

MARK SCHEME for the October/November 2007 question paper

0680 ENVIRONMENTAL MANAGEMENT

0680/01

Paper 1, 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.

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.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

- CIE will not enter into discussions or correspondence in connection with these mark schemes.

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Page 2	Mark Scheme	Syllabus	Paper
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- 1 (a) (i) large/tall/big/long/quoted height bigger than 3m/avp [1]
- (ii) biomass/biofuel/biodiesel [1]
- (iii) gives off CO₂/as does coal/grass takes it in/coal not/C neutral [2]
 mark for comparative statement (even if implied) about harmful/polluting gases/fumes;
 mark for correct specific gas/fume
- (b) (i) acid rain; gas dissolves in water to form acid; any TWO acid rain effects, or one plus development for max; [3]
- (ii) alternative energy (or named); public transport increase; catalytic converter; scrubbers/filters in chimneys; walking; cycling; car sharing; avp [3]
- ® laws/fines/policies unless qualified sensibly
- 2 (a) (i) **A and B**
C and D accept written if correct [2]
- (ii) **D** [1]
- (iii) water (freezes) expands; pushing rock apart/cracks rock [2]
- (b) water; air/oxygen; humus/organic material; microbes/bacteria/decomposers ® minerals or named [2]
- (c) afforestation; contour ploughing; terracing; maintain vegetation cover; reduce/avoid overgrazing/reduce grazing; avoid overcultivation; use organic fertilisers/humus/manure etc. allow development marks up to 2 for any single strategy [3]
- ® soil degradation points (i.e. things to do with mineral loss etc.)
- 3 (a)(i)/(ii) 1998; 1994 [2]
- (b) (i) cold current bring nutrients; upwelling; nutrients feed algae; algae feed fish (food chain idea)
 OR anchovy prefer/do better/thrive in cold water;
 so fish migrate/move away [3]
- (ii) El Nino makes water warm; not suitable for anchovy;
 current reversal; nutrients not brought/no upwelling/low nutrients; not enough food for anchovy [2]
- (c) quota; discussed
 net size; discussed
 moratoria; discussed
 fishing season/restriction times; discussed
 only fish in designated areas; [3]

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4 (a) B [1]

(b) (i) A:

large(r) base/many young people (D); high birth rate; lack of contraception;
 narrow/few old people (D); high death rate/low life expectancy; due to poor medical
 facilities/food supply/avp;
 working people (15–60) rel. low (D);
 (Max 2 for D points)

Further points

Very young less than older (0–4 < 5 upwards);

Birth rate slowing;

OR

B:

Straight(ish) sides (D); low(er)(ed) birth rate; long(er) life expectancy

Narrow(er) base (D); low(er) birth rate; use of contraception; emancipation (eq) of
 women/avp

Broad(er) top(D); low(er) death rate; improved medicine/diet/health/avp

Large(r) working population (D); lower child mortality; avp

More women than men at old age(D); life expectancy of women after 65 longer than men

(ii) Shift from high death to low(er) death rate; population explodes; then birth rate falls;
 population growth slows any 2 [2]

(c) ® PULL factors

H

over use of land leading to degradation/overgrazing; lack of food/money;
 population rising; lack of resources (named)/jobs/services;
 persecution/local political factors; removed from land;
 war; e.g.

P

Natural disasters; destruction of services/agriculture;
 Climate change; loss of agricultural land/right conditions for agriculture;

Grey areas (allow in either category)

Lack of clean water/sanitation; disease (eq)
 points about soil

Page 4	Mark Scheme	Syllabus	Paper
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- 5 (a) (i) radiation; absorption; reflection [2]
- (ii) northern; angle of rays nearer 90/less atmosphere to absorb heat/radiation/longer days [2]
- (b) (i) daylength longer; more (electrical) energy; accept converse argument
IGNORE ref to temperature unless only ref is to temperature
temperatures hotter; more solar heat; has no effect on amount of electricity [2]
- (ii) fossil fuels running out; consequence; alternatives will not
fossil fuels pollute; consequence; alternatives do not 2 each [4]
- 6 (a) (i) **C** **B** **A**
sedimentary igneous metamorphic [2]
- (ii) GRANITE: buildings/sculptures/sports equipment/avp
LIMESTONE: making glass/blast furnace/acid neutralising/quicklime/building
SANDSTONE: paving/coasters [2]
- (b) (i) pollution (qualified with e.g. noise/visual/dust);
habitat/landscape destruction;
deforestation;
erosion;
dangers (specified) to miners/quarries;
loss of property/jobs
run out; [3]
- (ii) reclamation;
adding soil;
adding fertiliser/manure eq;
planting trees/other plants; [3]