



22115202



**GEOGRAPHY  
HIGHER LEVEL  
PAPER 2**

Friday 6 May 2011 (morning)

2 hours

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**INSTRUCTIONS TO CANDIDATES**

- Do not open this examination paper until instructed to do so.
- Answer three questions.
- Each question must be selected from a different optional theme, A – G.
- Do not answer two questions on the same optional theme.
- Use case studies, examples, maps and/or diagrams where relevant.

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Answer **three** questions. Each question must be selected from a different optional theme. (Do not answer two questions on the same optional theme.)

Wherever possible, answers should include case studies and examples, and where relevant, large, well drawn maps and diagrams.

**Optional Theme A — Freshwater – issues and conflicts**

1. If you choose to answer this question refer to the diagram on page 3 in the Resources Booklet.

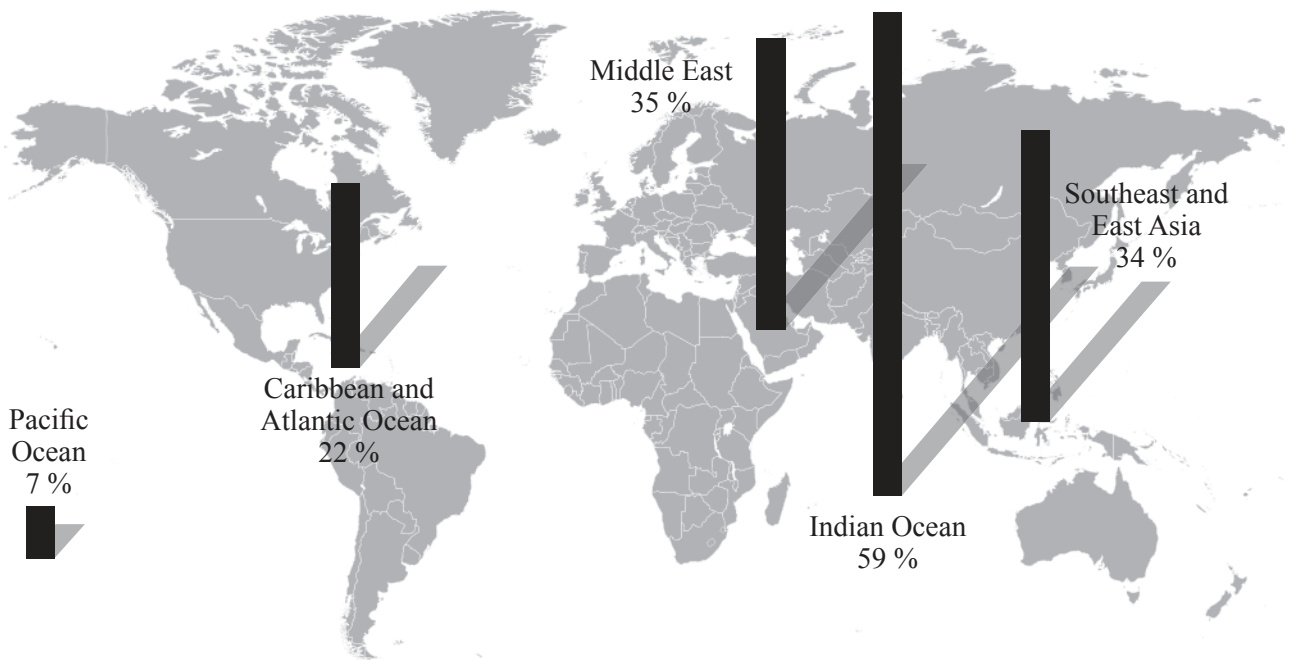
The diagram shows the main features of the hydrological cycle.

- (a) Describe **two** conditions at point A which would make infiltration rates higher than at point B. [2×2 marks]
- (b) Explain the consequences of a decrease in the amount of water stored in ice in the hydrological cycle at any stage. [6 marks]
- (c) “Strategies adopted to meet the competing demands for water are not always effective.” Discuss this statement with reference to **one** named river basin. [10 marks]

- 2. (a) Draw a labelled diagram to show the main features of an artesian basin. [4 marks]
- (b) Explain the environmental impacts caused by groundwater abstraction. [6 marks]
- (c) Evaluate the success of the management strategies used in **one** named wetland area. [10 marks]

**Optional Theme B — Oceans and their coastal margins**

3. The graph shows the percentage of coral reefs that have been lost since 1960.



[Source: adapted from [http://commons.wikimedia.org/wiki/File:World\\_Blank\\_Map\\_\(Mercator\\_projection\).svg](http://commons.wikimedia.org/wiki/File:World_Blank_Map_(Mercator_projection).svg)]

- (a) (i) Describe the pattern of loss of coral reefs. [2 marks]
  - (ii) State **two** physical factors which are needed for the development of coral reefs. [2 marks]
  - (b) Explain **three** benefits that coral reefs bring to people. [3 × 2 marks]
  - (c) Examine the conflicts which arise from competing land uses in coastal margins. [10 marks]
4. *If you choose to answer this question refer to the diagram on page 3 in the Resources Booklet.*

The diagram shows some of the main features of the ocean floor.

