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**GEOGRAPHY
HIGHER LEVEL
PAPER 2**

Thursday 8 November 2012 (morning)

2 hours

INSTRUCTIONS TO CANDIDATES

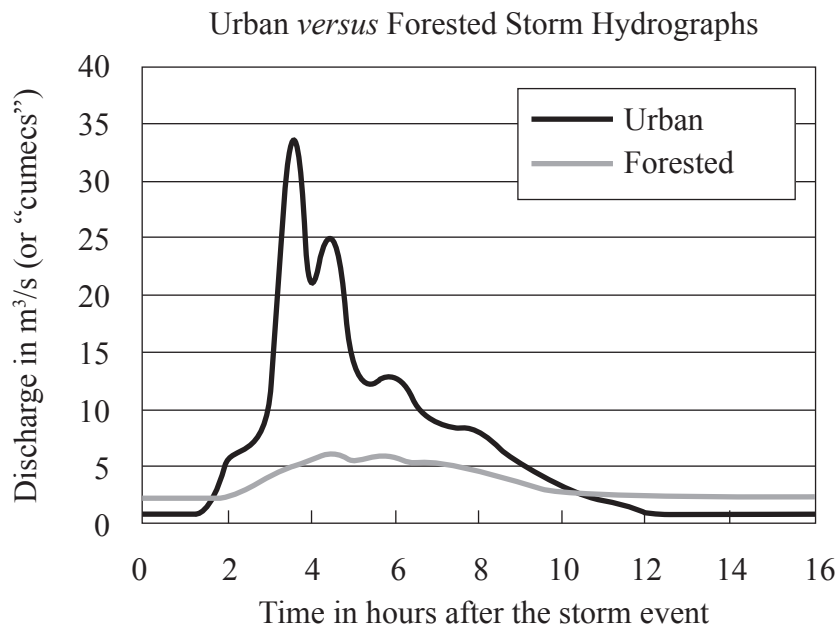
- Do not open this examination paper until instructed to do so.
- Answer three questions. Each question is worth *[20 marks]*.
- Each question must be selected from a different optional theme, A – G.
- Do not answer two questions on the same optional theme.
- Use case studies, examples, maps and/or diagrams where relevant.
- A copy of the Geography Paper 2 Resources Booklet is required for this paper.
- The maximum mark for this examination paper is *[60 marks]*.

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. (a) Describe **two** processes involved in the transport of a river’s load. [2+2]
 - (b) Explain **two** environmental impacts of agriculture on water quality. [3+3]
 - (c) “Floodplain management strategies have more costs than benefits.” Discuss this statement. [10]
2. The diagram shows the response of a stream in an urban area compared with that of a stream in a neighbouring forested area after the same rainstorm event. (The basins are of similar size and drainage density.)

