



General Certificate of Education

Geography GGB1

Specification B

Mark Scheme

2008 examination - January series

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

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' 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.

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General Instructions to Examiners on Marking.

It is important that every Examiner marks the scripts to the same standard as the rest of the panel. All Examiners must operate the Marking Scheme in a similar and consistent manner, and hence they must all participate in the application of that scheme at the Standardisation Meeting. In particular they should take careful note of all decisions taken or changes made at that meeting. Examiners are allocated to a Team Leader for the period of examining, and any difficulties that arise should be discussed with that person.

The Marking Scheme

The Marking Scheme consists of two sections for **each question or sub-question – the Notes for Answers and the Mark Scheme itself.**

Notes for answers (NFA):

These indicate the possible content for the various sections of the question paper. In some cases (for example short answer questions) the NFA might indicate the only response that is acceptable, but in many cases they indicate either a range of suitable responses, or an exemplar of the type of response required. Therefore in most cases, the NFA do **not** provide model answers, and should be regarded as such. More NFA may be added at the standardisation meeting if it is felt by the Principal Examiner that details of appropriate ways of answering the question have been omitted.

The Mark Scheme

This is provided in italics and provides the instructions to Examiners as to how they are to assess the work of the candidates. The number of marks allocated within the mark scheme to a question should correspond to the number of marks for that question on the question paper.

There are two ways in which the Mark Scheme operates:

- (a) It indicates how the marks to short answer questions are to be allocated – usually to a maximum of 4 marks.
- (b) It indicates how examiners should move through the levels in a level response mark scheme – usually to all questions of 5 marks or more. Each level has a levels descriptor, with clear statements of the “trigger” to move candidates from one level to another. Each level contains a range of marks as shown on the Mark Scheme.

A number of features have been used to distinguish between levels, for example:

- a number of characteristics, reasons, attitudes etc
- the degree of specification, for example the use of specification case studies, or accurate detail
- responses to more than one command word, for example, describe and suggest reasons
- the degree of linkage between two aspects of the question
- the depth of understanding of a concept.

GGB1

Question 1

- 1 (a) In relation to **conventional fossil fuels**, all the countries, apart from France (10%), **use more than EU average 52%**; UK 74%, Italy 81%, Germany 63%. **Only Italy** with 19% **uses more renewables than EU** average 15%. UK is particularly low in use of renewables. **Only France with 77% is above EU nuclear** (33%); UK is 22%, Germany 27%. Italy has no nuclear contribution.
Credit comments on **scale of variation** and **comparison** with EU.

Level 1 (0-4 marks)

General comments on level of use. No attempt to quantify or comment on scale of use relative to EU. Credit correct use of data. Allow some degree of tolerance but only where the value is not on a set line of the graph. E.G., UK fossil fuel is 74%; you can allow a value just below 74, but not 73. Germany's fossil fuel % is about 63; it is not 62 or 64. Exercise judgment within a tolerance of 1%, but only where appropriate.

Level 2 (5-7 marks)

Some attempt to comment on relative importance of particular fuels; needs some quantification to attain top of level. Comparison with EU needed to reach Level 2 (for 2 fuels). Similarities and differences to be credited.

- 1 (b) An opportunity to develop ideas on responses to / management of issues resulting from using particular types of energy.

Acid deposition; This is a **non-carbon issue**; dry deposition of SO₂, NO₂ and nitric acid and the wet deposition of sulphuric acid and compounds of ammonium. The **major cause** is the burning of fossil fuels in power stations, smelting of metals and vehicle exhaust fumes.

'Greenhouse gases'; a **carbon-based** issue: increased concentration of CO₂ in the atmosphere.

One of the major reasons for the increase in CO₂ is the burning of fossil fuels containing hydrocarbons – coal, oil, gas

The question is about *harnessing energy*; be careful of awarding credit to other 'greenhouse gases' such as methane and CFCs unless there is some clear link to energy; difficult to see how candidates would make CFCs relevant, but methane release could be linked to the use of energy in the form of biogas, but these have been developed as alternatives to fossil fuels in any case. Cutting down trees for fuelwood, or to access other energy resources is relevant in that this would contribute to the production of CO₂.

Strategies / solutions: use of catalytic converters: burning fuels with lower sulphur content, reduction in fossil fuels, gas desulphurisation schemes; reduce overall demand for electricity and car travel.

Credit references to examples of improvements in public transport or more efficient use of energy and energy reduction schemes.
Reference to Kyoto and attempts to reduce CO₂ emissions. Carbon offsets etc.

