

CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International General Certificate of Secondary Education

MARK SCHEME for the March 2016 series

0680 ENVIRONMENTAL MANAGEMENT

0680/42

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.

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Page 2	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks	Guidance
1(a)(i)	<i>any 2 of:</i> more trade; with other countries; more tourists; promote international image; more jobs; tax revenues; AVP;	2	
1(a)(ii)	<i>any 2 of:</i> to keep economy going when oil prices are low/the oil runs out; to help development in UAE; reduce imports; allow exports; increase GDP/profits can be invested;	2	
1(b)(i)	$9.5 - 8.4 = 1.1 / 9.5 \times 100 = 11.6 / 11.58 (\%);;$	2	
1(b)(ii)	<i>any 2 of:</i> reduce street lighting; encourage use of low energy bulbs / energy efficient appliances in houses; use solar power; nuclear power; wind power; more public transport; less use of cars e.g. walking / car sharing; low carbon building materials; increase cost of electricity (to reduce wastage); AVP; e.g. use less fossil fuels	2	
1(c)(i)	240, 200 correctly plotted;	1	

Page 3	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks	Guidance
1(c)(ii)	<i>any 2 of:</i> electricity consumption increases with temperature; electricity consumption increases one month after temperature increases; and then both drop / eq; use of figures;	2	
1(c)(iii)	<i>any 2 of:</i> ref to weather / temperature / seasonal change; temperature peaks in August, electricity peaks in September; so increased use of refrigeration; air con / fans;	2	
1(d)(i)	<i>any 3 of:</i> amount of water in dam; amount of groundwater; amount of water produced from power station; energy source used to pump water / drill bore hole; AVP;	3	
1(d)(ii)	<i>any 2 of:</i> preventing flash floods; allows irrigation; drinking water supply; HEP / eq; recreation / tourism;	2	
1(d)(iii)	<i>any 2 of:</i> water table shaded in appropriate position so that trees can only grow as shown in the diagram; key completed;	2	

Page 4	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks	Guidance
1(e)(i)	<i>any 2 of:</i> farmers have low costs; can produce more crops every year; more profit; wider range of crops; can grow crops that need more water; AVP;	3	
1(e)(ii)	<i>any 2 of:</i> government reduces food imports / exports increase; improves food availability / prevents malnutrition; maintains employment; prevents migration to cities; traditional way of life; AVP;	3	
1(e)(iii)	<i>any 4 of:</i> overuse could make soil toxic to some plants; risk of eutrophication; further details;; increased soil erosion; further details;;	4	

Page 5	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks	Guidance
2(a)(i)	producer; consumer;	2	
2(a)(ii)	April–September;	1	
2(a)(iii)	August; highest temperature / 30 °C means more energy to turn water into vapour / eq;	2	
2(a)(iv)	<i>any 2 of:</i> increase awareness of species / educate people; encourages laws to protect species; helps conservation efforts; raise more money; set up nature reserves; AVP;	2	
2(b)(i)	5.9; 113;	2	
2(b)(ii)	the only factor that changes / has large range / eq is salinity:	1	
2(c)(i)	more fish; longer / bigger fish; more representative sample / eq;	2	
2(c)(ii)	place fish on a measuring board / gridded background / (mm) scale / with a ruler / eq;	1	
2(d)(i)	both axes labels completed;; plots;;	4	
2(d)(ii)	55 (mm);	1	
2(d)(iii)	circle around 52;	1	
2(d)(iv)	fish length drops as salinity increases; then little or no change (between 107 / 130–144 / eq);	2	

Page 6	Mark Scheme	Syllabus	Paper
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Question	Answer	Marks	Guidance
2(d)(v)	yes – the graph shows fish grow less in pools with high(er) salinity/ ORA; data quoted to support argument;	2	
2(d)(iv)	<i>any 2 of:</i> repeat the experiment (in the same river); in more pools; at another time / season / following year; repeat in other rivers; laboratory experiment in fish tanks; keep all other variables the same / controlled experiment;	2	
2(e)	<i>any 5 of:</i> <i>protecting wildlife</i> laws to prevent catching / killing animals; or picking plants; park rangers / patrols to enforce laws; prevent / limit / control development in NP; so preventing habitat destruction; AVP; <i>encourage tourism</i> UAE has wildlife people want to see; (eco)tourists money helps to conserve wildlife; National Park maintained due to tourism; guides educate tourists / prevent tourists damaging environment; locals support tourism and NP as they gain income; AVP;	5	