

**Geography B**

Advanced GCE 2691

Issues in the Environment

**Mark Scheme for June 2010**

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All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the Report on the Examination.

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**Notes for Examiners**

When marking this examination, it should be remembered that, as stated in the rubric, this is an 'Issues Analysis' paper and provides for synoptic assessment. This module is designed to build on studies of physical and human geography at AS level and A2, including the other subjects listed in the Issues in Sustainable Development. Thus top level answers in most sections should make reference to broader aspects of geographical studies, and not refer solely to material from the resource booklet.

To remind you, at AS, units include physical topics of atmospheric, landform and coastal systems, and the human topics are: Economic Activity, Settlement Dynamics and Population and Development. At A2, the Issues in the Environment module include one topic selected from: Natural Hazards, Climate, Cold Environments and Tropical Environments for the physical geography section, and one from Food Supply, Changing Urban Places, Leisure and Tourism and Globalisation of Economic Activity in the human section.

To assist marking, the following annotations are suggested:

Res - quote from Resource booklet

S synoptic reference

+ for credit-worthy point

L1 (or 2,3,4,5) for the point at which the level has been attained

- If the next level has not been achieved, this can be indicated at the end of the question by, for example, adding a minus sign to the next level L2-.

^ Where there is significant omission of material.

Brackets or circles for place or scale references

Any further annotations or comments, particularly at the end of the question, which will help a later reader to see how the marks were awarded will also be helpful.

The mark scheme provides an indication of content which cannot be comprehensive because of the nature of the paper. It is not expected that all the points mentioned will appear even in the best answers. The information is just an indication of the type of material which might be included. Entirely different answers may achieve the same marks, and good geography that is relevant to the question should always be credited, remembering maps and diagrams too.

NB Descriptors are as guidance for top of level. The lower marks in a level may be achieved by progressing beyond the previous level and not fulfilling all the criteria for the top of the awarded level.

Please remember to mark in red, to use your checker to ensure accuracy and to follow the other guidelines in the booklet 'Instructions for Examiners'.

**GENERIC LEVELS****Part (A) Questions****Level 5 (18-20)**

Uses the resource effectively by identifying the key points which are clearly linked to the question. Applies original ideas or examples to illustrate a clear understanding of the question.

**Level 4 (14-17)**

Uses the resource appropriately to address the key ideas of the question. Brings in some original ideas or examples to develop an understanding of the question.

**Level 3 (9-13)**

Extracts information from the resource and applies it to the question in a general way OR uses own ideas/examples to address the question with only superficial use of the resource.

**Level 2 (5-8)**

Considers the question in a simplistic, descriptive way by using a limited number of points from the resource OR very general, vague individual ideas/examples.

**Level 1 (1-4)**

Vague ideas which show very limited understanding of the question.

**Part (B) Questions****Level 5 (23-25)**

Shows a clear understanding of the question and uses locational exemplifications to support a reasoned response. Answer is well structured and logical with effective presentation skills.

**Level 4 (18-22)**

Shows an understanding of the question and selects appropriate locational examples to support answer. Generally well organised and logical and clearly presented.

**Level 3 (12-17)**

Shows an awareness of the question and some locational exemplification, although argument might be vague or disjointed. Some evidence of structure, although presentation may be variable.

**Level 2 (7-11)**

Vague understanding of the question with generalised and simplistic observations. Locational exemplification limited to general points which lack a clear focus on the question. Some basic structure, although weakness in presentation apparent.

**Level 1 (1-6)**

Very limited understanding of the question and vague general knowledge used to support ideas. Poorly organised and presented with a lack of structure.

- 1 (a) **Discuss the importance of aid as both short and long-term responses to natural hazards in developing countries. Use information from Fig. 1 to support your answer.** [20]
- 'Importance' can be considered in relation to the hazard or in relation to the economic conditions in the country
  - The 'importance' may be relative in terms of the type of hazard
  - Short term could be considered as 'emergency aid', long-term in relation to development/redevelopment
  - Long term may be considered in relation to on-going hazards
  - Observation included in the resource are largely short term and include shelter, blankets, medical kits, food and clean water.
- (b) (i) **Consider the ways that hazards can be classified.** [25]
- Classification can be by type - climatic, geomorphological etc
  - Classification can also be by;
    - Location
    - Impact (economic/social/environmental)
    - Strength/regularity/duration
    - Combinations of factors.
- (ii) **Why do people live in places that experience natural hazards?** [25]
- Hazards vary in strength and impact
  - Perception plays an important part in decision making
  - Levels of management may reduce risks
  - There may be a range of potential advantages, including;
    - Agriculture (soil fertility)
    - Economic location
    - Links to tourism
    - Links to power supply/minerals etc.

