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CAMBRIDGE
International Education

Cambridge IGCSE™

ENVIRONMENTAL MANAGEMENT **0680/11**

Paper 1 Theory **May/June 2026**

MARK SCHEME

Maximum Mark: 80

Published

This mark scheme contains the instructions and marking guidance that our examiners used to mark candidate responses for this component.

Before they start marking, examiners complete a standardisation process. They review a range of candidate responses and discuss the mark scheme in detail to agree which answers can and cannot be accepted. Examiners award marks where it is clear that candidate responses have met the requirements of the mark scheme. These requirements may vary between different components or different versions of the same component, depending on the exact requirements of the question and the candidate responses seen during the standardisation process.

Sometimes, our mark schemes may allow marks to be awarded to responses which contain elements that are factually incorrect or for content not covered by the syllabus. We do this in response to the demands of a specific question to support candidates and make sure that our assessments are fair. However, these allowances should not be used as a guide for teaching and learning.

We cannot discuss the mark scheme with schools, and we recommend that schools read the mark scheme together with the assessment material and the Principal Examiner Report for Teachers.

This document consists of **19** printed pages.

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General marking principles

All examiners must apply these marking principles when marking candidate responses.

1	Examiners must award marks for each response in line with: • the specific **content** defined in the mark scheme • the specific **skills** defined in the mark scheme or in the level descriptions • the **standard of response** required as exemplified by the standardisation scripts.
2	Examiners must award **whole marks** (not half marks, or other fractions).
3	Examiners must award marks **positively**. This means that: • marks are not deducted for errors or omissions • marks are awarded for correct/valid answers as defined in the mark scheme and also for **other valid answers** which go beyond the scope of the syllabus and mark scheme referring to your team leader as appropriate • the quality of spelling, punctuation and grammar are judged **only** when the mark scheme indicates that these features are **specifically assessed** in the question. However, the meaning of all responses must be unambiguous.
4	Examiners must **consistently** apply the requirements of the mark scheme and any rules for what to do when candidates have not followed instructions correctly.
5	Examiners must use the **full range of marks** defined in the mark scheme, unless limited by the quality of the candidate responses seen.
6	Examiners must award marks according to the mark scheme and **must not** award marks with grade thresholds or grade descriptions in mind.

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Science-Specific Marking Principles

1	Examiners should consider the context and scientific use of any keywords when awarding marks. Although keywords may be present, marks should not be awarded if the keywords are used incorrectly.
2	The examiner should not choose between contradictory statements given in the same question part, and credit should not be awarded for any correct statement that is contradicted within the same question part. Wrong science that is irrelevant to the question should be ignored.
3	Although spellings do not have to be correct, spellings of syllabus terms must allow for clear and unambiguous separation from other syllabus terms with which they may be confused (e.g. ethane / ethene, glucagon / glycogen, refraction / reflection).
4	The error carried forward (ecf) principle should be applied, where appropriate. If an incorrect answer is subsequently used in a scientifically correct way, the candidate should be awarded these subsequent marking points. Further guidance will be included in the mark scheme where necessary and any exceptions to this general principle will be noted.
5	'List rule' guidance For questions that require ***n*** responses (e.g. State **two** reasons …): • The response should be read as continuous prose, even when numbered answer spaces are provided. • Any response marked *ignore* in the mark scheme should not count towards ***n***. • Incorrect responses should not be awarded credit but will still count towards ***n***. • Read the entire response to check for any responses that contradict those that would otherwise be credited. Credit should **not** be awarded for any responses that are contradicted within the rest of the response. Where two responses contradict one another, this should be treated as a single incorrect response. • Non-contradictory responses after the first ***n*** responses may be ignored even if they include incorrect science.

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6 Calculation specific guidance

Correct answers to calculations should be given full credit even if there is no working or incorrect working, **unless** the question states 'show your working'.

For questions in which the number of significant figures required is not stated, credit should be awarded for correct answers when rounded by the examiner to the number of significant figures given in the mark scheme. This may not apply to measured values.

For answers given in standard form (e.g. $a \times 10^n$) in which the convention of restricting the value of the coefficient (a) to a value between 1 and 10 is not followed, credit may still be awarded if the answer can be converted to the answer given in the mark scheme.

