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UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

1458229011

ENVIRONMENTAL MANAGEMENT **0680/13**

Paper 1 **October/November 2012**

1 hour 30 minutes

Candidates answer on the Question Paper.

Additional Materials: Ruler

READ THESE INSTRUCTIONS FIRST

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 **13** printed pages and **3** blank pages.

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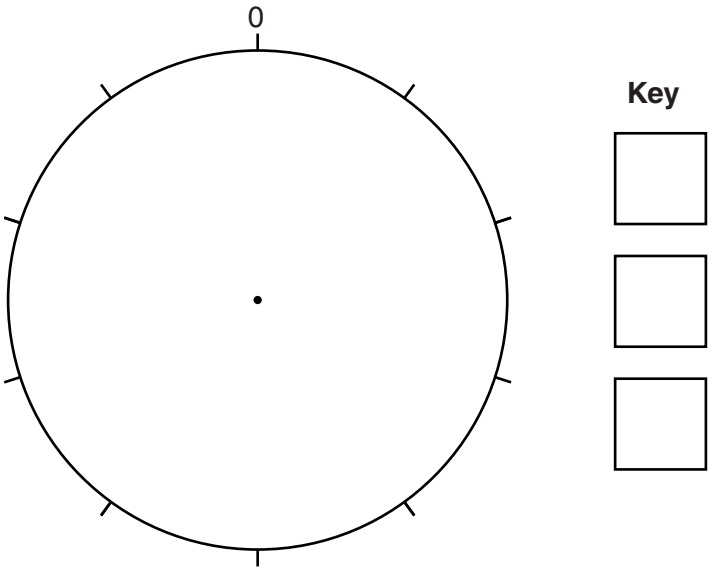
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1 **(a)** The table shows the composition of the atmosphere.

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gas	percentage
nitrogen	78
oxygen	21
other gases	1
TOTAL	100

(i) Draw a pie graph to show these percentages and complete the key.



[3]

(ii) Name **two** gases which contribute to global warming.

.....

..... [1]

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(b) Human sources add many gases to the atmosphere. These include oxides of nitrogen (NO_x) and sulfur dioxide (SO_2).

(i) What type of atmospheric pollution do these gases cause?

..... [1]

(ii) Name a different source for each gas.

NO_x .....

SO_2 .....
[2]

(iii) For **one** of the activities, explain how it could be reduced.

.....

.....

.....

..... [3]

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2 The map shows the distribution of some minerals.

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Key

B Bauxite (common)
C Copper (quite rare)
G Gold (rare)
I Iron ore (common)

old igneous rocks
young fold mountains

(a) (i) Describe the distribution of **two** of the four minerals shown on the map.

.....

.....

.....

.....

..... [4]

(ii) Explain why mining is a dangerous job.

.....

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.....

.....

..... [3]

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(b) What are the economic advantages and disadvantages of mining for a country?

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.....

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.....

.....

.....[3]

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3 Read these sentences about ecosystems.

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"An ecosystem contains a number of species each of which has a **population** living in a particular **habitat** and occupying a **niche**. They all live together in a **community**."

(a) (i) Explain the meaning of each of the following terms.

population .....

.....

habitat .....

.....

niche .....

.....

community .....

..... [4]

(ii) Species are adapted to the physical environment in which they live.

Explain how desert plants are adapted to the hot desert environment.

.....

.....

.....

.....

.....

..... [3]

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(b) Humans can alter natural ecosystems by developing new varieties of crops. One way in which this is done is by genetic modification (GM).

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Here are some statements about GM crops.

A They can lead to more efficient use of existing farm land.

B They can be made to be pest resistant.

C They can be made to be herbicide (weedkiller) tolerant.

D Their use may create 'super weeds' without natural controls.

E Use of natural crop varieties will decrease.

F Their cultivation could lead to greater use of herbicides.

Choose **three** of these statements. For each, write the letter and state possible effects on natural ecosystems.

Statement …….

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Statement …….

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Statement …….

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.....

.....[3]

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4 **(a)** The Earth has 1.4 billion km^3 of water of which only 3% is freshwater.