DO NOT CREDIT

(i) aspects that are not related to harnessing of energy; e.g. CFCs or general deforestation without indicating how that could have contributed to increases or without any link to using the wood for fuel of gaining access to other fuels; e.g. clearing trees to open up land for other energy resources.

(ii) answers that deal with the effects of acidification e.g. liming of lakes; or answers that consider the impact of global warming. This is not a question about global climate change; it is about the greenhouse gases.

Level 1 (0-4 marks)

Answer identifies some causes in a general way with brief reference to strategies.

Level 2 (5-8 marks)

*A more developed answer which develops causes **and links them to strategies***

*Specific strategies / solutions **are linked to a cause**. There must be **some development of strategies (at least 2)** for one of the issues to access Level 2. A fully developed statement would present a solution or strategy to address or target a specific cause of the problem.*

Level 3 (9-10 marks)

*A well developed / structured answer that develops a range of causes and gives strategies for **both** issues. Answer cannot access Level 3 unless both issues are covered. I.e. there must be some strategy aimed at greenhouse gases and some strategy to reduce acid deposition. Do not credit the same strategy for both.*

'Carbon issue v non-carbon issue, but not necessarily in those terms.

Question 2

- 2 (a) An opportunity for candidates to present changes in weather-temperature, wind speed and direction, rainfall and cloud cover – in sequence during the passage of a depression.

Would expect to see some description of **warm front – warm sector – cold front sequence**; not necessarily in that order, but you would expect to see some understanding of the correct sequencing. **Temperature gradient** across front; **wind changing** from S/SE to SW to NW; **clouds thickening** and **lowering** towards WF; warm sector with scattered cloud and then towering cloud at CF
Rainfall intensifying as the WF approaches, generally dry in warm sector; **heavier, shorter duration** rainfall at CF.

Reasons;

- **different air masses**, Tm and Pm;
- **air cooling** through both rising and contact between warm and cold air surface, cooling to **dew point and saturation** giving condensation and precipitation; could also link this to changes in cloud type.
- pressure patterns and spacing of isobars; **anticlockwise rotation of air** and subsequent change in wind direction at the fronts as isobars change direction at fronts.
- **steeper gradient of cold front** (1:50) produces more vigorous uplift and heavier rain of shorter duration than warm front where gradient is of the order of 1:500.

Level 1 (0-4 marks)

Description of basic changes but no development of reasons.

Level 2 (5-8 marks)

Clear description supported by linked reasons. One change, if sufficiently well explained gives entry to Level 2; for example rainfall variations and intensity linked to rate of uplift of WF and CF; the effect of the gradients on rate of cooling and cloud/precipitation formation.

Answer needs to be well developed in order for one factor to allow access to Level 2.

3 changes answered well sufficient for full credit.

- 2 (b) Anticyclones tend to produce **drier, calmer, clearer conditions**. Drier because air is *divergent* and *stable*, *spreading from high pressure centre*; as it spreads and *descends it dries out* – lack of cooling to dew point – less cloud and rain, *relative humidity decreases*. *Wide spacing of isobars* gives **lower wind speeds – gentle pressure gradient**.
 Depressions produce uplift, cooling to dew point - cloud and rain along fronts. Convergent rather than divergent air.

Level 1 (0-4 marks)

Answer describes the general conditions with no development of differences.

Level 2 (5-8 marks)

*Answer develops **one** difference **and** reason.*

***Three** aspects, difference plus reason, sufficient to achieve full credit.
Answer should only be raised to Level 2 if the difference is clearly stated or is implicit in the comment*

Question 3

- 3 (a)(i) Note; the figures given below are taken from ‘Social Trends’; data of this type has been used in a previous examination. Candidates are not expected to memorise such data, but should be able to give some idea of the scale of change over a period of time. I present the data to give some reference point when assessing responses; I am not expecting this level of detail.

The **main changes** are an **increase in the population 65 and over**, some increase 16-64 and a **decrease in under 16**.

65+; up from 13% to 16%

Under 16; down 25% to 20%

Households are smaller by 2001 (from 1970s); a **large increase in the 1 and 2 person** households; decrease in the larger households, i.e. those over 3 people. Credit indicators of **scale** of change.

1 person households up from 18% to 29%; and very high in some inner urban areas; this is the **most significant change** in households in urban areas.

