CAMBRIDGE
International Education

Cambridge IGCSE™

ENVIRONMENTAL MANAGEMENT **0680/12**

Paper 1 Theory **February/March 2026**

MARK SCHEME

Maximum Mark: 80

Published

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 International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the February/March 2026 series for most Cambridge IGCSE, Cambridge International A and AS Level components, and some Cambridge O Level components.

PUBLISHED

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 descriptions 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.

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.

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.

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

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

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>1(a)</td><td>
<table>
<tr><th>components of soil</th><th>organic content</th></tr>
<tr><td>air</td><td></td></tr>
<tr><td>animals</td><td>✓</td></tr>
<tr><td>microorganisms</td><td>✓</td></tr>
<tr><td>mineral particles</td><td></td></tr>
</table>
</td><td>2</td></tr>
<tr><td>1(b)(i)</td><td>A: sand
B: silt
C: clay
M1 all three named ;
M2 correct order ;</td><td>2</td></tr>
<tr><td>1(b)(ii)</td><td>label and label line in an air space ;</td><td>1</td></tr>
<tr><td>1(c)</td><td>nitrate ions: NO_3^- ;

phosphate ions: PO_4^{3-} ;</td><td>2</td></tr>
</table>

Question	Answer	Marks
2(a)	people per km^2 ;	**1**
2(b)	*(largest population)* Bangladesh ; *(smallest area)* Rwanda ;	**2**
2(c)(i)	M1 57 777 ÷ 2 166 086 / 0.02667345617……. ; M2 0.03 / correct rounding to two decimal places ;	**2**
2(c)(ii)	13 400 511 ;	**1**

Question	Answer	Marks
3(a)(i)	well ;	**1**
3(a)(ii)	aquifer / ground water ;	**1**
3(b)	rivers / reservoirs / desalination plants ;	**1**
3(c)	*any two from:* **M1** trees increase interception/ trees intercept rain ; **M2** caught by leaves / foliage / branches / trunks ; **M3** precipitation does not reach the ground / increases evaporation from foliage ;	**2**
3(d)	similarity: *(any one from)* **M1** water through the ground / under the surface / underground; **M2** movement is towards the sea / downslope / lateral / due to gravity ; difference: *(any one from)* **M3** through-flow is through soil **and** ground water flow is through rocks ; **M4** through-flow is fast **and** ground water flow is slow ;	**2**

Question	Answer	Marks
4(a)(i)	*any three from:* **M1** overall trend is down then up / down ; **M2** stable between 1960 and 1970 ; **M3** decreases to 2000 ; **M4** increases from 2000 to 2020 ; **M5** data manipulation e.g. decreases by 9 (Dobson units) between 1960 and 2020 ;	**3**
4(a)(ii)	2055 ;	**1**

Question	Answer	Marks
4(a)(iii)	*any two from:* **M1** use of ozone-depleting substances may change/ changes to population ; **M2** CFC still used in some parts of the world ; **M3** unknown effects of CFC replacements ; **M4** unknown effects of climate change ; **M5** idea of computer models flawed / estimated data ; **M6** changes to laws / regulations/ new strategies to reduce impact ;	**2**
4(b)	*impact:* any named cancer / cataracts ; *explanation: (any **one** from)* ozone absorbs / prevents ultraviolet (radiation / light) ; (ozone depletion) means **more** UV reaches Earth ;	**2**
4(c)	stratosphere ;	**1**
4(d)	*any one from:* **M1** CFC replacement ; **M2** CFC ban / ban of ozone depleting substance ; **M3** international agreements that control use of ozone depleting substance ;	**1**