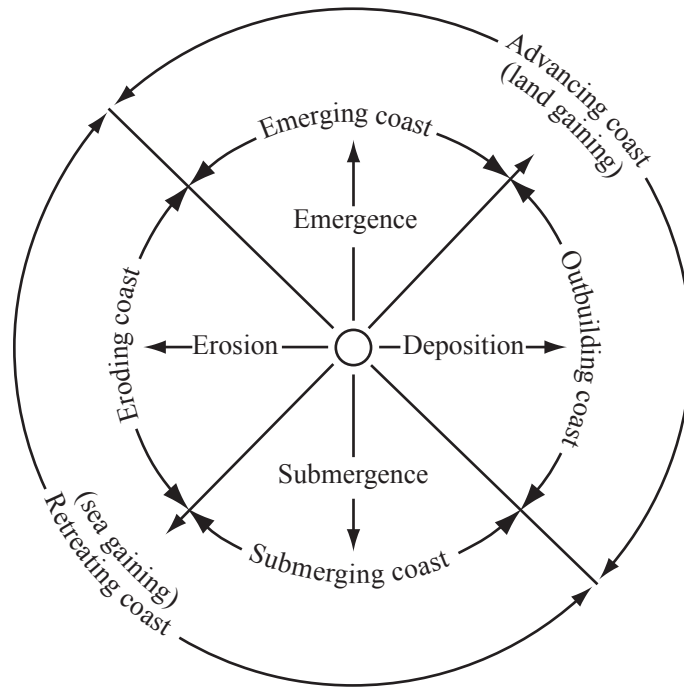


[Source: www.mdsg.umd.edu/images/uploads/siteimages/CQ/V07N2/urban_forest_hydrograph
Graph from Ken Belt, USDA Forest Service.]

- (a) Describe **four** differences between the two hydrographs shown on the diagram. [4]
- (b) Suggest reasons why the urban and forested hydrographs show different responses to the storm event. [6]
- (c) With reference to a named river flood event, examine the relative importance of natural and human causes. [10]

Optional Theme B — Oceans and their coastal margins

3. The diagram shows a model of coastal advance and retreat.



[Source: http://science.jrank.org/article_images/science.jrank.org/coasts-and-coastal-processes.1.jpg]

- (a) Identify **two** reasons shown on the diagram why some coasts advance. [2]
 - (b) Explain why cliffs are often found along retreating coasts. [3]
 - (c) Explain the global distribution of ocean ridges. [5]
 - (d) Examine how the exploitation of **one** named oceanic resource has led to geopolitical conflict. [10]
4. (a) Outline **one** economic and **one** environmental benefit of coral reefs. [2+2]
- (b) Explain the function of the oceanic conveyor belt(s). [6]
- (c) Examine the economic effects of El Niño and/or La Niña events. [10]

Optional Theme C — Extreme environments

5. If you choose to answer this question refer to the map on page 2 in the Resources Booklet.

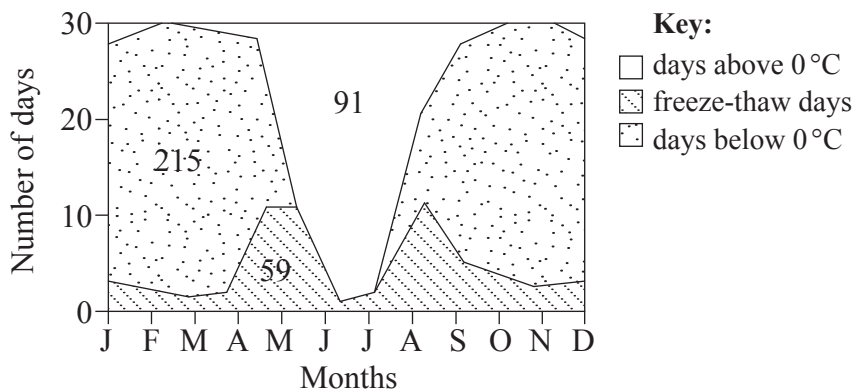
The map shows different levels of aridity in Africa and the areas at most risk from climate change.

(a) Questions removed for copyright reasons [2+2]

(b) [6]

(c) Examine the importance of water in the development of the landforms in any **one** extreme environment (glacial, periglacial, or hot, arid). [10]

6. The diagram shows temperature conditions for a year in a periglacial region of the northern hemisphere.



[Source: *The Periglacial Environment* 3rd Edition, Hugh French. ©2007 John Wiley & Sons Ltd. Reproduced with permission of John Wiley & Sons Ltd.]