2 person households up to 35% from 32%

Allow any reference to ‘age’ and ‘number of people’ per household.

Level 1 (0-3 marks)

General identification of a single trend; fall in under 16; or larger % of elderly.

Level 2 (4-6 marks)

*Answer establishes changes for **both** age structure and household composition or gives **some idea of scale** of change.*

- 3 (a)(ii) **Residential homes** for the elderly have tended to develop in two main areas: inner suburbs where purpose-built sheltered housing has been developed for lower income pensioners. In the outer suburbs; often in large detached dwellings that have been refurbished, situated on main roads and are nearer to medical and other care facilities.

NB. It is appreciated that candidates may not recognise these as residential homes for the elderly; allow comments on other types of housing e.g. for young workers near CBD;

but do not credit ‘non-housing’ interpretations (the question does refer to housing types)

Do not credit other forms of housing such as semi-detached; these are not council houses.

1 and 2 bedroom apartments / loft apartments have been developed on the edge of the CBD, or main roads leading into the centre, or in waterside locations.

Examples include, No 1 Deansgate, the Slate Quay, Waterside in Leeds, Albert Dock, St Katherines Dock, Surrey Quay. They have developed to meet the demands of people (young professionals who wish to live in housing very near to work / CBD and nightlife / entertainment / restaurants etc.

Influenced by availability of sites and redevelopment of older properties.

Level 1 (0-4 marks)

Some general comments on the type of housing; with some links to possible factors influencing development.

Level 2 (5-7 marks)

*Clear **links** between*

- *Factor and **type** of housing*

OR

- *Some comment on '**particular** location' or parts of urban area
With correct illustration of the type of housing; but must be of the types shown*

OR

- *Development of reason for location in that part of urban area*

***One idea done well**, i.e. developing type, location and reason gets entry to Level 2. Second theme raises up level*

Examples needed to raise answer to top of level.

NB. Do not give credit for simple observations about changes in age structure/household structure as credited in 3 a (i).

- 3 (b)** Brownfield sites may be **expensive to clear**; demolition and removal of former structures; they **may offer less space for expansion / parking facilities**.

Some sites may require **de-contamination** if they have been used for industrial processes or storage of potentially dangerous materials; old fuel stores or petrol stations.

The buildings on the site may be of **historical interest** (listed buildings) with specific controls on re-development; the original structure may have to be retained in its original form. This may well increase the total cost of the scheme.

Planning control may be in place.

Point Mark

Credit each well developed point up to 2 marks each.

A 'well developed point' requires a **comment on the characteristic** and **some justification** e.g. 'expensive to clear **plus** some indication **why** it would be expensive.

4 less well developed comments could achieve 4 marks; **allow any combination** up to max 4 i.e. 2+2; 2+1+1; 1+1+1+1

(4 marks)

Question 4

- 4 (a) Method is described clearly in context of study; candidate should indicate the data that are being presented.

Some reason for using this method should be clear in terms of 'being useful', perhaps because it allowed clear patterns to be observed or some form of analysis to be undertaken, albeit at a fairly superficial or subjective level.

No credit for simply naming the method or technique

In this question there is no requirement for the hypothesis to be stated although most candidates are likely to give the context; **do not give or withhold credit on the basis of the presence or absence of a well stated hypothesis.**

Level 1 (0-3 marks)

Method is outlined without any detail as to how the data was processed/presented; names method but no clear indication as to how it was undertaken; no reference to its usefulness.

Level 2 (4-6 marks)

Clear indication as to method of presentation; for example

- *Clear indication of graph axes,*
- *shading classes for choropleth*
- *it would be possible to follow the instructions and present the data; developed reference to show how technique was useful would promote answer to top of level.*

The key here is that you are able to follow the description and would be able to apply the method as described.

- 4 (b) This provides an opportunity for candidates to develop some ideas as to how their results link to their aims and understanding of the chosen topic. We should expect more than the usual 'benefits of field work'; 'seeing for oneself', although this is a valuable aspect of fieldwork. Candidates should be able to **undertake some evaluation / interpretation of results** in relation to general theory or 'models'. Reference to general trends supporting textbook theory or consideration of anomalies would form part of this.

Level 1 (0-2 marks)

Answer presents 'textbook' materials and comments with no direct reference to own results. General benefits of fieldwork. No sense of location/place; no real indication of the field environment.

Level 2 (3-4 marks)

*Answer attempts to make sense of own results in context of study, some attempt at **interpretation** or **evaluation** of findings.*