- (a) Referring to the diagram, identify feature A and feature B – B<sup>1</sup>. [1+1 marks]
- (b) Explain why the ocean floor becomes increasingly older with distance from A. [2 marks]
- (c) Using an annotated diagram **only**, explain the formation of an ocean trench. [6 marks]
- (d) Examine why oceans are areas of geopolitical conflict. [10 marks]

**Optional Theme C — Extreme environments**

5. *If you choose to answer this question refer to the photograph on page 4 in the Resources Booklet.*

The photograph shows a periglacial environment.

- (a) Name and describe **two** landforms shown on the photograph. *[2+2 marks]*
- (b) (i) Explain the process of solifluction. *[3 marks]*  
(ii) Explain the formation of pingos. *[3 marks]*
- (c) Examine the impacts of permafrost on human activities. *[10 marks]*

6. *If you choose to answer this question refer to the image on page 4 in the Resources Booklet.*

The image shows changes in the melting of the Greenland ice sheet.

- (a) Describe the changes that have taken place in the Greenland ice sheet since 1985. *[4 marks]*
- (b) Explain how and why glaciers and ice masses have sometimes advanced. *[3+3 marks]*
- (c) “Agriculture in hot, arid areas inevitably results in desertification.” Discuss this statement. *[10 marks]*

**Optional Theme D — Hazards and disasters – risk assessment and response**

7. *If you choose to answer this question refer to the map on page 5 in the Resources Booklet.*

The map shows the distribution of volcanoes and areas at risk from earthquakes for part of the west coast of North America.

(a) Describe the pattern of *either* the earthquake hazard risk *or* the volcanic hazard risk shown on the map. *[4 marks]*

(b) Explain the relationship between the magnitude of a hazard event and the frequency of its occurrence. *[6 marks]*

(c) Examine the impacts of one named disaster and possible strategies for preventing its recurrence. *[10 marks]*

8. (a) Describe the difference between a hazard and a disaster. *[2+2 marks]*

(b) Explain why some sections of a community are more vulnerable to hazards than others. *[6 marks]*

(c) Compare the effectiveness of the methods used to predict the occurrence of **two** different natural hazard types. *[10 marks]*

**Optional Theme E — Leisure, sport and tourism**

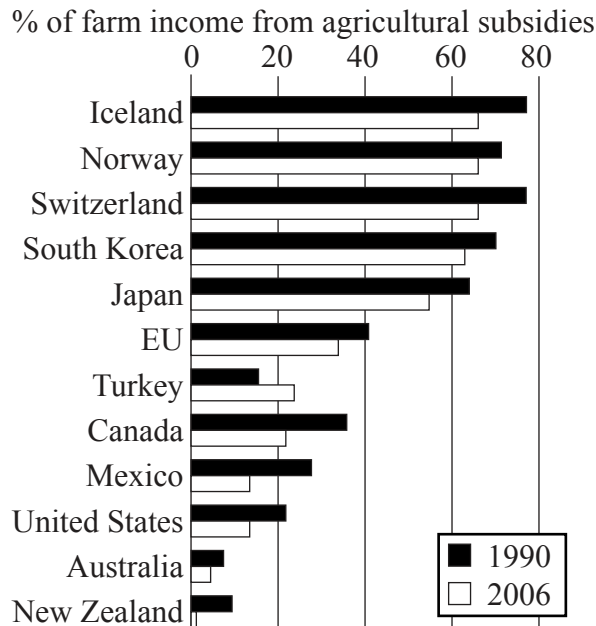
9. *If you choose to answer this question refer to the map on pages 6 and 7 in the Resources Booklet.*

The map extract shows the Lantau Country Park in Hong Kong.

- (a) Identify **two** primary and **two** secondary tourism resources found in the area south of gridline 62. *[2+2 marks]*
  
  - (b) Referring to map evidence, explain **three** problems related to tourism that are likely to develop in Area B, around Ngong Ping. *[3×2 marks]*
  
  - (c) Discuss the strategies designed to manage tourism in **one** named urban area. *[10 marks]*
10. (a) Describe the main characteristics of sustainable tourism. *[4 marks]*
- (b) Explain **three** different impacts of tourist developments on the environment. *[3×2 marks]*
- (c) Examine how tourism has had social and economic impacts on **one** country. *[10 marks]*

**Optional Theme F — The geography of food and health**

11. The graph shows the percentage of farm income from agricultural subsidies in 1990 and 2006 for 11 countries and the European Union (EU).