(a) (i) Define the term *freeze-thaw*. [1]

(ii) Describe the seasonal variations in the number of freeze-thaw days. [3]

(b) Explain the importance of freeze-thaw cycles and solifluction processes for the development of periglacial landforms. [6]

(c) Examine how the physical characteristics of any **one** extreme environment (glacial, periglacial, or hot, arid) affect resource development. [10]

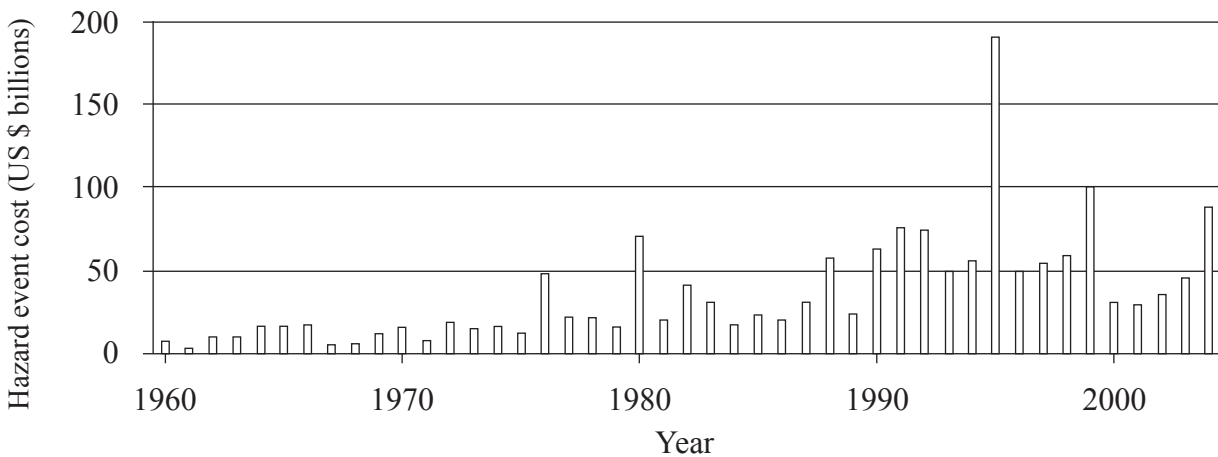
Optional Theme D — Hazards and disasters – risk assessment and response

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

The diagram shows the structure of a typical hurricane (typhoon, tropical cyclone) in the northern hemisphere.

- (a) Describe the atmospheric conditions in the eye and the eyewall of a typical hurricane. [2+2]
- (b) Explain the conditions needed for the occurrence of a hurricane hazard event. [6]
- (c) “Rich countries experience hazard events while poor countries experience disasters.” Discuss this statement with reference to **one** named hazard type. [10]

