

MARK SCHEME for the October/November 2008 question paper

0680 ENVIRONMENTAL MANAGEMENT

0680/01

Paper 1, maximum raw mark 60

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All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

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Page 2	Mark Scheme	Syllabus	Paper
	IGCSE – October/November 2008	0680	01

- 1 (a) (i) 400,000/0.4 million [1]
- (ii) 8,600,000/8.6 million (allow 8.8 million if (a) (i) 0.2 million, ecf)
allow 8.5 million [1]
- (b) **benefits**
- people pay money; goes into conservation/schools, hospitals;
more jobs; AVP up to 2
R negative things such as don't kill whale/don't disturb whales
- non benefits**
- people travel on boats; use fossil fuel; create pollution for 1; AVP up to 2 [max 3]
- (c) (i) correct arrows from eaten to eaters, all correct [1]
- (ii) a human/shark/killer whales [1]
- (iii) phytoplankton;
zooplankton/whale/human;
the sun/light; [3]
- 2 (a) (i) goes up to 1994/5; levels/falls (slightly); then rises again; sensible use of figures, any [2]
- (ii) produced 5,000,000 mt
exported 4,100,000 accept 4 or 4.2 (but nothing in between 4 or 4.1 or 4.2) mt,
therefore kept 900,000 (or 800,000) or 1 mt [2]
- (b) (i) reduced biodiversity;
soil erosion;
habitat loss;
loss of species;
flooding;
decreased rainfall/increased temp/increased sunshine (i.e. one mark for a weather effect);
AVP any [3]
R deforestation/loss of TRF products
- (ii) (carbon dioxide) given off in burning less than; that taken up; when crop grows; allow one for carbon neutral; any [3]

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3 (a) (i) mountains/volcano R earthquake (I) qualifications if correct [1]

(ii) destructive/converging; one plate pushed under another; upper plate buckles; mountains may form; friction leads to heat; plates under pressure; volcanoes erupt; any [3]

(iii) plates rubbing against each other/friction [1]

(b) (i)	C	B
Date	12/03	12/03
Magnitude	6.8	6.8
People killed	2	50 000
Damage	1 clock tower	many buildings/eq

1 mistake 1 mark, more than one zero [2]

(ii) poor/good buildings; poor/good any aspect of aftercare; poor/good warning systems; distance of epicentre; population density diffs; time of day diffs; rich/poor country; dev/developing; AVP [3]

4 (a) (i) large no of (big) rivers; low lying country/mainly delta; surrounded by mountains; high, eq. rainfall/monsoon rains/cyclones; snow, eq. melt; any [3]

(ii) less rain now intercepted; less absorbed (by roots); silting up; therefore increased runoff; therefore increased river flow; [3]

(b) (i) dams; levees/embankments; floating houses; terraces; drainage channels; any [2]

(ii) early warning; good after care; houses on stilts/high ground; sand bags; AVP [2]

5 (a) (marking points in italics)

	Advantage	Disadvantage
chemical fertilisers	increase productivity	<i>cause water pollution/details</i>
pesticide	<i>increase crop production; kill harmful insects (eq.)</i>	damage wildlife by getting into food chain or depriving predator species of food
machinery	makes farming more efficient and boosts yields	<i>uses fossil fuels/emits carbon dioxide expensive/loss of jobs/noise pollution/soil compaction/avp</i>
monocultures	increase crop production	<i>increased soil erosion/exhaustion/decrease in nutrients/spread of disease/ruin if crop fails</i>

[4]

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	IGCSE – October/November 2008	0680	01

(b) (i) GM involves, genes from OTHER species/changing genes eq; much faster; AVP [2]

(ii) higher yield/more profit due to; pest resistance; disease resistance; herbicide tolerance; better due to (no mark); increased nutrient content; control ripening; colour improved; flavour improved; size; AVP, any [2]

(iii) possibility of superweeds/eq; moral objections; health concerns; AVP [2]

6 (a) (i) coal, oil, gas; all for [1]

(ii) nuclear [1]

(iii) renewable OR coal OR renewables AND coal [1]

(iv) solar/wind/tidal/hep/geothermal **R** water, any [2]

(b) (i) top soil added/return of overburden; levelling; planting; fertilising; any [2]

(ii) A [1]

roof and walls insulated:
therefore two of 3, compare with others [2]