UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2011 question paper for the guidance of teachers

0680 ENVIRONMENTAL MANAGEMENT

0680/13 Paper 1, maximum raw mark 60

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

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1 (a) (i) oxygen;

(ii) water vapour;

(b) (i) permanent / long term changes in weather patterns; max [1]

(ii) burning fossil fuels;
give off carbon dioxide;
which traps heat and warms atmosphere;
ref greenhouse effect; max [3]

(iii) use public transport / eq / reduce electricity use (they must give an e.g.: turn off lights, take off standby, etc.) / turn down heating / improve insulation / AVP / use alt energy with appropriate e.g. for a person (e.g. solar panels);; max [2]

(iv) inability to produce enough food / drought / floods / heat wave deaths / AVP;; max [2]

[Total: 10]

2 (a) (i) A; [1]

(ii) mosses and lichens; [1]

(iii) mosses replace lichens;
plants with roots / owtte, replace mosses;
shrubs come in;
trees come in;
soil builds up;
later plants outcompete earlier ones;
(competition for) light / water / minerals; max [4]

(iv) they both need the same resource / named resource; [1]

(b) habitat loss;
loss of food supply;
extinction;
collapse of food chain;
biodiversity loss; max [3]

[Total: 10]

3 **(a)** **(i)** 66(%);

(ii) correct plotting (ecf);
% of total;
Central and South America; [3]

(iii) Disadvs: can control price / make it expensive / lead to tension / war;
Advs: infrastructure needed fewer times, saves money; [2]

(b) **(i)** 18%; [1]

(ii) availability locally / pollution laws /; [1]

(iii) wind / HEP / geothermal / tidal / wave / biomass / nuclear AVP;; [2]

[Total: 10]

4 **(a)** **(i)** current reversal in Southern Ocean / off Peru / in Pacific;
leading to warmer seas there;
due to weak trade winds; [2]

(ii) sea warmer (When El Nino);
supporting data quoted; [2]

(iii) warm water carries less nutrients / minerals;
phytoplankton die;
less food for fish;
also less oxygen;
fish die / migrate due to these factors; max [3]

(b) measure wind speed / direction and air / ocean temperature;;
main factors involved in El Niño; [3]

[Total: 10]

5 **(a)** **(i)** light / sun(light);
carbon dioxide;

(ii) photosynthesis; [

(iii) irrigation / named kind; [1]

(b) **(i)** a long period;
with little or no rain;
in an area where rain is usually more frequent; max [2]

(ii) shower not bath;
hand rather than machine wash;
do not allow taps to run;
water garden with collected rainwater;
repair leaks;
AVP; max [2]

(iii) charge more;
install meters;
deal with wastage;
AVP; max [2]

[Total: 10]

6 **(a)** **(i)** Middle East; [1]

(ii) USA (or Europe); [1]

(iii) (119.4+25.2)–(25.4) =119.2 MT;
[Allow 2 marks for correct result. 'Show working' not asked in QP] [2]

(iv) no, because it is all found N of equator except some Asia / Pacific; [1]

(b) **(i)** because they only get a small fraction of the final costs;
one example of what else cost goes on;
because of price fluctuations in cost;
but rise in production; max [2]

(ii) inadequate energy supply to run factory;
lack of skilled labour to make products;
lack of money to make products; max [3]

[Total: 10]