Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

ENVIRONMENTAL MANAGEMENT **0680/13**

Paper 1 **October/November 2016**

MARK SCHEME

Maximum Mark: 60

Published

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 October/November 2016 series for most Cambridge IGCSE®, Cambridge International A and AS Level components and some Cambridge O Level components.

Question	Answer	Mark
1(a)(i)	27; moist; low; spin; moisture; clouds; 6 correct = 3, 4 / 5 correct = 2, 2 / 3 correct = 1, 0 / 1correct = 0	**3**
1(a)(ii)	correct plot (must be clearly above half-way between 1400 and 1450 but below 1450);	**1**
1(a)(iii)	*any 3 of:* better forecasting; better shelters available; better construction; better evacuation; better communication; better healthcare; less powerful cyclones some years;	**3**
1(b)(i)	drier weather than would be normal in an area;	**1**

Question	Answer	Mark
1(b)(ii)	*any 2 of:* dam building to conserve water / storing water; improve soil with compost; drought resistant strains; desalination plant; prediction; monitoring; drought awareness; local planning; reduction in water demand; water conservation; sink wells; import water;	**2**

Question	Answer	Mark
2(a)(i)	all arrows present and in the correct direction; phytoplankton and great blue heron shown; one correct route; phytoplankton → zooplankton → mosquito larvae → small fish → medium fish → large fish → great blue heron or phytoplankton → zooplankton → small fish → medium fish → large fish → great blue heron	**3**
2(a)(ii)	phytoplankton; mosquito larvae / small fish;	**2**

Question	Answer	Mark
2(b)(i)	*any 2 of:* much less wetland in 2015; losses mainly in North / around the big lake; South East; near cities;	**2**
2(b)(ii)	*any 3 of:* for farming; for settlements / urbanisation; for disease control / named disease / malaria; for peat; for their water;	**3**

Question	Answer	Mark
3(a)(i)	carbon dioxide and water vapour;	**1**
3(a)(ii)	carbon dioxide / water;	**1**
3(a)(iii)	trap, heat / infra-red / long-wave radiation leaving Earth; causes global temperature rise / global warming; this can change long term weather patterns;	**3**
3(b)(i)	(it is correct) because total is (power stations 21 + industry 17 + transport 14); = 52%. 50%;	**2**

Question	Answer	Mark
3(b)(ii)	*any 3 of:* catalytic converters; use public transport / example; cycle / walk; electric cars; car-pooling / eq; more economical cars qualified / eq;	**3**

Question	Answer	Mark
4(a)(i)	*any 2 of:* nearly all between the tropics / ORA / on both sides of equator; very little in North America; throughout some parts of Central America / Caribbean; northern regions of South America;	**2**
4(a)(ii)	*any 3 of:* the vector /mosquito; bites an infected person; picks up parasite / eq; when it bites again it is passed to another person;	**3**
4(a)(iii)	water-borne: typhoid / cholera; water-based: bilharzia;	**2**

Question	Answer	Mark
4(b)	*any 3 of:* drugs / vaccinations; named / treat the disease; vector control / avoidance; long sleeves, nets; vector eradication; insecticides / oil on water / draining; improved sanitation; prevents spread of bacteria; clean water supply / chlorination ; prevents spread of bacteria;	**3**

Question	Answer	Mark
5(a)	igneous – A magma – D metamorphic – B sedimentary – C sediment – E; 5 correct = 3, 3/4 correct = 2, 1/2 = 1	**3**
5(b)(i)	*any 3 of:* the land is cleared; then soil / rock is removed; coal now exposed; coal can be mined;	**3**

Question	Answer	Mark
5(b)(ii)	*any 4 of:* land smoothed off; hole refilled / create lake; top soil replaced; fertiliser added; trees etc. planted; land made to look like it was before; suitable habitat for wildlife;	**4**

Question	Answer	Mark
6(a)	*any 4 of:* mosses and lichens colonise; seeds dispersed into the area; dispersal method / eq; grow into plants which eventually die; these are pioneer plants; their remains form soil; this allowed bigger plants in; like trees and bushes; these outcompete the pioneers; for light / minerals / water;	**4**
6(b)(i)	*any 2 of:* fuel wood; farming; urbanisation; timber extraction;	**2**

Question	Answer	Mark
6(b)(ii)	*any 4 of:* reducing deforestation: more efficient use of timber; by recycling (paper / timber); alternative materials to timber; reducing soil erosion: tree planting ,terracing, contour ploughing, wind breaks, add organic matter; detail of chosen method;	**4**