Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

ENVIRONMENTAL MANAGEMENT **0680/02**

Paper 2 Management in context **For examination from 2019**

MARK SCHEME

Maximum Mark: 80

Specimen

This document consists of **11** printed pages and **1** blank page.

CAMBRIDGE International Examinations

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Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

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Key

;	separates alternative responses to the question
/	separates alternative wording within the same response
OR	separates possible variants in a response which are mutually exclusive (award marks for one **OR** the other, **not** parts of each)
AVP	any valid point
owtte	or words to that effect
underlined	underlined words must be included to gain credit for a response

Question	Answer	Marks
1(a)(i)	19.7(%);	**1**
1(a)(ii)	*Queensland* more revenue / state taxes / money for infrastructure / jobs / domestic power / AVP e.g. more influence with central government; *Australia* export / revenues / increase GDP / reduce govt. borrowing / AVP e.g. less dependent on other suppliers;	**2**
1(b)(i)	July;	**1**
1(b)(ii)	July and August;	**1**
1(b)(iii)	C;	**1**

Question	Answer	Marks
1(b)(iv)	*max two from:* *Extraction* mines flooded so no extraction; no power to run machinery; risks to miners / accidents; evacuation of miners; AVP; *max two from:* *Exporting* road / rail links damaged; port not operating; AVP e.g. no revenue / taxes;	**3**
1(b)(v)	*any three from:* cholera is a bacterium; carried by humans; (water is) contaminated with human faeces / owtte; spread by drinking contaminated water; AVP;	**3**
1(b)(vi)	nowhere to evacuate people to / people live in remote or inaccessible areas / people wanted to stay and protect homes;	**1**
1(c)	*any four from:* *El Niño* warmer sea surface temperatures in mid-Pacific; warm air rises near Peru; so rainfall in Peruvian desert; warm sea water is nutrient poor / prevents cold nutrient rich water reaching coast; so less fish are caught / fisheries decline;	**4**

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Question	Answer	Marks
1(d)(i)	*any two from:* only some people sampled; different groups of people; selected at random or systematically; from lists such as a phonebook or at specific locations for a fixed time; other valid method;	**2**
1(d)(ii)	add up all the responses in each category and express as a percentage / owtte;	**1**
1(d)(iii)	*any two from:* reasons such as large amount of unexploited environment left; need for employment greater than concern for some species / owtte; not many people live here; not aware of impacts;	**2**
1(e)(i)	*any one from:* biofuel e.g. bioethanol / biogas / wood; geothermal power; hydro-electric power; tidal; wave; solar; wind;	**1**
1(e)(ii)	*any three from:* larger area of land cleared of natural vegetation; so more habitat lost; more dust / noise / visual pollution; more polluted surface drainage;	**3**

Question	Answer	Marks
1(e)(iii)	*any three from:* climate change / the enhanced greenhouse effect / global warming; melting of ice sheets / glaciers / permafrost; rise of sea-level; flooding and loss of land; forced migration; AVP;	**3**
1(e)(iv)	*any three from:* making waste piles safe from collapse by re-profiling; creating soil; planting with herbs to absorb toxic substances; tree planting; use as landfill; use as a lake or reservoir;	**3**
1(f)(i)	A D C B (E);; *allow 1 if two are correct, less than two = 0*	**2**
1(f)(ii)	salts are toxic / land becomes unusable / lower crop yield / possible starvation;	**1**
1(g)(i)	*y*-axis labelled yield / tonnes per hectare; *x*-axis labelled year and years identified; plots;; ±½ small square	**4**
1(g)(ii)	8.7; *allow values between 8.5–8.8*	**1**
1(g)(iii)	*any two from:* to stop wasting fertiliser; to reduce costs; to prevent damage to crop (roots); to get optimum crop yield;	**2**

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Question	Answer	Marks
1(g)(iv)	*any four from:* reference to eutrophication; algal bloom; block light to other plants; algae die; plants die; bacteria / microbes feed on dead organic matter; bacteria increase in numbers; use up oxygen; by respiration; fish die;	**4**

Question	Answer	Marks
2(a)(i)	variety of species (in an area);	**1**
2(a)(ii)	*any four from:* sample in a repeatable manner; several samples; record location; record numbers of fish; record species of fish; record length of fish; record mass of fish; record sex of fish / sexual maturity / breeding condition;	**4**
2(a)(iii)	*any two from:* allows fish stocks to recover; repopulates other parts of the reef; maintains biodiversity / prevent extinction; maintains tourism; maintains jobs; maintains revenue from tourism;	**2**

Question	Answer	Marks
2(a)(iv)	*any two restrictions and corresponding explanations from:* (restricted) number of fishing days; limits the overall catch / protects fish stocks; introduce a quota / limited number of fishing licences; limits the overall catch / protects fish stocks; closed season; allows species to reproduce / protects fish stocks / limits the overall (annual) catch; size of boat; limits the distance travelled by boats / prevents the use of factory ships / limits (daily) catch; type of fishing gear; only sustainable methods allowed, e.g. pole and line for tuna / only target species harvested / reduces bycatch; larger mesh size; allows juvenile fish to escape / protects fish stocks / reduces bycatch; smaller net size; limits the overall catch / protects fish stocks; marine protected areas; protects vulnerable ecosystems / limits the overall catch / protects fish stocks; AVP; linked explanation; note: restriction and explanation must be linked	**4**
2(b)(i)	water + carbon dioxide; (glucose) + oxygen;	**2**
2(b)(ii)	to capture light energy;	**1**
2(b)(iii)	satellites give a complete picture / map of bleaching / data can be used by scientists all around the world;	**1**

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Question	Answer	Marks
2(b)(iv)	they benefit each other / algae are protected (by the coral skeleton) / algae gain nutrients / polyps gain food from photosynthesis of algae;	**1**
2(c)(i)	worm population goes down; due to lack of food;	**2**
2(c)(ii)	worm population goes up; shark population goes down;	**2**

Question	Answer	Marks
3(a)	*any three from:* cane toad cannot reach the sugar cane leaves; did not eat the larvae in the soil; eats other species; only a few are eaten on the ground / not many found to eat; AVP;	**3**
3(b)(i)	22 and 90;	**1**
3(b)(ii)	18; *allow consequential error from part one*	**1**
3(c)(i)	table drawn; suitable headings; data organised logically;	**3**

Question	Answer	Marks
3(c)(ii)	*any six from:* feeds on a large variety of small animals; grows rapidly; breeds rapidly / in large numbers; outcompetes other species; poisonous to wildlife; no natural predators; can cause local extinctions; AVP;	**6**

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