



Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

ENVIRONMENTAL MANAGEMENT

0680/43

Paper 4 Alternative to Coursework

October/November 2016

MARK SCHEME

Maximum Mark: 60

Published

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This document consists of **5** printed pages.

Page 2	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks
1(a)	<i>any 2 of:</i> increase direct employment; improve, foreign exchange / GDP; indirect employment;	2
1(b)(i)	Kenya;	1
1(b)(ii)	Burundi;	1
1(c)(i)	less fish in total; smaller, size / length / weight;	2
1(c)(ii)	<i>any 2 of:</i> being eaten by Nile perch; number dropped; not many adults left to breed;	2
1(c)(iii)	working to show increase as 64 000; 400%;	2
1(c)(iv)	fishermen: can sell all the fish / eq; guaranteed prices; AVP; Kisumu: more work in factory / more secondary employment / more money circulating in town / eq; greater supply of fish; AVP; government: more taxes / eq; more money to spend on other projects / eq; AVP; max 2 from any one group	3

Page 3	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks
1(d)(i)	<i>any 2 of:</i> cichlids not being, fished / caught; small fish pass through mesh; so can grow; and reproduce; so number remain high;	2
1(d)(ii)	both axes labels completed; appropriate scale (plots to cover at least half of the grid); one plotting error = two marks, two plotting errors = one mark;;	4
1(d)(iii)	it rises to a peak (2005) then declines / eq;	1
1(e)(i)	the large ones have all been caught / small ones caught before they can grow larger;	1
1(e)(ii)	mesh size smaller / change shape of mesh e.g. from diamond to square; so small fish can be caught;	2
1(f)(i)	14; 8 tally marks drawn;	2
1(f)(ii)	class sizes 0–15 and 16–20 and 21–30;	1
1(f)(iii)	<i>any 2 of:</i> sold to / eaten by, locals; used as bait for Nile Perch; (dried and) used as animal feed (e.g. for chickens); fertiliser; AVP;	2
1(g)(i)	all three axes correctly labelled with units; all plots correct; both lines extended as shown by the key;	3
1(g)(ii)	line drawn at 55 cm;	1

Page 4	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks
1(g)(iii)	2.2 (2.15–2.25); allow ecf from (ii)	1
1(h)(i)	<i>any 4 of:</i> laws such as: fish less than 55 cm must be returned to the lake; further detail e.g. law broken then, fine / licence removed; reference to regulation of, mesh size / types of fishing gear; AVP; enforcement such as: fishing patrols on lake; inspections at, beach / fish factory; AVP;	4
1(h)(ii)	<i>any 3 of:</i> other countries are also fishing; difficult to get all countries to agree; difficult to enforce laws; easy to fish beyond boundaries; illegally land fish; AVP;	3

Question	Answer	Marks
2(a)(i)	160; 1680;	2
2(a)(ii)	calculation to give 30 m ² ; = 9.3 / 9.33;	2
2(b)(i)	July and August and September and October;	1

Page 5	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks
2(b)(ii)	<i>any 3 of:</i> goats get food / eq; no cost of herbicides; no toxic effects on food chains; herbicide may affect natural vegetation / eq; herbicides not broken down in the environment / eq; can be done in any weather;	3
2(c)(i)	random / systematic; with correct further detail;	2
2(c)(ii)	<i>any 2 of:</i> number of meals per day; number of people eating meals; AVP;	2
2(c)(iii)	<i>any 2 of:</i> less CO ₂ into atmosphere; year after year / eq; using firewood is sustainable / a source of biomass / carbon neutral;	2
2(c)(iv)	<i>any 3 of:</i> cost less; time saved; little / less, air pollution; no breathing problems; money saved can be spent on other things e.g. school fees / medical fees; AVP;	3
2(c)(v)	<i>any 3 of:</i> wood is renewable / eq / or converse statement; so never runs out / or converse statement; fossil fuels more expensive; fossil fuels may have to be imported; AVP;	3