UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2011 question paper

for the guidance of teachers

0680 ENVIRONMENTAL MANAGEMENT

0680/12 Paper 1, maximum raw mark 60

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1 (a) (i) photosynthesis; [1]

(ii) soil/eq; ® ground
carbon dioxide;
light/radiation; (R) rays
chlorophyll; [4]

(b) (i) trickle drip; [1]

(ii) agriculture which ensures that conditions are still as good for the practice for future generations; [1]
(Reject use of word sustainable or its derivatives as key part of answer)

(iii) A;
For A:
water directed at roots;
less lost (in evaporation);
B:
water broadcast/eq ;
so can evaporate ;
doesn't get to plant;
For Either:
ref. salinisation (i.e. less with A, or more with B. Or can say more with A as long as discuss low leaching with A.); [3]

[Total: 10]

2 (a) (i) hunter-gatherer; [1]

(ii) a keeper of stock/cattle/AVP;
who moves his animals to fresh pasture when necessary;
does not stay in one place (stand alone mark); [2]

(b) (i) tourism which caters to those interested in natural environments/eq;
uses tourist money to protect environment;
env must be protected to keep money coming in; [2]

(ii) conservationists want to protect animals that might affect nomadic pastoralists – latter might kill animals etc. that conservationists want to keep ;
and then egs such as:
wildebeest/herbivores, compete with cattle;
lions/other predators predate/eat cattle;
restricts movement of nps/reluctance of nps to share home/land [3]

(iii) any 2 of:
reclamation/restoration;
replace overburden/add soil; ® just filling hole
add fertiliser/eq/;
plant (trees etc.);
allowing water to infill depressions – lakes;
levelling spoil heaps; [2]

[Total: 10]

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3 (a) (i) A evaporation;
B transpiration/evapotranspiration;
C precipitation/rainfall/eq;
all 3 for 2; any 2 or 1 for 1 [2]

(ii) infiltration water enters soil/ground (and then drains away);
runoff does not enter soil/flows along ground (before draining to rivers sea); [2]

(iii) desalination; [1]

(b) (i) 32.8; [1]

(ii) correct bars drawn; [1]
(tuna must just be below 9th line, shrimps must be in middle of 7th and 8th lines)

(iii) El Nino;
reversal of current/current changes direction;
(too) warm/eq;
fish not adapted to warm;
upwelling stops;
low nutrients;
so less food/eq;
fish migrate/eq; [3]

[Total: 10]

4 (a) (i) thermometer;
in the shade/not in direct sunlight/S screen; [2]

(ii) **Campbell-Stokes**;
clear glass sphere;
concentrates light on recording sheet which is burnt;
OR **Jordan's**;
can with pinhole;
Sun darkens photosensitive paper inside when shines through hole; [2]
(NOTE. Can give one for correct name of device as above. General idea: give one for idea of paper burning or being affected in some way by light, second mark for a feasible way of doing this)

(b) (i) hours/duration/amount of sunshine, per (or /) month;
°C/F; [2]

(ii) solar; [1]

(c) (i) anemometer; [1]

(ii) birds killed; aesthetic; noise;
uses land, qualified (e.g., agricultural, beautiful); [2]

[Total: 10]

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5 **(a)** fishing for food/eq; (Must say or imply **food**)
wave/tidal energy;
tourism/recreation;
bulk/large/heavy/eq transport;
drinking water/irrigation/domestic water use; (but only if some suggestion of 'must be treated first')
oil/gas/eq; [2]

(b) **(i)** spills/leaks;
destroys marine life;
poison fish/kill birds; (not just fish killed or die)
oiling of birds;
ref. to O_2 falls/eq;
oiling/coastal pollution, beaches;
ref. economic effects (qualified); [3]

(ii) booms/double hulls/detergent/burning/sucking up [1]

(c) **(i)** along rivers; [1]

(ii) increased levels of nutrients or named;
increased algal growth;
algae die;
increased organic matter;
decomposes;
lowering oxygen;
eutrophication;
'fish die' (qualified, e.g. lack of oxygen, food)/eq (e.g. aerobes/eq); ® death of organisms/eq [3]

[Total: 10]

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6 (a) (i) developing: 3.3/3.3 billion; [1]

(ii) developed: 0.3 billion (ignore other attempts at this figure as long as correct one in there somewhere!!); [1]

(iii) developing more to start with/bigger area of whole world/ora;
any social factors **dealt with comparatively**;;
(e.g. family planning/poor/large families/looking after the parents/no (pension systems/eq), ref. birth rate)
transfer of medical knowledge from 'west' (in 1950s) [3]

(b) (i) A: developing AND
B: developed; [1]

(ii) In A:
high(er) birth rate/more young people/ora A/B;
data;
low(er) life expectancy A/B;
equal numbers of men and women at all ages;
In B:
more middle-aged/more economically active;
data;
many more older people/high(er) life expectancy/death rate low(er);
data;
more women than men in older age groups or quoted;
One mark for A young population, B ageing, that is, BOTH statements;
(Notes:
Where say low for A must say high for B to get comparative.
Can get 4 for 4 descriptive points
OR for fewer than 4 but with data supporting any given, up to 2
So max for data quotes is 2) [4]

[Total: 10]

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