- 2 (a) **Discuss the view that short-term climatic extremes can have significant effects on people. Use information from Fig. 2 to support your answer.** [20]
- 'Effects on people' can include individual effects or activities
  - Climate extremes can include any aspects of the climate in any location
  - 'Significant effect' suggests more than a minor inconvenience
  - Resource has a particular focus on health effects related to heatwaves, especially in relation to mortality rates
  - Observations about general health issues, links to pollution issues and age related observations are expressed in the resource.
- (b) (i) **Consider the impacts of global warming.** [25]
- 'Impact' can be social, economic, environmental
  - 'Impact' can be positive and/or negative
  - Impacts might include;
    - Sea-level rise/risk of flooding
    - Increased number of storm events
    - Changing weather patterns/drought
    - Links to agriculture/industry/tourism
    - Links to human comfort zones
    - Links to habitat change
    - Links to illness/disease/food shortages.
- (ii) **Discuss the view that 'climate change is a result of both natural processes and human activities.'** [25]
- There is long term evidence of climate change, including;
    - Ice cores
    - Radio-carbon dating
    - Geological evidence
    - Human records.
  - Natural causes of climate change include;
    - Milankovitch cycles
    - El Niño
    - Ocean oscillations
    - Volcanic activity.
  - Human causes of climate change include;
    - Deforestation
    - Atmospheric pollution caused by industrial, vehicle emissions
    - Agriculture.

- 3 (a) **Discuss the view that ‘cold environments present opportunities for leisure and tourist activities and challenges for their management.’ Use information from Fig. 3 to support your answer.** [20]
- Opportunities might include observations about sporting/active activities, or activities based on the scenery/environment
  - Increasing affluence and access to a wider range of cold environments may present growing opportunities
  - Challenges might be related to the extremes of the environment or problems of access
  - The development of environmentally fragile and sensitive environments may be considered a challenge.
- (b) (i) **Describe and explain landforms associated with glacial erosion in mountain areas.** [25]
- Features might include Corries, Aretes, Pyramidal peaks, Hanging valleys, Ribbon lakes etc
  - ‘Describe’ suggests a clear appreciation of the characteristics of the chosen features
  - ‘Explain’ demands an understanding of process, including both weathering and erosion.
- (ii) **‘Development in areas of permafrost presents a number of challenges.’ Discuss.** [25]
- ‘Challenge’ might be considered in specific terms by looking at factors such as buildings/communications/services etc
  - ‘Challenge’ might be considered in a broader context in relation to remoteness and servicing industrial environments in hostile environments
  - ‘Challenge’ might be considered in relation to the issues associated with the development of fragile, sensitive environments
  - ‘Development’ could include any type of development, as long as it is clearly related to areas of permafrost
  - Considering the challenges of permafrost and how building techniques may help to overcome the challenges may be an avenue of approach.

- 4 (a) **To what extent does Fig. 4 illustrate the economic and environmental issues associated with development in tropical areas?** [20]
- 'To what extent' suggests a broader discussion than simply the resource
  - Some appreciation of the environmental costs of development in tropical areas
  - An understanding that economic development has both national and international influences
  - Some appreciation of sustainable strategies in terms of reducing potential conflicts
  - Economic development can bring it social advantages.
- (b) (i) **Explain how physical processes operate to produce the distinctive characteristics of tropical ecosystems.** [25]
- Some understanding of the workings of the ecosystem
  - How different factors (climate, soil, flora, fauna etc) operate together to create particular ecosystems
  - Some appreciation of specific characteristics (flora and fauna) and how these have developed in terms of physical characteristics.
- (ii) **'Soil erosion is a major constraint to development in tropical areas.'** Discuss. [25]
- 'Major constraint' implies a discussion
  - Can be related to any tropical environment
  - Erosion is a natural phenomenon, rates of erosion may be linked to human activity
  - In drier areas focus may be on over farming, removing vegetation etc, resulting in desertification and reduction in food output
  - In wetter areas focus may be on deforestation linked to rapid erosion after periods of heavy rainfall resulting in difficulties for agriculture, communications and general development
  - Rates of erosion may also be influenced by the type of human activity/management of vulnerable areas.



- 5 (a) **To what extent are physical conditions a significant influence on food supply in the poorest parts of the world? Use information in Fig. 5 to support your answer.** [20]
- Clear appreciation that there are a number of influences on agriculture
  - Understanding that the relative importance of different factors will depend upon a number of factors
  - The poorest parts of the world can also have some of the harshest physical conditions
  - Food security is about more than just physical influences
  - The question suggests a clear debate about the relative influences in relation to economic development.
- (b) (i) **To what extent do modern agricultural systems cause environmental degradation?** [25]
- 'Modern agricultural systems' can influence any system in the last 40/50 years
  - Intensive agriculture can create environmental pressures such as: habitat loss, soil erosion and degradation, pollution to land and water sources etc
  - 'To what extent' suggests a debate about the relative impact of different systems
  - Discussion about organic systems or more sustainable methods may provide a balance.
- (ii) **'Global food shortages are a result of distribution problems rather than production problems.' Discuss.** [25]
- What is the global food problem? This could be considered in terms of quantity and/or quality
  - Appreciation of global supply/demand with reference to food 'rich' and 'poor' areas
  - Why is there a surplus of food in some areas and shortages in others?
  - 'Distribution' goes beyond being able to distribute. Reference to general economic conditions and relative poverty
  - The question suggests a clear discussion with some evaluative observations.

