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0680/01

October/November 2007

1 hour 30 minutes

Additional Materials: Ruler

Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.
DO NOT WRITE IN ANY BARCODES.

Answer **all** questions.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [] at the end of each question or part question.

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1	
2	
3	
4	
5	
6	
Total	

This document consists of **12** printed pages.

- 1 Look at the photograph below, which shows elephant grass. It is possible that the grass could be used as an alternative source of energy.

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- (a) (i) State **one** characteristic of elephant grass which is shown in the photograph.

..... [1]

- (ii) What name is given to this source of alternative energy?

..... [1]

- (iii) Explain why burning elephant grass would be less damaging to the environment than burning oil or coal.

.....

.....

..... [2]

- (b) (i) Among the gases released into the atmosphere are sulphur dioxide and nitrogen oxides.

Name and describe the environmental problems caused by these gases.

.....

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..... [3]

(ii) How could the pollution caused by these gases be reduced?

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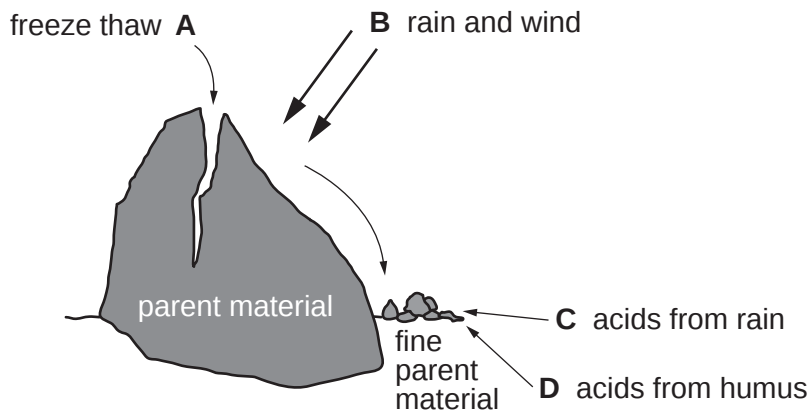
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..... [3]

[Total: 10]

- 2 Look at the diagram below which shows processes in the formation of soil.

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- (a) (i) Of the four processes (A–D) shown, give the letters of the two processes which are mechanical and the two processes which are chemical?

Mechanical and

Chemical and [2]

- (ii) Which of the processes A–D involves the action of living things?

..... [1]

- (iii) Describe the process of freeze-thaw weathering.

.....

 [2]

- (b) These processes give rise to a mixture of soil particles (clay, silt and sand) and minerals. Name **two** other components of soil needed for plant growth.

.....
 [2]

- (c) Agricultural practices around the world are leading to soil erosion. How can this be reduced?

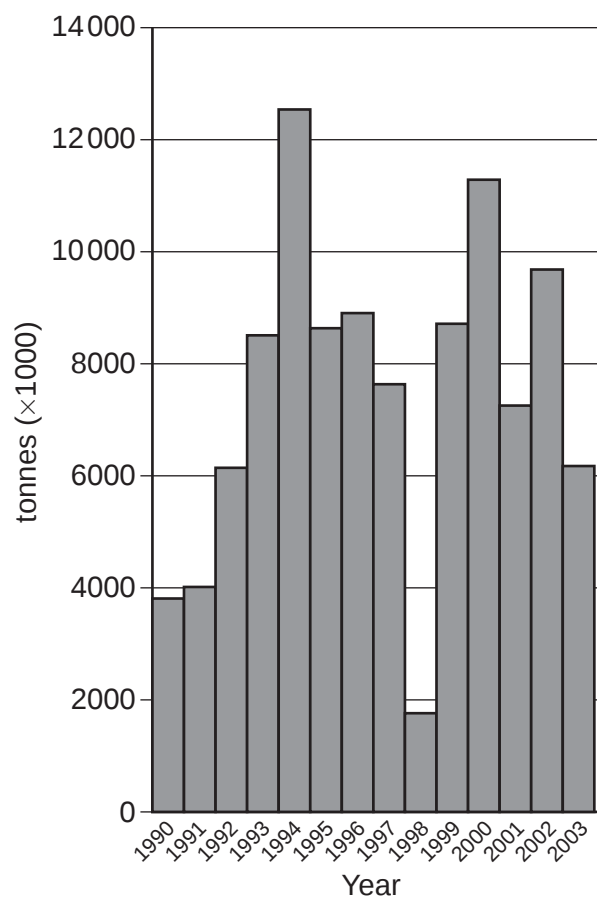
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 [3]