Unless a separate mark is given for a unit, a missing or incorrect unit will normally mean that the final calculation mark is not awarded. Exceptions to this general principle will be noted in the mark scheme.

7 Guidance for chemical equations

Multiples / fractions of coefficients used in chemical equations are acceptable unless stated otherwise in the mark scheme.

State symbols given in an equation should be ignored unless asked for in the question or stated otherwise in the mark scheme.

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Annotations guidance for centres

Examiners use a system of annotations as a shorthand for communicating their marking decisions to one another. Examiners are trained during the standardisation process on how and when to use annotations. The purpose of annotations is to inform the standardisation and monitoring processes and guide the supervising examiners when they are checking the work of examiners within their team. The meaning of annotations and how they are used is specific to each component and is understood by all examiners who mark the component.

We publish annotations in our mark schemes to help centres understand the annotations they may see on copies of scripts. Note that there may not be a direct correlation between the number of annotations on a script and the mark awarded. Similarly, the use of an annotation may not be an indication of the quality of the response.

The annotations listed below were available to examiners marking this component in this series.

Annotations

Annotation	Meaning
	correct point or mark awarded
	incorrect point or mark not awarded
A	information missing or insufficient for credit
I	incorrect or insufficient point ignored while marking the rest of the response
CON	contradiction in response, mark not awarded
BOD	benefit of the doubt given
ECF	error carried forward applied
FA	First answer
NAQ	response has not answered question
POT	power of ten error

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Annotation	Meaning
SEEN	point has been noted, but no credit has been given or blank page seen
TV	response is too vague or there is insufficient detail in response
REP	repetition in response
	to show a correct point but where the number of points does not relate to the number of marks i.e. 3 correct = 2 marks
	correct awarding one mark from marking point or marking group 1. similar numbered ticks are used for marking point or marking groups 2, 3, 4 etc.
Highlighter	Highlight

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Mark Scheme Abbreviations

Abbreviation	Meaning
;	separates marking points
/	alternative responses for the same marking point
R	reject the response
A	accept the response
I	ignore the response
ecf	error carried forward
AVP	any valid point
ora	or reverse argument
AW	alternative wording
underline	actual word given must be used by candidate (grammatical variants excepted)
( )	the word / phrase in brackets is not required but sets the context
max	indicates the maximum number of marks that can be given
M1, **M2**….	marking point reference

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Question	Answer	Marks	Guidance
1(a)	22.8% (circled) ;	**1**	**allow** any indication of a correct response.
1(b)	*Any three from;* M1 loss of jobs ; M2 loss of homes / migration ; M3 famine / loss of food / loss of crops ; M4 loss of livestock ; M5 risk of disease / named waterborne disease / waterborne disease / pathogens ;	**3**	ignore loss of life / injuries / financial losses unqualified M1 **allow** loss of income M2 **allow** isolation M3 **allow** malnutrition M6 **allow** damages infrastructure / buildings / damages roads / damages transport / cost of rebuilding M6 **allow** idea that flooding stops people getting from one area to another M6 **allow** references to sewage systems being broken or damaged / damage to water pipes M5 **allow** water pollution / contaminates water (supplies) **ignore** references to loss of power/ electricity / soil erosion / loss of habitat / pollution unqualified
1(c)	M1 strong winds / cyclone / typhoon / hurricane ; M2 blowing the oceans / sea towards the shore ;	**2**	M1 allow high winds M1 allow cyclone / typhoon / hurricane / heavy wind / high winds / faster wind speeds M1 allow: tide higher than usual / spring tides M2 must indicate blowing of wind towards the coast line M2 allow large lake M3 allow low pressure (weather systems) M1 allow: tide higher than usual / spring tides ignore references to thunder and lightening intense winds and low atmospheric pressure from severe weather systems, such as hurricanes or extra-tropical cyclones, pushing water toward the

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Question	Answer	Marks	Guidance
2(a)	1 correct = 1 mark 2 or 3 correct = 2 marks 4 correct = 3 marks	**3**	3 separate ticks
2(b)	*Max two from each heading:* **biotic** M1 eaten by animals / fish / consumers ; M2 competition from other seaweeds / other **aquatic** plants ; **abiotic** M4 temperature ; M5 sunlight ; M6 salinity of water ; M7 pH / carbon dioxide concentration ; M8 nutrient availability ; M9 oxygen concentration (of water) ;	**4**	 **M1 allow** example of a organisms (eating it) / humans using it / humans harvesting it / predators M2 **allow** competition for space **ignore** unqualified competition **ignore** other plant species / terrestrial plants ; M3 **allow** disease / pathogens; **ignore** bacteria / microorganisms ; M5 **allow** light M5 **allow** turbidity / water clarity M8 **allow** mineral / named mineral / **ignore** fertilisers / sewage **ignore** eutrophication / pollution

