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Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2014 series

0680 ENVIRONMENTAL MANAGEMENT

0680/12 Paper 1, maximum raw mark 60

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1 (a) the oak tree is a plant and makes its own food using energy from sunlight / by photosynthesis;
the caterpillar gets its food / energy from the oak tree;
the insect-eating bird gets its food / energy from the caterpillar;
woodlice get their food / energy from dead leaves; [4]

(b) (i) they have more;
species of living things;
variation amongst living things;
habitats;
than most other places; [2]

(ii) deforestation;
urbanisation;
pollution / named pollutant; [2]

(iii) plants may contain undiscovered medicines;
wild plants may do better in new climates;
wild animals may give better pest control;
animals and plants provide ecosystem services; [2]

2 (a) (i) A – magma chamber;
B – magma;
C – vent;
D – lava; [2]

(ii) two plates meeting;
it is a subduction zone;
so one plate goes under the other and melts to create lava;
which builds up to form mountain / volcano; [3]

(b) (i) *a farmer:*
buried their land;
added nutrients to their land;

a taxi driver:
reduced tourism so reduced business;
increased tourism to see volcano so increased business;

an hotel owner:
reduced tourism so reduced business;
increased tourism to see volcano so increased business; [3]

(ii) earthquakes widespread;
earthquakes not predictable / volcanoes predictable;
volcanoes in isolated places; [2]

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3 **(a)** the Sun is overhead at the Equator whereas it is a slanting angle at the poles;
so one square metre at the Equator receives more sunshine than one square metre at the poles;
has to pass through more atmosphere at the poles than at the Equator;
so more heat is absorbed and scattered at the poles;
snow is much more reflective than trees and vegetation; [3]

(b) **(i)** equatorial tropical:
croplands;
because there is plenty of rainfall;

tropical savannah;
grazing lands;
because many animals especially sheep and goats can exist on poor vegetation; [4]

(ii) water;
irrigation;
centre pivot; [2]

(iii) fertiliser / minerals / air; [1]

4 **(a)** **(i)** sedimentary;
pressure;
erosion;
sediment;
sedimentary; [2]

(ii) manufacture of steel;
manufacture of cement and concrete;
as a fertiliser; [3]

Credit valid alternatives.

(b) **(i)** to produce energy the coal has to be burnt;
releasing carbon dioxide;
ref. greenhouse gas;
which may cause global warming;
ref. SO_2;
acid rain; [3]

(ii) turn off lights / electrical appliances;
install insulation;
walk / cycle / use public transport / car share; [2]

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5 (a) (i) the Sun; [1]

(ii) A – evaporation;
B – precipitation;
C – infiltration; [2]

(iii) arrows and labels both needed;
arrows in correct direction and position;
e.g. transportation from tree, interception towards tree, run-off along ground surface. [2]

(iv) rainwater harvesting; [1]

(b) (i) 6 labels added correctly;;
Six correct for two marks. Five correct for one mark.
WC
personal washing
laundry
drinking / dishwashing
drinking / dishwashing
car washing [2]

(ii) WC flushing / clothes washing;
water-related diseases cannot be transmitted; [2]

6 (a) (i) plot;; correct axis label; [3]

(ii) education of all;
but especially women;
better infant survival;
via better nutrition;
better health care;
pension schemes; [3]

(b) air travel, will not help people still travel to destination;
pollution, still some from travel;
ecotourists more likely to engage in recycling schemes etc.;
trampling, likely to be concerned;
guides will enforce rules on this;
poor jobs for locals, likely to improve with tourist demands for good guides etc.,
destruction of cultures, likely to be reduced as ecotourists have interest and sympathy;
pressure on water, not likely to help as still need same amount water as traditional tourists; [4]

[Total: 60]

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