Question	Answer	Marks
5(a)(i)	Burundi **and** Honduras **and** Brazil ;	**1**

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>5(a)(ii)</td><td>
<table>
<tr><th></th><th>supported</th><th><u>not</u> supported</th></tr>
<tr><td>All countries with a GDP greater than 30 thousand USD consume more meat per person than countries with a GDP lower than 30 thousand USD</td><td></td><td>✓</td></tr>
<tr><td>Every person in Japan consumes 54 kg of meat per year.</td><td></td><td>✓</td></tr>
<tr><td>People in Russia consume more meat per person than people in Israel.</td><td></td><td>✓</td></tr>
<tr><td>The USA has the highest GDP and the highest mean mass of meat consumed per person.</td><td>✓</td><td></td></tr>
</table>
4 correct = 2 marks
3 correct = 1 mark</td><td>2</td></tr>
<tr><td>5(b)(i)</td><td>any three from:
M1 soil compaction / erosion ;
M2 loss of habitats / deforestation / land clearance ;
M3 loss of biodiversity / land does not support other species / genetic depletion / extinction ;
M4 named form of air pollution e.g. dust / methane ;
M5 water pollution / named example ;
M6 increased risk of disease ;
M7 AVP ; e.g. animal welfare concerns / antibiotic resistance</td><td>3</td></tr>
<tr><td>5(b)(ii)</td><td>any five from:
M1 cattle respire ;
M2 cattle waste decomposes ;
M3 (respiration / decomposition) produces carbon dioxide ;
M4 clearing land / deforestation, adds carbon dioxide to the atmosphere ;
M5 transporting cattle, uses fossil fuels / adds carbon dioxide to the atmosphere ;
M6 methane / carbon dioxide, are greenhouse gases ;
M7 traps, heat / infrared radiation / longwave radiation in the atmosphere ;
M8 causes the enhanced greenhouse effect / global warming ;</td><td>5</td></tr>
</table>

Question	Answer	Marks
5(c)	**M1** cattle selected that produce high yields of milk / suitable genetic characteristics ; **M2** (selected parents) bred ; **M3** offspring with high milk yield selected / suitable genetic characteristics ; **M4** process repeated (for many generations) ;	**4**

Question	Answer	Marks
6(a)(i)	*any two from:* **M1** heavy, rainfall / precipitation/ cyclones / storms/ storm surges ; **M2** snowmelt ; **M3** deforestation ; **M4** compacted soil ; **M5** saturated soil ; **M6** urbanisation ; **M7** silting of rivers ; **M8** building on low-lying land ; **M9** dam failure ; **M10** AVP ; e.g. rise in sea level / tsunami	**2**
6(a)(ii)	*any three from:* **M1** loss of, homes / property ; **M2** loss of, infrastructure / communications ; **M3** financial losses / businesses lost / loss of jobs ; **M4** loss of, crops / livestock/ lack of food ; **M5 M6** AVP e.g. contamination of drinking water/ loss of life/ injury ;;	**3**
6(a)(iii)	*any two from:* **M1** deposits silt on farmland ; **M2** (silt is) rich in, nutrients / mineral ions ; **M3** increases soil fertility / increases crop yield ;	**2**

Question	Answer	Marks
6(b)(i)	*Plasmodium* ; vector ; liver ; red ; infected ;	**5**
6(b)(ii)	*any two from:* **M1** drugs kill the parasite (in humans) ; **M2** so when mosquitos feed they do not become infected / breaks the chain of infection / mosquitos cannot infect people ;	**2**
6(b)(iii)	*any two from:* **M1** removing standing water / drain swamps ; **M2** releasing sterile males ; **M3** release fish (that eat larvae) in water bodies / covering standing water with oil / detergent ; **M4** eradication of mosquito by insecticide / pesticide ; **M5** vaccination of humans ; **M6** AVP ; e.g. insect repellent / covering up / sleep under nets	**2**

Question	Answer	Marks
7(a)(i)	*any two from:* **M1** light ; **M2** salinity ; **M3** pH ; **M4** carbon dioxide (concentration) ; **M5** oxygen (concentration) ; **M6** temperature ; **M7** humidity ; **M8** wave action ; **M9** minerals ;	**2**
7(a)(ii)	mangrove (tree) → crab → fish → humans ;;	**2**

Question	Answer	Marks
7(a)(iii)	*any two from:* **M1** (an organism that) uses light energy / photosynthesises ; **M2** to make, glucose / organic substances ; **M3** from carbon dioxide **and** water ;	**2**
7(a)(iv)	population ; niche ;	**2**
7(b)(i)	*line graph with:* **M1** both axes labelled including unit for area ; **M2** linear scale on both axes with data occupying at least half of the grid ; **M3** data points plotted to within ± half of a small square ; **M4** point-to-point lines drawn with no extrapolation ;	**4**
7(b)(ii)	2010–2015 ;	**1**

Question	Answer	Marks
7(c)	Harvesting mangrove trees has more benefits than negative impacts. *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] Indicative content: *agree:* (harvesting benefits) timber for building firewood for heating / cooking / charcoal idea of sustainable harvesting definition of sustainability for sale for income to local people reduces competition with other trees / increases biodiversity increases carbon capture (due to fast growth of young trees) allows land development	**6**

Question	Answer	Marks
7(c)	*do not agree:* (harvesting negative impacts) global warming / climate change disrupts food chains impacts human food sources reduces biodiversity loss of genetic, material / diversity carbon sinks / stores increases erosion cyclones have greater impact on shore may not benefit local people	