

**MARK SCHEME for the May/June 2010 question paper**  
**for the guidance of teachers**

**0680 ENVIRONMENTAL MANAGEMENT**

**0680/11**

Paper 11, 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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Page 2	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – May/June 2010	0680	11

- 1 (a) (i) evaporates;  
cools as rises/condenses;  
turns back into water (or ice); [2]
- (ii) polluted/not clean/AW;  
(waterborne) diseases/people get ill/AW;  
two examples of pollutants; [3]
- (iii) chlorination; kills organisms;  
desalination; gets rid of salt/makes it drinkable;  
filtration; gets rid of particles; any one correct method and description [2]
- (b) coastal/continental plate;  
shallow water;  
high nutrients;  
thus plenty of food for fish; [any 3]  
(A) for one mark, where cold and warm currents meet
- 2 (a) (i)  $1600 \times 2.5 = 4000$  RM; [2]
- (ii) breeding; improved yield/flavour etc.;  
pesticides; kill pests which reduce yield;  
herbicides; kill weeds which compete;  
GM; improve yield/flavour etc.;  
irrigation; increase yield;  
fertilizers; increase yield; [4]  
AVP
- (iii) a cash crop is grown for money; not to provide grower or others with adequate food;  
or converse arguments [2]
- (b) fibres; medicines; biofuels/use as fuel; any use of wood; [2]
- 3 (a) (i) nitrogen oxides (or any specific/correct); sulphur dioxide; (NOTE allow formulae if correct) [2]
- (ii) factories/power stations; cars (eq); [2]
- (iii) (S emissions from) volcanoes/bacterial action soil/vegetation/lightning; [1]
- (b) (i) because fossil fuel burning gives off the gases; alternatives do not; [2]
- (ii) turn off lights; walk/cycle/instead of car; car share; hybrid cars  
insulate house (any method); AVP; any three [3]

Page 3	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – May/June 2010	0680	11

- 4 (a) (i) leaves, flies, glow worms; arrows in correct direction; NOTE max two if pyramid drawn [3]
- (ii) predator; [1]
- (b) (i) 1. stop them getting food; by causing lights to go off;  
2. water pollution; reduces food for flies that glow worms eat;  
3. people trample glow worm habitat; kill worms;  
4. provide boardwalk/path; with explanatory signage; any two ways with suitable descriptions [4]
- (ii) 1. ban torch use; explain why with leaflet/boards;  
2. ban water entry; leaflets/boards/fencing;  
3. ban; leaflets/boards/fencing;  
4. hire out night vision equipment; any one way that has been described [2]
- 5 (a) weathered; rock; [2]
- (b) (i) plants; organic; organic; water; rocks; clay; little  
All 7 for 4  
5 or 6 for 3  
3 or 4 for 2  
1 or 2 for 1 [4]
- (ii) deforestation; afforest/conserves/avp;  
ploughing; contour plough;  
overgrazing; rotate animals;  
overcultivate; rotate  
any two [4]
- 6 (a) (i) 1980 ( $\pm 1$ ); [1]
- (ii) 1993;  $-5.2\%$ ; [2]
- (iii) natural fluctuations to 1980; release of CFCs from 1980; gives rise to chlorine; which destroys ozone; levels fall; Montreal protocol – reference to banning of CFCs; levels then rise after 1994; (NOTE Max 2 for just descriptions) [4]
- (b) mutation; (skin) cancer – reject skin damage; cataracts – accept eye damage; immune system depression; sunburn; any three [3]