(i) How many cubic kilometres of the Earth's water is freshwater? Show your working.

..... km^3 [2]

(ii) The freshwater was once in the sea and most of it will go back to the sea. Explain how this happens in the water cycle.

.....

.....

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.....

.....

..... [3]

(b) People use freshwater for many purposes. One is for the disposal of human wastes. The table shows the number of people with no access to improved sanitation in the world in 2004.

world region	**number of people without improved sanitation (millions)**	**%**
Sub-Saharan Africa + Middle East	950	38
South Asia	500	……
Latin America	…….	4
East Asia	950	38
TOTAL	2500	100

(i) Complete the table. [1]

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(ii) The data could be represented in a graph. Which would be the most suitable from the following list, and why?

A bar chart

B line graph

C pie graph

D histogram

Letter ……

.....

.....

..... [2]

(iii) In areas where sanitation is poor, water related diseases are common. Name **one** water related disease and **state** whether it is water-based, water-borne or water-bred and **how** it can be controlled.

name of disease .....

water-based, water-borne or water-bred .....

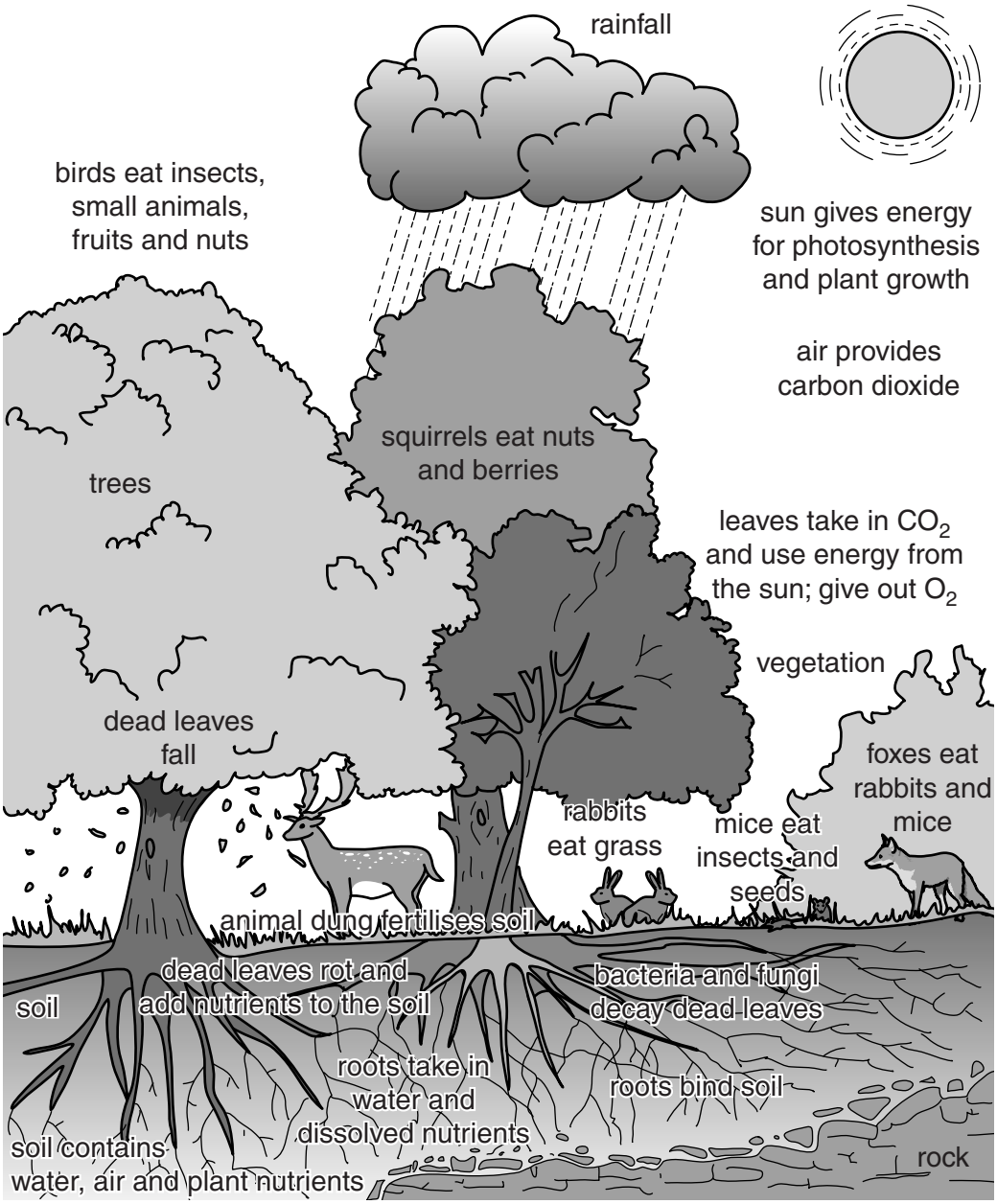
method of control .....

