research the reasons why cultural diversity varies from place to place.

Research a range of locations to examine the impact of accessibility on cultural diversity.

Indicative content

The focus of this title is the role of physical isolation and inaccessibility (related concepts) in explaining cultural diversity.

The framework chosen may be by the following.
Case studies of different societies/places with contrasting levels of accessibility
By level of development and/or urban/rural contrasts within countries.
Some might take a theoretical approach – hyperglobalisers both positive and negative, sceptics, transformationalists.

Key analytical points

Cultural diversity needs to be deconstructed as does the apparatus for assessing how one evaluates 'most'.

Physical isolation is as much to do with the development of transport connections as it is related to distance. Time in transit is an important aspect of accessibility especially at a global level hence 'Zomia'.

This might be interpreted as a coded version of levels of globalisation – measures of globalisation (eg KOF index) uses several ways of measuring connectivity/accessibility

Both internal and international movement is likely to cause higher levels of cultural diversity with higher levels of connectivity especially for well-connected cities

Candidates should address the possibility that greater connectedness increases cultural diversity (London, Singapore) but also reduces it in remote regions that become more connected

Political decisions are central to the development of more culturally diversity societies.

Internal and international migration are most significant in countries with significant internal diversity, e.g. China but much less so in others with less diversity, e.g. Japan.

This is especially true of global hub cities with high levels of flux in the population, e.g. London, Singapore where there is, arguably, the development of a 'global' culture at least in skeletal form.

Some other causes of cultural diversity are closely connected to migration of ideas and institutions - westernisation is however linked closely to accessibility

Ethnically mixed societies might create new cultural forms/hybrids ('Singlish') but can also impact negatively by reducing diversity – the question does not specify whether diversity increases or decreases with changing connectivity

Mass tourism is a 'part' of migratory movements and tends to lead to the development of facilities that can replicate the domestic cultures of that mass market which can limit diversity.

Globalisation of production chains and media is arguably a significant set of processes but these are often closely associated with movements of labour.

In summary

Expect the complexity of definitions of physical isolation to become progressively more sophisticated across the cohort.

In many large countries with a long history of cultural assimilation and diversity (USA) there may well be more diversity within than between such states and isolated places.

Case studies used are likely to include:

Japan/UK/France
Iceland
London/Singapore
Tuvalu/Thailand
Amish communities.

Question 4 – Evaluate the view that health risks are decreasing in the developing world but increasing in the developed world.

Research the pattern of health risks across a range of countries at different stages of development.

Research a range of locations to examine the reasons why health risk varies.

Indicative content

The focus of this title is the contrasting trends in health risk across a range of countries/regions

The framework chosen may be by the following.
Most likely is level of development but better if broken down beyond 'developed/developing' level
Different causes of health risk including environmental factors (including air and water pollution) socio-economic status, poverty and geographic factors such as climate.
By individual health risk, e.g. malaria, TB, Ebola, obesity, asthma, cancer epidemic.

Key analytical points

'Health risk' needs careful deconstruction especially to focus on both indirect health risks (e.g. plastic waste disposal impact on fish) affecting the food chain and direct contamination of water and air sources ingested by humans.

The measurement of health risk is central to coming to a view – this can be both direct as numbers affected by disease (as with Ebola or Covid-19) or indirect measured through life-expectancy and other indices such as DALY's.

Health risk can be expressed in two dimensions – geographic extent and threat to individuals which needs identifying to address how to assess 'decline' and 'increase' – for example decline might be relative (% of population) or absolute (total number).

The best, indirect, measures are probably life expectancy and DALY's.

However, trends are notoriously difficult to predict and two of the many lessons of Covid-19 is that it has not only had a global impact but also wasn't prepared for.

The impact of major health risks in the developing world is largely determined by poverty and limited access to basics such as clean water and sanitation which ultimately are caused by inadequate sanitation – some of that is also true in the developing world with a growth of inequalities leading to increasing health risks in some developed countries.

The use of groups of countries is crude and potentially misleading with as much variation within countries as between them at a local and even regional level. Some will quote 'life on the line' and similar.

These latter causes are closely related to levels of development and the availability and costs of inoculation/treatment (e.g. AIDs/HIV) but whatever the cause pollution is central.

The role of inequalities is very significant – the higher the level of inequality the lower the life expectancy – an issue that relates to governance (postcode lottery).

Some diseases (some cancers) may be a product of development suggesting an inverse relationship between development and health risk and links to air pollution are possible.

In summary

The pattern is much more complex than suggested here so it either needs very considerable qualification or rejection

Some attention needs to be paid to the problematic issues of how to measure health risk and the global scale of the assertion

Case studies used are likely to include:

UK/US
Malawi or other LIDC African states
Variations within US/UK
Pandemics – e.g Covid-19

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