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Question	Answer	Marks	Guidance
3(a)	1 correct = 1 mark 2 correct = 2 marks 3 or 4 correct = 3 marks 5 correct = 4 marks **thermosphere** (given) mesosphere stratosphere ; troposphere ; **crust** (given) mantle ; core ;	**4**	
3(b)	*Any three from:* M1 solar / short wave radiation (reaches Earth); M2 absorbed by Earth's surface ; M3 some re-radiated (as long wave radiation) / IR / heat ; M4 (some)reflected (back to earth) / absorbed by greenhouse gases (in atmosphere) ;	**3**	**ignore:** reference to ozone depletion / holes M1 **allow** solar / uv / sunlight / radiation from sun M3 **allow** radiates / re emits / leaves earths surface M3 **do not allow** reflected M4 **allow** trap heat

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<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>4(a)(i)</td><td>arable and commercial ;</td><td>1</td><td>either way around</td></tr>
<tr><td>4(a)(ii)</td><td>M1 axes labels with units:
x-axis: fruit AND
y-axis: volume (of water needed to produce 1 kg crop) AND dm^3 ;
M2 sensible linear scale on y-axis so that data covers at least half the available space;

M3 correct plotting □ half a small square tolerance;

M4 bars of equal width ;</td><td>4</td><td>If linear graph drawn, award MPs1 and 2 if correct.

allow DM^3

M3 allow missing zero and not starting at zero
Note: M3 is dependent on M2 having a correct linear scale on the y-axis
M3 need to plot each volume against correctly labelled fruit on the x-axis

M4 do not allow line graphs
M4 allow bars touching / spaces between the bars
M4 allow different sized gaps between bars

<table>
<tr><th>fruit</th><th>volume of water needed to produce 1 kg of fruit / dm^3</th></tr>
<tr><td>avocado</td><td>700</td></tr>
<tr><td>banana</td><td>800</td></tr>
<tr><td>olive</td><td>3000</td></tr>
<tr><td>orange</td><td>100</td></tr>
<tr><td>tomato</td><td>200</td></tr>
</table>
</td></tr>
</table>

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Question	Answer	Marks	Guidance
4(a)(iii)	*Any two from:* M1 aquifers ; M2 rivers ; M3 reservoirs ; M4 desalination plants ;	**2**	M1 **allow** wells / groundwater / borehole M2 **allow** streams M3 **allow** dams / lakes / ponds M4 **allow** reverse osmosis / distillation M5 **allow** tap water **ignore**: rainfall / surface water **ignore** water stored in tanks / rainwater harvesting **do not** allow ocean / seawater
4(a)(iv)	trickle drip ;	**1**	**allow**: clay pot / trickle / drip / seep hose **allow** descriptions if demonstrates knowledge of efficient application e.g. water the base of the plant, water when cooler. **allow** hydroponics. **do not allow** flood irrigation. **ignore** sprinkler
4(b)	Any three from: M1 dehydration; M2 use unsafe water sources / less water for washing / drinking / cooking / food prep M3 risk of water-borne diseases e.g. cholera / typhoid (from other water sources) ; M4 inability to grow other food crops / raise farm animals / no water for livestock / food shortages ; M5 migration ; M6 increase in poverty ;	**3**	M1 allow malnutrition M2 allow less sanitation M3 ignore references to death M2 allow water is contaminated M4 allow no water for crops M4 ignore pets ignore gardening M6 allow increased price of food M7 allow people have to travel further for water / import water

