CAMBRIDGE
International Education

Cambridge IGCSE™

ENVIRONMENTAL MANAGEMENT **0680/11**

Paper 1 Theory **October/November 2025**

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 October/November 2025 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	<u>'List rule' guidance</u> 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.

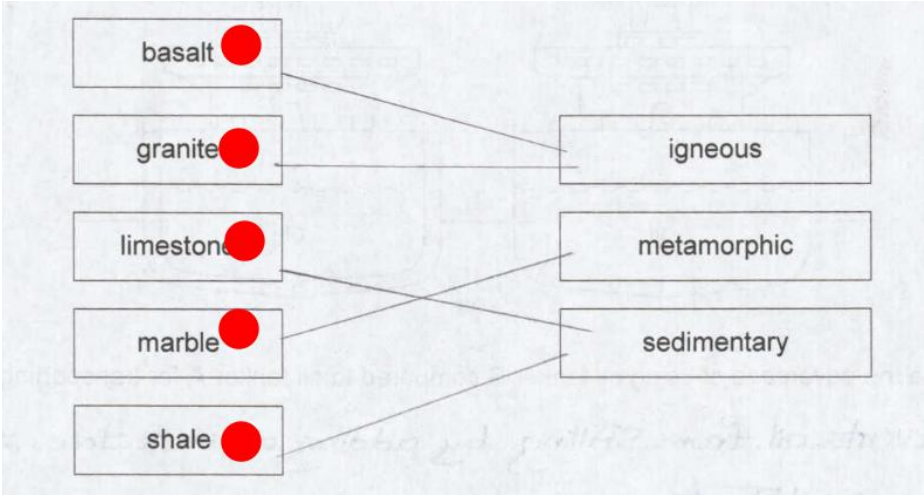
Annotations

Annotation	Meaning
	correct point or mark awarded
	incorrect point or mark not awarded
	information missing or insufficient for credit
	incorrect or insufficient point ignored while marking the rest of the response
	contradiction in response, mark not awarded
	benefit of the doubt given
	error carried forward applied
	First answer
	response has not answered question
	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

Question	Answer	Marks
1(a)	bar drawn at 2.4%;	**1**
1(b)	*any **two** from:* **M1** more males than females; **M2** 35–39 is largest group (overall / for males / for females); **M3** most of the population is in the working population section;	**2**
1(c)	79;	**1**
1(d)	improved health care ticked;	**1**
1(e)	*any **two** from LEDC have:* **M1** 0–4 age has largest percentage / large base; **M2** large percentage of young dependents; **M3** no bulge in middle / no bulge in working age population; **M4** fewer people in older age categories / lower percentage of older dependents / narrow top / small top;	**2**

Question	Answer	Marks
2(a)	surface / opencast / open-pit / strip;	**1**
2(b)	**Z**, **X**, **Y**;	**1**
2(c)	idea of use of microorganisms / bacteria / vegetation, **AND** to breakdown or remove pollutants;	**1**

Question	Answer	Marks
2(d)	 5 correct = **2** 3-4 correct = **1**	**2**
2(e)	**M1** development that meets the needs of the present; **M2** without compromising the ability of future generations to meet their own needs;	**2**

Question	Answer	Marks
3(a)	(**B** is) double-hulled / less risk of oil spill / less oil spilling;	**1**
3(b)	*any **two** from:* **M1** physical removal of, floating oil / oil on water surface / idea of taking oil from the surface of the water; **M2** idea of removal by skimming surface/ rotating belt or brushes / use of absorbent material / absorbs oil; **M3** oil stored in tanks / oil squeezed out of skimmer / scraped off skimmer;	**2**

Question	Answer	Marks
3(c)	*any **three** from:* **M1** (mammals) ingest the oil; **M2** (oil is) toxic; **M3** reduces water repellence of fur/ reduces insulation quality of fur / mammals get hypothermia / reduces buoyancy; **M4** skin or eye irritation; **M5** suffocation; **M6** (less photosynthesis so) less plants to eat/ disrupts food chains or food webs / prey / food sources reduced; **M7** destroys habitats;	**3**

Question	Answer	Marks
4(a)	*any **two** from:* **M1** hospital equipment **AND** cannot be used; **M2** lack of refrigeration **AND** means food spoils; **M3** lack of heating **AND** risk of illness / heart attack / respiratory failure / disease / hypothermia; **M4** no cooking facilities **AND** unable to cook food / may need to use a fire inside; **M5** no clean water / inefficient water supply **AND** lack of sanitation / (leads to) diseases; **M6** cannot contact emergency services **AND** cannot get help;	**2**
4(b)(i)	18.6 / 19;	**1**
4(b)(ii)	*any **two** from:* **M1** poor placement angle / shading from (trees / buildings); **M2** direction of placement e.g. south or north facing; **M3** weather factor / no Sun / cloudy / raining/smog / different levels of light (intensity)/ work in daytime only; **M4** temperature different (to 25 °C); **M5** poor maintenance / dirty / not cleaned ; **M6** idea of wear and tear; **M7** different type of panel;	**2**

