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UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2008 question paper

0680 ENVIRONMENTAL MANAGEMENT

0680/01 Paper 1, maximum raw mark 60

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1 (a) (i) the Mary [1]

(ii) 300, no need for units, ignore if given and wrong [1]

(iii) Tia; highest flow/area figure [2]

(b) (i) loss of their home/move home/farm etc; loss of wildlife habitat/species; expense; does not solve problem; environmental damage/destruction/habitat loss; disturbance/noise, etc. during construction; AVP
R unqualified flooding [3]

(ii) salts removed from sea water; using heating process/needs much energy;
therefore (energy) rich country; coastal/AW; [3]

2 (a) (i) 16 [1]

(ii) the pore spaces fill up with water; so no/little air/oxygen for plants [2]

(b) (i) water dissolves salt crystals; which makes brine, comes to surface
A alternatives to dissolves and salt; water evaporates, leaves salt [2]

(ii) allows penetration of more water; dissolves salts; water table rises, increased evaporation [2]

(iii) water directed at roots; more efficient use; less water laying around (e.g. less run-off, etc.); thus less evaporated; [3]

3 (a) (i) replaced owtte; quickly owtte; by natural processes;
not going to run out
R used again and again [2]

(ii) carbon dioxide; NO_X; SO_2; CO [2]

(iii) SO_2
acid rain; tree death; loss of soil minerals; fish death; poison lakes; bronchitis/lung cancer; breathing problems; buildings damage
NO_X
acid rain; as above
CO_2
global warming; floods; sea level rise; extreme weather; and consequent human effects
CO
binds with haemoglobin; reduces oxygen carriage, no third mark
max of two for each of People and Environment
NOTE: watch they do not switch chemicals between human effects and those on environment, must be SAME [3]

(b) fuel taxes/tolls etc (G); use bikes/walk (P); car share (P); use public transport (P); provide/subsidise public transport (G); use of catalytic converters (G or P); ref hybrid cars [3]

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4 **(a)** **(i)** animals/plants; and physical environment (with which they interact)
biotic; abiotic [2]

change in vegetation; over time; by change of conditions for living [2]

(ii) DCBA from top half each [2]

(b) farming;; building;; roads;; logging/AW expansion of each x 2
expansion most likely reasons for increase in roads, buildings, etc. but population increase once only in this context [4]

5 **(a)** **(i)** 1955: 1100 – 1200
2000: 4700 – 4800 [2]

(ii) fertiliser; pesticides; herbicides; machinery; irrigation; feature of HYV
(e.g. disease resistant, drought resistant ONCE) [3]

(iii) 1966-68 [1]

(b) pesticides:
build up along food chains; chains/bioamplification/magnification; kill predators; danger to humans (for one unless something specific and correct quoted);AVP
herbicides:
similar arguments to pesticides
fertilisers:
leached; enrich water; kill fish; deplete O_2;
any 2 x 2 [4]

6 **(a)** a rock/fossil fuel;
(dead) vegetation/trees/etc; compressed by sediments/over long time [3]

(b) **(i)** 2,700,000,000 tonnes (no margin) [1]

(ii) 1,575,000,000 tonnes (for 2) (one for 2,700,000,000 –1,125,000,000) [2]

(iii) increased population in US/more electricity used, with reason/better methods of extraction/machines for extracting AVP [1]

(c) add topsoil/overburden;
irrigate/fertilise/other methods of soil improvement after added back;
plant trees, etc. or plants will be growing; [3]

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