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Question	Answer	Marks	Guidance
4(c)	Any five from: M1 avocados are a valuable / profitable / cash crop / other crops may not provide sufficient income / profit ; M2 the location may not be suited to grow other crops / climate suited to avocado growing ; M3 farmers have experience in growing avocados / invested in the correct equipment (which will be wasted) ; M4 avocado trees are not the most needy crop for water / use of relevant data from table ; M5 if the farmer does not grow them, others will / large demand ; M6 trees will be costly to remove ;	**5**	M1 allow avocados provide an income M2 allow descriptions of this e.g. soil type may not suit growing other crops / soil is suitable to grow avocados M3 allow already have the farm mechanisation / equipment M3 allow easy to grow ignore easy to farm / doesn't take much time to grow/ may want to eat them M4 allow examples from table e.g. bananas / olives use more water M6 allow farmers don't want to get rid of the trees M7 allow references to intercropping M8 allow have to replant trees

Question	Answer	Marks	Guidance
5(a)	mosquito ;	**1**	allow anopheles do not allow mark if candidate has written out the whole of the 1st box or written mosquito and parasite or mosquito and plasmodium
5(b)	draining water bodies: M1 removes breeding site / larvae develop / place to lay the eggs and vector/mosquito population will decrease ; antimalarial drugs: M2 kills (malaria) parasite and breaks life cycle ; malaria nets: M3 prevents vector / mosquito from biting skin / human and vector / mosquito / human not infected ;	**3**	reminder: the question is Explain. M2 ignore kills vector / mosquito M3 allow stops mosquitoes from biting people and then transferring the disease M3 allow mosquito can't spread malaria / disease for the section after the and
5(c)(i)	577 600	**1**	allow 578 000

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Question	Answer	Marks	Guidance
5(c)(ii)	maximum of two from any one section malaria is free: M1 north of the Tropic of Cancer / south of Tropic of Cancer / at the Tropic of Cancer ; M2 southern / south Africa; M3 south of the Tropic of Capricorn malaria is rare : M4 north coast / north of Tropic of Cancer; M5 along Tropic of Capricorn north of the Tropic of Capricorn / South of the Tropic of Capricorn ; malaria is common : M6 central part of Africa / around the Equator / north and south of the Equator / between the tropics M7 south of Tropic of cancer / north of Tropic of Capricorn ; M8 island east of Africa M9 AVP ;	**3**	ignore vague references e.g. in the south in the north in the far south ignore above and below / quarter / both sides allow at for along allow little / few for rare allow lots of or many for common allow at / on M6 allow near / at equator M6 allow middle for centre M8 allow Madagascar e.g. Sahara desert malaria free malaria is moderate / rare on the tropic of Capricorn allow named country for each category (max 1 named country in each category)
5(c)(iii)	greater population / climate change / resistance to drugs ;	**1**	allow global warming / increasing temperatures/warmer temperatures allow greater population of mosquitoes / more infected mosquitoes ignore more parasites

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Question	Answer	Marks	Guidance
6(a)(i)	fossil fuels:	1	
6(a)(ii)	30(%) ;	1	
6(b)(i)	*Any four from:* M1 dam stores water in reservoir ; M2 water flows through the dam wall / water from reservoir flows at high pressure ; M3 (water flow) rotates / turns / spins / drives a turbine ; M4 turns / rotates / activates / spins / powers / drives a generator ; M5 kinetic / mechanical to electrical	4	M1allow holds / traps water M1 allow water inside dam M2 dam door / gate / out of dam / through pipes M2 allow high force for high pressure ignore push / move M3 do not accept steam turns / air turns ignore turn on ignore connected to M6 allow gravitational potential to kinetic energy ; if candidate gets turning of turbine and generator the wrong way around do not credit M3 but M4 can still be credited e.g. water flows and turns a generator which turns a turbine
6(b)(ii)	*Any three from:* M1 farming land lost / destruction of crops / loss of livestock / less food available ; M2 loss of livelihood / change to traditional way of life ; M3 homes destroyed / need to relocate / infrastructure destroyed / flooding ; M4 dam will cause visual pollution / noise pollution qualified ; M5 impact on local wildlife/ biodiversity / destroys habitats / causes deforestation ;	3	M1 allow building on farmland M2 allow loss of jobs M3 allow it could affect their village / homes M4 allow examples e.g. noise pollution during construction ignore references to cost
6(b)(iii)	M1 site B ; M2 suitable valley / wet climate / fast flowing river / mountainous area ;	2	**allow** for C (no mark) the ecf of high rainfall / wide valley = max 1 m site A = 0 m site D = 0 m

