

MARK SCHEME for the May/June 2014 series

0680 ENVIRONMENTAL MANAGEMENT

0680/43

Paper 4 (Alternative to Coursework), 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, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2014 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

Page 2	Mark Scheme	Syllabus	Paper
	IGCSE – May/June 2014	0680	43

- 1 (a) loss of infrastructure; not enough money to rebuild; people's houses/work destroyed; trade suffers/ref. to poverty/eq. disease/ill health; crops/stock animals destroyed; AVP; [2]
- (b) (i) $75/200 \times 100; = 37.5;$ [2]
- (ii) 600; 625; [2]
- (iii) pollination /fertilisation /eq.; [1]
- (iv) increase in greenhouse gases/correctly named gas; ref. to climate change/global warming; higher temperatures = more evaporation; so more rainfall; (accept change in rainfall) [3]
- (v) place in the open without obstructions/eq.; secured (in the ground); empty every 24 hours/same time of day; record volume of water; [2]
- (vi) table drawn; for one week; headings; [3]
- (c) (i) still a monoculture; idea of pest resurgence; ref. to possible effects of pesticide; increased costs; so crop not profitable; [2]
- (ii) only small investment needed; coffee still being harvested/sold; time to learn about avocado and banana; time to get yield/harvest avocado and banana crop; [2]
- (iii) saves money on pesticides; still able to sell coffee/eq.; climate unlikely to allow good Arabica harvests in the future/eq.; AVP; [3]
- (d) (i) use map to locate farms; use a random/systematic method (or described); further details of method; to select at least five farms from each district; [2]
- (ii) same information recorded from each farm(er) /eq./to give a representative sample; [1]
- (iii) any valid question about crops/crop yields/planting time/costs/size of farm; [1]
- (iv) B; already diversified/growing other crops/eq. so know how to grow them; more likely to have money to buy new plants; use of figures to support answer;; AVP; [4]

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- 2 (a) (i) lowest 1110–1115 and highest 1770; [1]
- (ii) $1740 - 1270 = 470 \div 1270 \times 100; = 37.01$; Allow ECF from part (i). [2]
- (b) (i) they want to make money; use the money on infrastructure/schools/hospitals/roads; reduce poverty; [2]
- (ii) overburden removed; gold rich rock removed; gold extracted; waste and overburden returned; replanting/landscaping/eq.; [2]
- (iii) dust; noise; visual pollution; disturb wildlife/drive some animals away; habitat destroyed; deforestation; [2]
- (iv) less expensive; less dangerous; more profitable for company; and government; [2]
- (c) (i) no jobs; no money; cannot support family; no other livelihood; would need to learn new skills; crime; drugs; family breakdown; migrate to urban areas; new location not safe/described; AVP; [3]
- (ii) reduce it; difficult to prove ownership of small mine; extra costs of health and safety; and licence; taxes; AVP; [2]
- (d) (i) danger of working in mines/fatal accidents; breathing dust causes cancers; heart problems; blood poisoning; mercury vapour is toxic; [2]
- (ii) 6; [1]
- (iii) orientation; axes labelled;; plots; [4]
- (iv) increase in blood mercury up to 41 years old then steady/eq.; [1]
- (v) study showed most miners at risk/eq.; sample of 9 not representative/reliable; [1]
- (e) (i) *number of plants* increase up to 14 then fluctuates/eq.;
number of species increase up to 18 m then steady/eq.; [2]
- (ii) plant numbers/species only reduced for the first 14–20 m/eq.; [1]
- (iii) mercury may have washed downhill so shorter distance of pollution uphill/eq.; [1]
- (iv) two more surveys level with the site/eq.; [1]
- AVP = Alternative Valid Point.

[Total: 60]