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- 3 The graph below shows the total catch for the anchovy fishery, off the west coast of South America, from 1990 until 2003.

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- (a) Give the **year** for the

- (i) smallest catch

.....

- (ii) largest catch

..... [2]

- (b) (i) Fish catches often depend on ocean currents. The presence of the Peruvian (Humboldt) current ensures a large anchovy catch. Explain how cold currents do this.

.....

.....

.....

..... [3]

- (ii) The lowest catch in the graph was caused by a change in this current due to an El Nino event. Describe how this event caused a low catch.

.....
.....
..... [2]

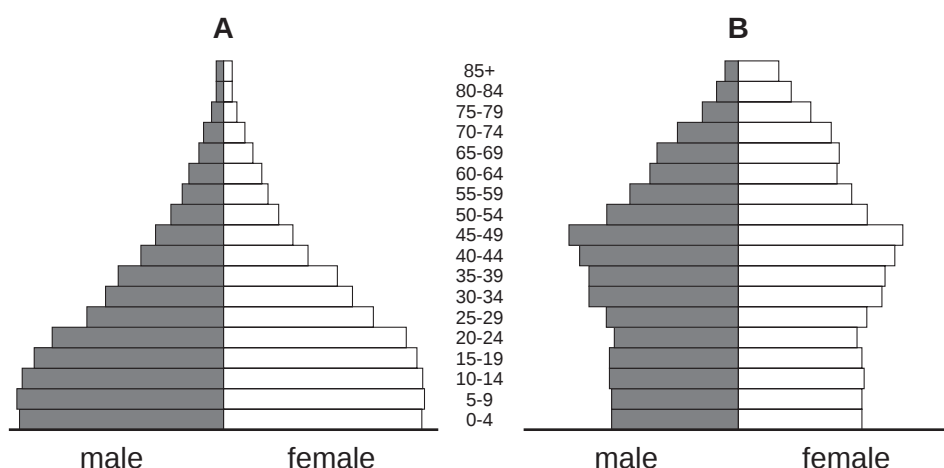
- (c) In any year, overfishing can be a problem. Describe what could be done to avoid overfishing.

.....
.....
.....
..... [3]

[Total: 10]

4 Look at the two population pyramids shown below:

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(a) Which one of the two pyramids shows a developed country?

Pyramid

[1]

(b) (i) Choose **either** pyramid **A** or **B**. Describe and explain the main features of the pyramid you have chosen.

Pyramid chosen

.....

 [3]

(ii) In changing from developing to developed, as shown above, a country goes through the Demographic Transition. Describe what this means.

.....

 [2]

- (c) Rural to urban migration is common in developing countries. Describe **one** human PUSH factor and **one** physical PUSH factor for this migration.