..... [2]

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5 Look at the diagram which shows a land-based (terrestrial) ecosystem.

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(a) (i) All ecosystems need photosynthesis to survive. The word equation for photosynthesis is:

…….

carbon dioxide + water ⟶ glucose + oxygen.

…….

Complete the word equation by writing on the dotted lines. [2]

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(ii) Other than the substances mentioned in **(a)(i)**, what other substances do plants need for growth and from where do they obtain these?

.....

.....

.....

..... [2]

(iii) **Use information from the ecosystem diagram** to draw a food chain which includes insects, trees, mice and foxes.

[3]

(b) Explain how the living and non-living environments can be affected when the trees are removed from forest ecosystems.

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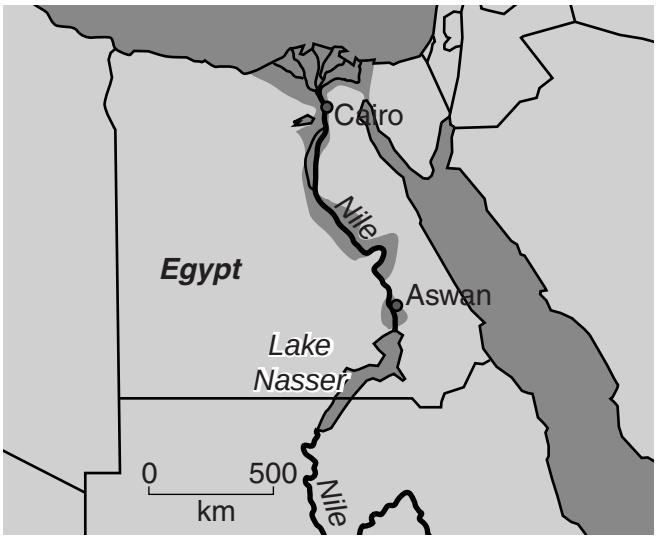
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.....[3]

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6 Look at the map below which shows the course of the river Nile in part of Sudan and in Egypt.

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Lake Nasser was formed by the building of the Aswan High Dam.

(a) (i) How long is Lake Nasser?

..... km [1]

(ii) Suggest **three** ways in which the building of the Aswan High Dam has benefited Egypt.

.....

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..... [3]

(iii) Describe **two** problems caused by the building of large dams such as the Aswan High Dam.

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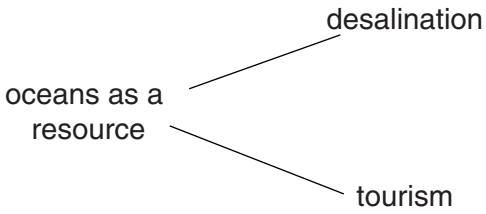
..... [2]

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(b) Many countries such as Egypt also make use of the resource potential of the adjoining seas and oceans. Some potential resources are shown in the spider diagram below.

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(i) Complete the diagram by adding **two** further resources. [2]

(ii) Choose **one** of the resources you have named and explain how human use of this resource affects the oceans.

.....

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..... [2]

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