[Source: OECD data, cited in *The Economist*, 10 November 2007]

- (a) (i) Describe the pattern of agricultural subsidies in 2006. [2 marks]
- (ii) State **two** reasons why agricultural subsidies have declined in most countries since 1990. [2 marks]
- (b) Explain how the actions of TNCs can reduce the availability of food. [6 marks]
- (c) To what extent were human factors responsible for a recent famine? [10 marks]



12. The graph shows the rates of disease in a city in India between 1991 and 2001.

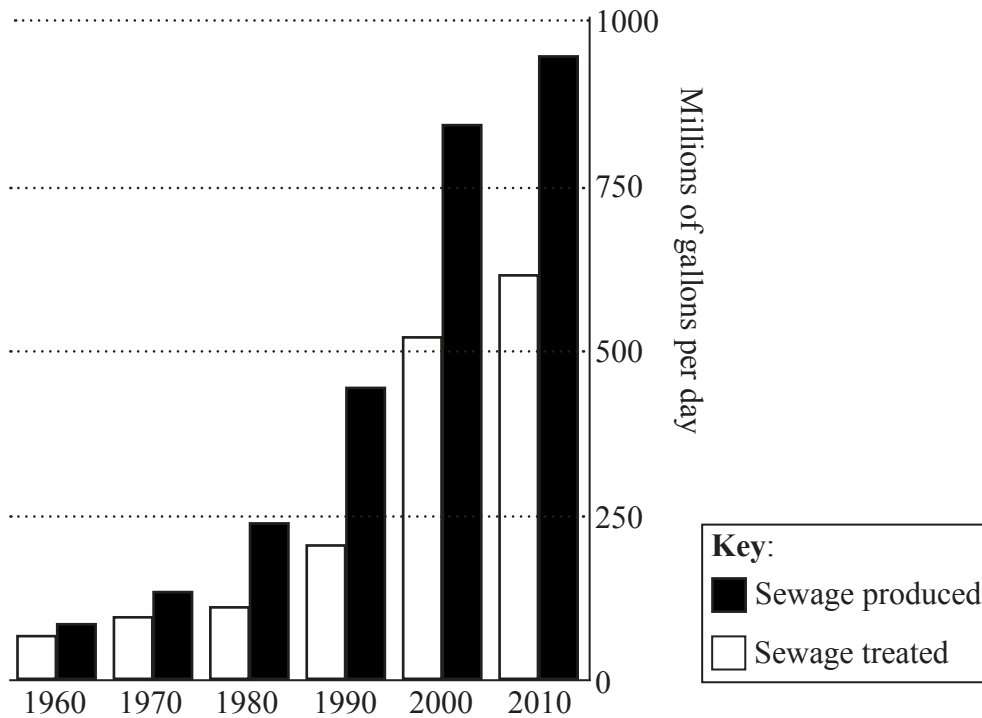


[Source: Jayasree De, (2007), This Changing World: Development, Environment and Urban Health in India. *Geography*, volume 92, issue 2, pages 158–160]

- (a) (i) Describe the trend in diseases spread by diffusion between 1991 and 2001. [2 marks]
- (ii) Describe what is meant by “diffusion by relocation” with reference to a disease. [2 marks]
- (b) Explain the global distribution of diseases of poverty. [6 marks]
- (c) Referring to **one or more** diseases, discuss the factors that determine the relative importance of policies of disease prevention as opposed to policies of treatment. [10 marks]

**Optional Theme G — Urban environments**

13. The graph shows changes in the amount of sewage produced and treated in a rapidly growing megacity.



[Source: adapted from [http://www.nytimes.com/imagepages/2006/09/29/world/20060929\\_WATER\\_GRAPHIC.html](http://www.nytimes.com/imagepages/2006/09/29/world/20060929_WATER_GRAPHIC.html)]

- (a) Describe the trends shown in the graph. *[4 marks]*
  - (b) Explain **three** symptoms of urban stress. *[3 × 2 marks]*
  - (c) “Urban poverty and deprivation are widespread in all cities.” Discuss this statement. *[10 marks]*
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- 14. (a) Describe what is meant by a “sustainable city”. *[4 marks]*
  - (b) Explain **three** ways in which human activities can modify the microclimate of an urban area. *[3 × 2 marks]*
  - (c) Examine reasons why cities in some parts of the world have higher rates of population growth than others. *[10 marks]*