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Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2014 series

0680 ENVIRONMENTAL MANAGEMENT

0680/13 Paper 1, maximum raw mark 60

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1 (a) (i) taiga extreme N, not S;
tropical rainforest equatorial;
monsoon tropics away from equator; [3]

(ii) conical; branches lower down; needle leaves; thick bark; [2]

(b) (i) clearance for fuel-wood;
subsistence and cash crop farming;
settlement;
timber extraction;
grazing; [2]

(ii) agro-forestry;
community forestry;
reforestation;
sustainable harvesting of hardwoods;
fuel-wood planting;
genetic engineering; [3]

2 (a) (i) wave; [1]

(ii) water enters tube / eq. and pushes air out;
turns turbine;
sucks air out;
turns turbine; [3]

(iii) advantages:
renewable;
little / no pollution;
uses of lake;

disadvantages:
expensive;
loss of habitat / flooding / eq.;
silting up;
methane emissions from reservoirs;
possible dam failure;
increase water borne disease risks;
earthquakes; [4]

(b) the source of energy is not used up;
so will be available for future generations; [2]

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3 (a) (i) from top:

boilers / other;
waste incineration;
metal industries;
manufacturing;
boilers / other;
leaded aviation gas;

All six for two marks, three – five for one mark, zero – two for zero marks. [2]

(ii) falls throughout;
except 1994 until 1995;
any development such as manipulation;
reduction in use of leaded petrol;
other feasible environmental protection suggestion;
Allow numerical answers. [4]

(b) (i) when inverted pollutants cannot escape;
because hot air stops cold air below it from rising;
so pollutants accumulate near ground;
tend to happen in areas where lost of cars / eq.; [2]

(ii) any ref. to increased use of public transport;
ref. to insulation or other domestic energy saving measures;
car sharing / number plate rota; [2]

4 (a) (i) top warm, bottom cold; [1]

(ii) cold currents are found where rainfall is low on land;
places adjacent to warm currents warmer in winter;
examples form the maps to exemplify; [2]

(iii) ref. upwelling;
of cold water;
rich in minerals / named mineral(s);
cause great plant / phytoplankton growth;
fish use these as food; [3]

(b) ref. to human population growth;
need for food;
ref. to greed / eq.;
desire for money;
ref. modern technology;
any relevant detail; [4]

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5 (a) (i) it is 100 – (25 + 45 + 25);
= 5%; [1]

(ii) water; [1]

(iii) irrigation;
development;

addition of fertilisers;
development; [4]

(b) addition of humus / organic matter to soils;
mixed cropping;
crop rotation;
tree planting;
land drainage;
bunds; [4]

6 (a) (i) *reservoir:*

carbon dioxide gas;
nitrogen gas;

fixed by:

bacteria;

in living things:

starch;

removed by:

respiration;
denitrification;

All six for three marks, four – five for two marks, two – three for one mark, zero – one for zero marks. [3]

(ii) A light;
B heat; [2]

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(b) (i) wetland drainage:
loss of fish / aquatic animals;
as food for humans / other animals;
loss of their ability to clean water;
increased floods;
loss as site for recreation;

deforestation:
biodiversity loss;
source of food / raw materials;
they protect soils;
carbon sinks; [4]

(ii) sustainable harvesting of wild plant and animal species / national parks / wildlife reserves / world biosphere reserves / gene banks [1]

[Total: 60]

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