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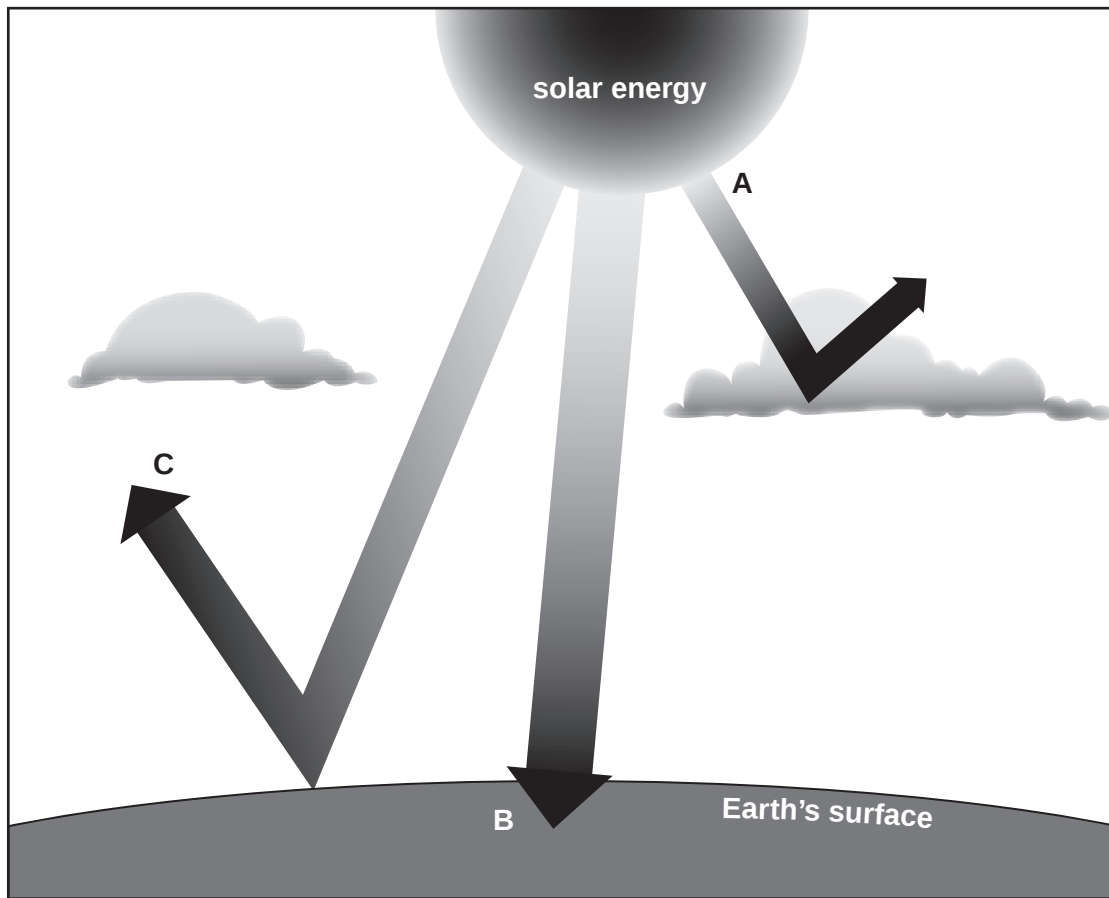
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..... [4]

[Total: 10]

- 5 Look at the diagram below which shows what happens to solar energy.

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- (a) (i) The three labels **A**, **B** and **C** are processes; absorption, radiation and reflection. Give the correct process for each of the letters shown in the diagram.

A

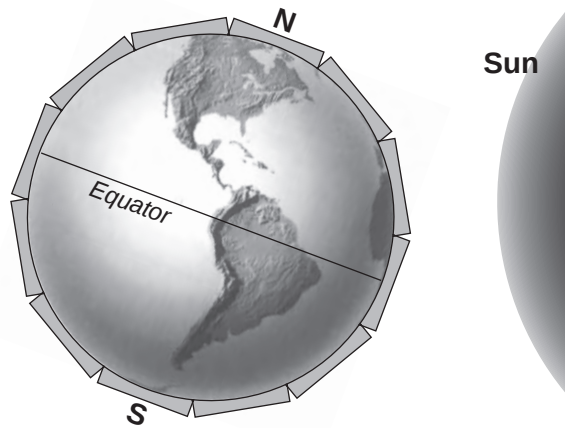
B

C

[2]

- (ii) Look at the diagram below. The amount of solar energy which falls on the surface of the earth (insolation) varies from place to place and from time to time. This accounts for warmer and colder climates and the seasons.

