

**CAMBRIDGE INTERNATIONAL EXAMINATIONS**

Cambridge International General Certificate of Secondary Education

**MARK SCHEME for the May/June 2015 series**

**0680 ENVIRONMENTAL MANAGEMENT**

**0680/11**

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 should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2015 series for most Cambridge IGCSE<sup>®</sup>, Cambridge International A and AS Level components and some Cambridge O Level components.

Page 2	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – May/June 2015	0680	11

- 1 (a) (i) mostly astride / in tropics / between tropics / (the US / SW USA / Californian) desert;  
ref. to further point about tropics, e.g. (largest desert / 1 or 2) on Tropic of Cancer / (most deserts / 3) on Tropic of Capricorn;  
(mostly) on west of (continent / coasts) / eq.;  
correct ref. to size of desert in Africa / Arabia / Australia;  
none in high latitudes / eq.; [3]
- (ii) dry / low rainfall;  
high temperatures (not just hot / very hot) (in day);  
cold at night;  
strong winds; [2]
- (b) (i) over(grazing / cultivation);  
deforestation / eq.;  
soil erosion / soil degradation / loss of nutrients;  
climate change;  
(leading to) temperature rise / reduced rainfall; [2]
- (ii) tree planting (accept afforestation);  
(roots) bind soil / increase intercepted rainfall / shelter from wind erosion;  
stops being blown away / washed away;  
  
terracing / build barrier across slope;  
soil is on flatter land;  
stops soil being blown away / washed away;  
  
contour ploughing / ploughing around the slope;  
reduces run-off;  
stops soil being washed away;  
  
wind breaks;  
plant trees;  
stops soil being blown away / washed away; [3]
- 2 (a) (i) fuelwood / wood / biomass / plants / timber; [1]
- (ii) burning / combusting / eq. wood / eq.;  
turns water to steam;  
this turns / moves turbine; [3]
- (b) (i) ref. plants absorb carbon dioxide from atmosphere;  
in photosynthesis / eq.;  
net CO<sub>2</sub> emission to atmosphere is zero / reduced;  
ref. carbon neutral;  
ORA for coal for any of the above;  
  
*One mark for idea of coal having higher proportion of carbon / ORA;* [3]
- (ii) carbon monoxide / water vapour / sulfur dioxide / (accept SO<sub>2</sub>) / nitrogen oxides / NO<sub>x</sub>; [1]

Page 3	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – May/June 2015	0680	11

- (c) landfill;  
developed with uses, e.g. landscaping;
- used as fertiliser/eq.;  
developed with ref. to increase growth/yield; [2]
- 3 (a) (i) grade II =  $100 - (4.2+16.2+1.3) = 78.3$ ;  
78.3 plotted correctly (allow ECF); [2]
- (ii) gone down from (industry/ implied, e.g. quotes figures;  
by about 400 million tonnes;  
not much/ no change in domestic;  
domestic already low so small scope for further change;  
clean air acts;  
use of alternative energy sources to fossil fuels;  
scrubbers/ filters/ (flue gas) desulfurisation;  
moving industry out of Germany;  
domestic small proportion so not worried about as much; [4]
- (b) sulfur dioxide;  
NO<sub>x</sub>;  
dissolve/ react in (rain) water;  
lowered pH/eq.;  
named acid; [4]
- 4 (a) (i) A 73, B 113, C 373, D 413
- All four for two marks; two or three for one mark.* [2]
- (ii) 486 and 486;  
they are the same (allow ECF); [2]
- (b) (i) match:  
there are areas where agriculture is high value and no/ little drought; ORA  
example;
- mismatch:  
there are areas where agriculture is high value but drought is extreme/ very extreme;  
example;
- ORA [3]

Page 4	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – May/June 2015	0680	11

(ii)

disease	type	carrier	caused by	symptoms
bilharzia	<b>WATER-BASED</b>	<b>SNAIL</b>	worm	weak and anaemic, kidney problems
cholera	water-borne	none	a bacterium	<b>DIARRHOEA, VOMITING</b>
<b>MALARIA</b>	<b>WATER-BRED</b>	Female mosquitoes	plasmodium	<b>HEADACHES, FEVER, VOMITING,</b>

All six for three marks. Four or five for two marks. Two or three for one mark.

Allow one symptom for each.

[3]

5 (a) (i) 65 (accept 64–66); [1]

(ii) H.E.P., biofuels, wind, solar, geothermal (ignore nuclear but no mark if any other non-alternative named in the list); [1]

(iii) tidal/wave; [1]

(b) (i) iron ore;  
manufacture of any relevant product;

copper;  
wire / eq.;

lead;  
roofs / batteries;

aluminium / bauxite;  
named product;

N, P or K;  
fertiliser;

gold / silver;  
jewelry etc.;

diamonds;  
jewelry or cutting;  
named rock;

as appropriate (e.g. limestone for blast furnace / cement / sand(stone for glass) / desulfurisation;;

One mark for two appropriate minerals and one mark for each use.

[3]

Page 5	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – May/June 2015	0680	11

(ii) 2044; [1]

(iii) reuse;  
recycling;  
use of alternatives;  
more efficient use;  
quota/eq.; [3]

6 (a) (i) B, A, C

*All three correct for two marks one or two correct for one mark.* [2]

(ii) lichens / mosses / pioneer plants;  
can colonise rock / bare surfaces / don't need soil;  
ref. to soil created / described;  
soil improves;  
gets more, humus / water / minerals / nutrients;  
allowing small plants / named plants to root / grow;  
tall plants / shrubs / bushes / eq. grow;  
ref. to competition between named types of plants e.g. taller / shorter;  
for water / light / nutrients; [4]

(b) ref. herbicides;  
intercropping;  
biological control or described;  
physical removing of weeds;  
use crops which are (faster growing / outcompete the weeds / resistant to herbicides of the weeds);

any development, such as named example; [4]

**[Total: 60]**