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

0680/41 Paper 4 (Alternative to Coursework), 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.

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1 (a) (i) *fish*: protein/oils/omega 3 and or 6/vitamin A/vitamin D/calcium;
rice: carbohydrate/energy source/vitamin B/fibre;
(do not allow vitamins/minerals/nutrients unqualified) [2]

(ii) so can still produce food/rice during flooding;
grows as fast as water rises/eq;
no need to try and control water level/eq;
harvest earlier;
(any two) [2]

(iii) table that can record the data;
suitable headings;;
(must be for 7 days and a minimum of one of farmer/catch/number/type/weight) [3]

(iv) reliability/eq;
to calculate average/mean;
so catches can be compared;/to give a more complete picture;
(any one)
(do not allow precise/accurate) [1]

(b) (i) weight;
size/length;
sex;
age;
(do not allow number/type)
abiotic factor e.g. temp/pH/specific pollutant/time spent fishing;
(any two) [2]

(ii) keep taking samples for more than one year/eq;
in exactly the same way/eq;
compare the catches/eq;
ref to LEDC's/eq;
(any two) [2]

(c) (i) A; [1]

(ii) C; [1]

(iii) overfishing elsewhere/more people fishing;
from same village; pollution;
valid example of pollution;
fish disease;
(any two) [2]

(d) kills all fish;
kills young fish;
food chains altered;
further appropriate explanation;
not breeding fast enough;
no breeding stock left;
many fish not used for food/eq e.g. left in water;
ref to eutrophication;
(any three) [3]

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(e) (i) licences;
fishing patrols;
fines/eq;
quotas;
set mesh size;
close season;
no catch areas/eq;
AVP;
(any two) [2]

(ii) EITHER
yes: makes people aware; may help to save habitat; saved by captive breeding; more funding; more scientific interest; ref to law; (any two)

OR
no: people will keep capturing it; habitat cannot be saved/eq; so few left its likely to become extinct/eq; more desirable; more poaching; increased price of fish; (any two) [2]

(f) (i) still able to fish;
some power;
still some silt;
less annual flooding;
still able to grow rice;
ref to generating local jobs;
(any three) [3]

(ii) more electricity/energy (than B);
for expanding population;
more flood control;
more aid to build dam/eq;
more jobs (than B);
more money made by government (more quickly);
economy of scale;
ref to developing more industry;
(any two) [2]

2 (a) (i) some correct working; most C; least B; [3]

(ii) orientation;
axes labelled (weight/kg and year/time or all years labelled);;
plots (no errors);
(allow line or bar graphs) [4]

(iii) 2005/2008; (allow ref to third or sixth year) [1]

(iv) 26.25; × 10 = 262.5 (262/263);
OR 262.5 (262/263);; [2]

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(b) (i) hot/warm/tropical;
high rainfall/wet/monsoon;
free standing water;
(allow savanna)
(any two) [2]

(ii) rapid breeding of mosquito/eq;
mosquito's breed in water;
too much water;
cannot all be drained;
as needed for rice;
cannot spray all the water;
so not all mosquitoes can be killed;
no vaccine yet;
ref to cost;
cannot stop mosquitoes biting humans;
(any three) [3]

(iii) make a repellent from cashew shell/gum;
use of a repellent;
apply at night;
use of nets;
keep covered (at night);
ref to reducing breeding sites of mosquitoes;
anti malarial drugs;
(any two) [2]

3 (a) (i) October/November to March; [1]

(ii) any three valid jobs;;
(3:2 2:1) [2]

(b) (i) any three valid questions such as income, employment, number of dependents, relevant work skills ;;;
layout; [4]

(ii) allowed developments: such as sewage works; small shops/hotels/lodges/camps; small roads; paths for hiking; more jobs; other valid ideas; (max 4)

Restrictions: such as large hotels; restaurants; golf course; large roads; dumping wastes; other valid ideas; (max 4) [8]
(Look for suitable qualifications in both parts/')

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