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In which hemisphere, in the diagram above, is it Summer? Explain your answer.

.....

 [2]

- (b) (i) Two main differences between Summer and Winter are temperature and daylength. How do these influence the amount of solar power that can be generated?

.....

 [2]

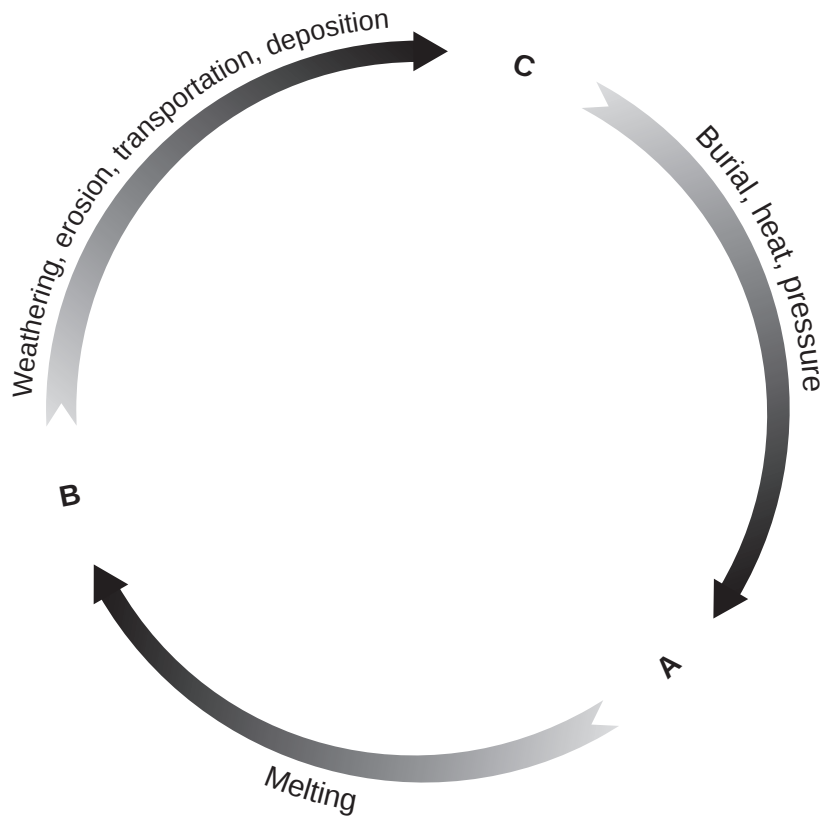
- (ii) Solar power is an example of alternative energy. Such sources are mainly alternative to fossil fuels. Suggest **two** reasons why it is a good idea to develop alternatives to fossil fuels.

.....

 [4]

[Total: 10]

- 6 The following diagram shows the Rock Cycle and how the three types of rock (igneous, sedimentary and metamorphic) are related.



- (a) (i) State which letter corresponds to each type of rock.

Sedimentary

Igneous

Metamorphic

[2]

- (ii) Choose **two** of the rocks: granite, limestone and sandstone and give a use for each rock chosen.

.....

.....

..... [2]

- (b) (i) Describe problems associated with the exploitation of rocks and minerals.

.....

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..... [3]

- (ii) Suggest ways in which an area which has been damaged by the extraction of rocks or minerals could be restored.

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..... [3]

[Total: 10]

Copyright Acknowledgements:

Question 1 © <http://plants.ifas.ufl.edu> Photo by A. Murray. Copyright 2000 Univ. Florida.

Question 3 © Food and Agriculture Organization of the United Nations <http://www.fao.org/figis/servlet/species?fid=2917>

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