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Question	Answer	Marks	Guidance
7(a)(i)	M1 3 200 000 – 700 000 or 2.5 ; M2 million(s)	**2**	correct answer with units = 2 marks **allow** 2 500 000 = 2 m
7(a)(ii)	fishing that causes a reduction of population ;	**1**	AW idea of what it does the harvesting of aquatic wildlife at rates faster than species can naturally replenish their populations **ignore** fishing over the maximum limit as this could be over quota **ignore** catching more fish than needed
7(a)(iii)	(Yes because) there is a gradual increase after this date (in fish population that commenced soon after this date) ;	**1**	no mark for candidates who state no
7(b)	Max 3 marks from each strategy. **Increase in mesh size:** M1 smaller fish are not caught / only large fish caught / only adult fish caught ; M2 more fish of breeding age; M3 juveniles able to mature / grow and reproduce ; M4 less bycatch ; **pole and line:** M5 sustainable method / prevents overfishing ; M6 specific to a certain type of fish / less bycatch ; M7 prevents damage to sea bed ; M8 doesn't cover a large area of ocean ;	**4**	M1 **allow** younger fish are not caught M4 **allow** non target species M7 **allow** less volume caught / stops overfishing **do not allow** references to quotas

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Question	Answer	Marks	Guidance
7(c)	*Any three from:* M1 difficult to enforce / police ; M2 encourages illegal fishing ; M3 will only work if all countries agree ; M4 loss of livelihood for fishermen / increase price of bluefin fish / tuna ; M5 lack of food / protein for communities who rely on this food source ; M6 difficult to clearly know where bluefin tuna populations are ; M7 not being able to catch other fish species ;	**3**	M4 **allow** companies for fisherman ignore affects country's economy M5 **allow** lack of blue fin tuna to eat

Question	Answer	Marks	Guidance
8(a)(i)	opencast / open-pit / open-cut / surface / strip / open-mine ;	**1**	**allow** quarry
8(a)(ii)	*any four from:* M1 rock is weathered / broken down ; M2 rock pieces / sediment moved by wind / ice / water ; M3 (sediment), deposited / forms **layers** ; M4 (sediment), compacted / pressured ; M5 process takes millions of years ;	**4**	**ignore** igneous / metamorphic M1 **allow** eroded M1 **allow** shells for rocks M4 **allow** cementation / compressed M4 **allow** tightly packed / pressed
8(a)(iii)	*Any two from:* M1 loss of land / habitats / deforestation ; M2 loss of biodiversity ; M3 noise pollution ; M4 air pollution / dust ; M5 visual pollution ; M6 water pollution ;	**2**	 M4 **allow** examples of air pollution / methane release M5 **allow** waste tips

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Question	Answer	Marks	Guidance
8(b)	*Level of response marked question:* Level 3 [5–6 marks] **A coherent response is given that develops and supports the candidate's conclusion using relevant details and examples.** Indicative content and subject-specific vocabulary are generally used precisely and accurately. Good responses are likely to present a balanced evaluation of both statements. Level 2 [3–4 marks] **Development and support of the conclusion is evident, though the response may lack some coherence and / or detail.** Indicative content and subject-specific vocabulary are used but may lack some precision and / or accuracy. Irrelevant detail may be present. Responses contain evaluation of the statement, but this may not be balanced. Level 1 [1–2 marks] **The response may be limited in development and / or support. Contradictions and / or irrelevant detail may be present.** Indicative content and subject-specific vocabulary may be limited or absent. Responses may lack structure or be in the form of a list. Evaluation may be limited or absent. No response or no creditable response [0 marks]	**6**	

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Question	Answer	Marks	Guidance
8(b)	Indicative content: **'There are large deposits of some types of rocks. There should be no restrictions on rock extraction.'** Agree: allows for development of industries materials needed for house building use of these materials saves those that are scarcer reserves sufficient to last for centuries recycling still possible as rock can be reprocessed the mining industry supports many communities who will be poorer without it. unable to construct resources that reduce the impact of humans without the use of rocks (e.g. dams) rocks are a more durable building material than many others Disagree: all rocks are finite stocks and cannot be replenished. mining of additional rocks have huge environmental impact. examples e.g. habitat loss, loss of biodiversity, named pollution etc. processing of the rocks uses a lot of other resources (e.g. power, water) if used in large quantities, these too will be in short supply Rocks may not be a suitable replacement for other materials in short supply e.g. oil.		

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