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

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Question	Answer	Marks	Guidance
1(a)(i)	*any 2 of:* more trade; with other countries; more tourists; promote international image; more jobs; tax revenues; AVP;	**2**	
1(a)(ii)	*any 2 of:* 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 × 100 = 11.6 / 11.58 (%);;	**2**	
1(b)(ii)	*any 2 of:* 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**	

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Question	Answer	Marks	Guidance
1(c)(ii)	*any 2 of:* 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)	*any 2 of:* 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)	*any 3 of:* 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)	*any 2 of:* preventing flash floods; allows irrigation; drinking water supply; HEP / eq; recreation / tourism;	**2**	
1(d)(iii)	*any 2 of:* water table shaded in appropriate position so that tress can only grow as shown in the diagram; key completed;	**2**	

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Question	Answer	Marks	Guidance
1(e)(i)	*any 2 of:* 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)	*any 2 of:* 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)	*any 4 of:* overuse could make soil toxic to some plants; risk of eutrophication; further details;; increased soil erosion; further details;;	**4**	

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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)	*any 2 of:* 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**	

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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)	*any 2 of:* 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)	*any 5 of:* *protecting wildlife* 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; *encourage tourism* 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**	

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