**6 (a) 'Meeting the basic needs of the poorest urban dwellers in developing cities requires planning and intervention.' Discuss.**

**Use information from Fig. 6 to support your answer.**

**[20]**

- The article has a clear focus on relative poverty and how to identify the poorest group of people in a generally poor community
- Planning is about identifying needs and targeting limited resources
- Improving 'conditions' could include any basic social conditions including specific points such as housing, health etc and/or infrastructure points such as water, sanitation etc
- Intervention can occur at a number of levels including Government, NGOs or even co-operative/self-help groups.

**(b) (i) To what extent are urban areas sustainable?**

**[25]**

- 'To what extent' implies an element of evaluation
- What is meant by sustainability?
- What elements of management need to be considered in relation to urban sustainability? These can be social, economic or environmental, including;
  - Housing quality
  - Health care/education
  - Crime management
  - Transport/infrastructure
  - Dealing with waste
  - Employment
  - Recreation/leisure etc
- There are examples of managing parts of the urban environmental sustainability (transport etc)
- Managing whole urban environments is very complex, especially in rapidly growing cities
- There may be some discussion of eco-cities/new eco-towns in the UK.

**(ii) Identify the problems faced by one MEDC city and evaluate attempts to resolve them.**

**[25]**

- Evaluate suggests some observations about relative success
- Could be based on a general 'problem' such as economic decline or specific problems such as 'housing', 'transport' etc
- A general response could be based on a specific regeneration scheme
- Manage the 'problem' suggests a clearly identified problem(s) which could be economic/social/environmental or combination of these.

7 (a) To what extent does Fig. 7 illustrate the costs and benefits of tourism in LEDCs?

[20]

- 'To what extent' suggests a discussion beyond the resource
- Opportunities are largely socio-economic and expressed in relation to jobs, incomes, improvements in social conditions
- Challenges expressed are largely about economic leakage, seasonality and socio/cultural exploitation
- Broader 'opportunity' might be considered in terms of export finance, multiplier impacts and links to government spending
- Challenges may be considered in relation to environmental factors.

(b) (i) 'Tourism in the British Isles has had to change to compete with overseas attractions.' Discuss. [25]

- Understanding of relative decline, competition with the growth of foreign holidays
- Reasons for the changing position of the UK tourism market
- 'Change to compete' can include a range of possibilities in terms of adapting buildings, opportunities, types of holidays, duration of holidays etc
- Adaptation in relation to developing opportunities might include ideas about conference business etc.

(ii) 'Sustainable tourism demands a thorough understanding of local cultures and environments.' Discuss. [25]

- An understanding of the idea of sustainability in relation to socio/economic and environmental factors
- The question could be approached from a negative standpoint – using examples of where local cultures/environments have not been considered, resulting in particular problems
- Focus could be on 'green' or 'ecotourism' projects, with discussion about how they might be sustainable, using specific examples of management practices
- Use of National Parks is clearly acceptable as long as the focus is clearly linked to the question.

- 8 (a) **To what extent does Fig. 8 illustrate the increasing globalisation of economic activity?** [20]
- The global spread of manufacturing
  - The global spread of service activity
  - Increasing global trade - the 'shrinking world'
  - The global spread of Transnational corporations
  - 'To what extent' implies discussion beyond the resource.
- (b) (i) **Examine the causes and impacts of regional economic decline in MEDCs.** [25]
- Causes might include:
    - The global shift of manufacturing industry
    - The decline of traditional industry
    - Changing industrial location factors
  - Impacts might include;
    - Socio-economic factors/general cycle of decline;
      - Unemployment/falling incomes
      - Declining infrastructure
      - Demographic shift
      - Social/crime issues
    - Environmental factors;
      - Urban/industrial dereliction
      - Vandalism
      - Reduction in environmental quality
  - Impacts might be considered in relation to the potential for positive change - opportunities brought about by redevelopment.
- (ii) **Examine the impact of inward investment on one region in the United Kingdom.** [25]
- Impact of 'inward investment' might be considered in relation to;
    - Government redevelopment investment
    - New investment - industry/TNCs
  - Impact could be considered in relation to;
    - Socio-economic factors;
      - Employment/training opportunities
      - General improvement to socio/economic conditions
      - Infrastructure development
    - Environmental factors
      - Redevelopment of derelict land/buildings
      - Reduction of pollution
      - Improvement of environmental conditions.

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