8. The graph shows the cost of hazard events worldwide in US dollars from 1960 to 2004.

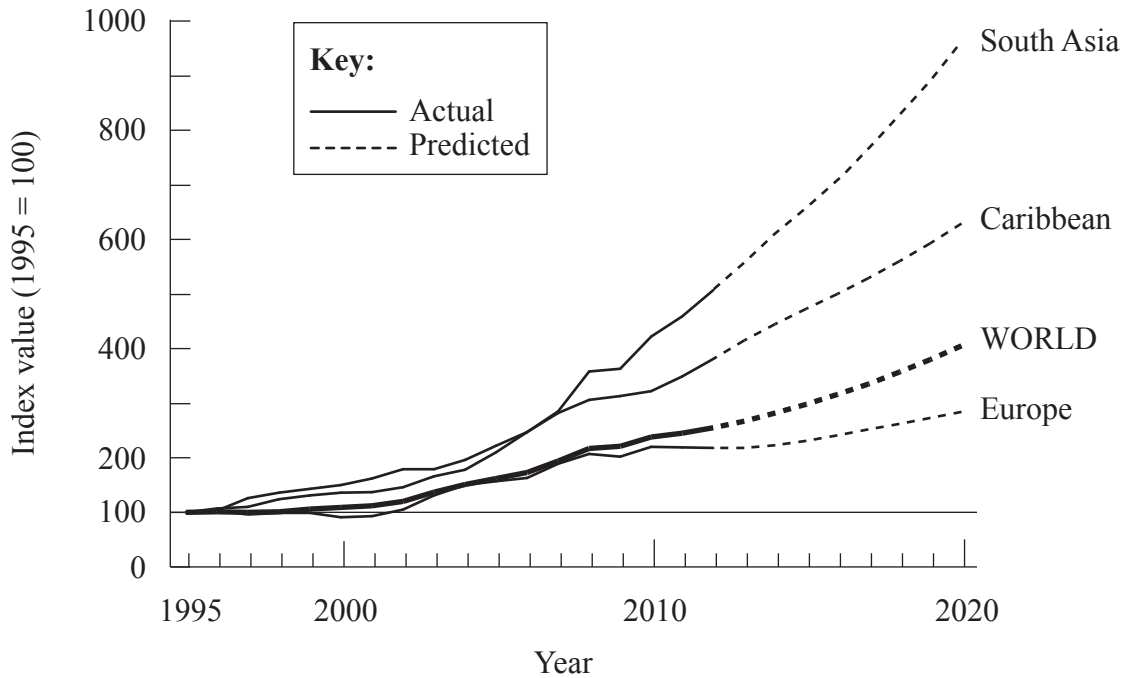


[Source: NASA Earth Observatory, <http://earthobservatory.nasa.gov/Features/RisingCost/>]

- (a) Describe the changes shown in the graph. [4]
- (b) Explain the reasons for these changes. [6]
- (c) Examine the different types of responses that occurred during **and** after a named disaster. (Do **not** refer to technological hazards in your answer.) [10]

Optional Theme E — Leisure, sport and tourism

9. The graph shows government investment in tourism for selected regions from 1995 to 2020. All values are relative to the 1995 index of 100.



[Source: Adapted from World Travel and Tourism Council
<http://www.wttc.org/>]

- (a) Describe the trends shown in the graph. [4]
- (b) Using a located example, explain **two** strategies used to develop tourism in low-income countries. [6]
- (c) For a country you have studied, to what extent do the economic benefits of tourism outweigh the environmental costs? [10]
10. (a) Outline **one** political and **one** economic factor that affect participation in sport. [2+2]
- (b) Referring to a national sports league you have studied, explain the factors that have determined the home location of its teams. [6]
- (c) To what extent can tourism ever be made sustainable? [10]

Optional Theme F — The geography of food and health

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

The map shows part of the global pattern of low calorie intake (undernourishment).

- (a) Describe the difference between malnutrition and low calorie intake. [2]
 - (b) Describe the pattern of undernourishment shown on the map. [4]
 - (c) Explain **two economic** causes of food deficiency. [2+2]
 - (d) With reference to any **one** vector-borne, water-borne or sexually transmitted disease, compare its geographic impacts at the local and international scales. [10]
- 12.**
- (a) Briefly describe what is meant by “obesity”. [2]
 - (b) Suggest why heart disease is considered a “disease of affluence”. [4]
 - (c) With the aid of a diagram or diagrams, explain the spatial process of a disease spreading through “diffusion by relocation”. [4]
 - (d) Examine the factors which have led to more food becoming available in some areas in recent years. [10]

Optional Theme G — Urban environments

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

The map shows cities experiencing high or negative growth rates in countries with differing levels of urbanization.

- (a) Identify the **two** major components of urban growth. [2]
- (b) Referring to the map, describe the relationship between the level of urbanization and urban growth rate. [3]
- (c) Explain the pull factors associated with counter-urbanization. [5]
- (d) Discuss the challenges facing **one or more** cities experiencing rapid growth. [10]

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

The map shows part of a city in Asia. The scale of the map is 1 : 20 000. The contour interval is 20 metres.

- (a) Using map evidence, describe **two** characteristics of Area A which suggest it is a high-class residential area. [2+2]
 - (b) Using map evidence, suggest **three** reasons why Area B may be a suitable location for a manufacturing activity. [2+2+2]
 - (c) With reference to **one** named example, evaluate the success of a strategy designed to manage pollution in an urban area. [10]
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