Question	Answer	Marks
4(c)	*any **three** from:* **M1** idea of greater use in 2022(across all regions); **M2** 1992: maximum percentage / highest was 1% **AND** maximum / highest in 2022 was 4%; **M3** quoted comparative data for 1 country / area quoting increase or no change; **M4** quoted comparative data for a 2nd country / area quoting increase or no change;	**3**
4(d)	*max **[3]** advantages for biofuels:* **M1** renewable / not finite; **M2** can be made from variety of materials; **M3** emit less greenhouse gases; **M4** no / less sulfur dioxide emissions / acid rain / nitrous oxides / less particulate emissions; **M5** not every country has access to fossil fuel reserves / can be produced in any country; **M6** provides energy security / reduces reliance on imports; *max **[3]** disadvantages for biofuels:* **M7** leads to monocultures; **M8** replaces food crops / leads to food shortages; **M9** require fertilisers / named impact of overuse or misuse of fertilisers; **M10** requires large quantities of water; **M11** cost of new technology; **M12** less efficient (in low temperatures) / generate less energy;	**4**
4(e)	**M1** organic / plant (material) / vegetation; **M2** over millions of years / compressed by sediments / anaerobic conditions; **M3** heat **and** pressure;	**3**

Question	Answer	Marks
5(a)(i)	21;	**1**
5(a)(ii)	*any **one** from:* **M1** population increase; **M2** lack of natural sources / finite amount of water available; **M3** increased frequency, of droughts / dry weather;	**1**
5(a)(iii)	**M1** 36.76 or 2747.31 – 2710.55; **M2** 36.8;	**2**
5(b)	**M1** sectors in clockwise rank order; **M2** largest first starting at 'noon' 0 and rest in rank order; **M3** correct plotting tolerance ± 1%; **M4** key competed and matches sector shading;	**4**
5(c)(i)	**M1** removal of salts (from seawater); **M2** by, reverse osmosis / distillation / boiling **and** condensation;	**2**
5(c)(ii)	*any **two** from:* **M1** reduce costs; **M2** conserve energy resources; **M3** reduce **named** pollution e.g. CO_2 emissions;	**2**
5(d)	*any **two** from:* **M1** imported / pipelines; **M2** dams / reservoirs; **M3** aquifers / wells / groundwater;	**2**

Question	Answer	Marks
5(e)(i)	29 circled;	**1**
5(e)(ii)	**M1** 2020: greater number of cases / more people with dengue fever; **M2** both peak at similar time / both have similar overall trend; **M3** relevant quoted comparative data;	**3**
5(e)(iii)	*any **one** from:* **M1** to reduce risk of dengue fever or malaria / mosquitoes breed in (stagnant) water; **M2** to save water / preventing evaporation;	**1**
5(f)(i)	**M1** (Aug:)170 mm **and** (November:) 280 mm; **M2** range = 110;	**2**
5(f)(ii)	Feb(ruary);	**1**
5(f)(iii)	*any **two** from:* **M1** water needed for photosynthesis / less water means less photosynthesis; **M2** photosynthesis produces glucose for plants to grow; **M3** water swells cells / prevents wilting; **M4** idea of soil erosion as the soil is dry so likely to be blown away and therefore less nutrients available;	**2**

Question	Answer	Marks
6(a)	455.1 / 455;	**1**
6(b)	growing crops / raising livestock, for own use;	**1**
6(c)	*any **two** from:* **M1** global warming / increase in temperature; **M2** (increased frequency of,) extreme weather / droughts; **M3** idea of less suitable land available (as population increases); **M4** population increasing means more demand for food; **M5** preventing famine / reduce risk of crop failure;	**2**
6(d)	*any **five** from:* **M1** insecticides; **M2** prevents insect attack / kills insects / insect control / reduces amount of crop eaten (by insects); **M3** fertilisers; **M4** provide nutrients to plants; **M6** herbicides; **M7** weed control / kill weeds; **M8** reduces competition for resources; **M9** fungicides; **M10** fungi control / prevents disease / kills fungi;	**5**

Question	Answer	Marks
6(e)(i)	*any **three** from:* **M1** targeted use of fertilisers; **M2** identifies where to add organic material; **M3** identifies where to add mineral ions; **M4** identifies where to adjust pH; **M5** identifies which crops to, grow that suit pH / helps identify area where a crop will grow best; **M6** shows soils that should not be used to grow crops; **M7** identifies current poor agricultural practice; **M8** shows all areas of land that can be cultivated;	**3**
6(e)(ii)	*any **two** from:* **M1** automated; **M2** suitable for areas where no physical data collected / idea of avoids going to, dangerous areas / areas people are not permitted in; **M3** allows large quantities of data to be processed / stores large amounts of data / easier access to data;	**2**

Question	Answer	Marks
7(a)	*any **one** from:* **M1** heavy; **M2** could drop and the water spill; **M3** cooking oil could make the water taste / some cooking oil may mix with water / contaminates water; **M4** idea of harm to women's bodies / health issue;	**1**

Question	Answer	Marks
7(b)	*Level of response marked question:* **<u>Level 3</u> [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 the statement. **<u>Level 2</u> [3–4 marks]** **Development and support of the conclusion is evident, though the response may lack some coherence and/or detail.** Irrelevant detail may be present. Indicative content and subject-specific vocabulary are used but may lack some precision and / or accuracy. Responses contain evaluation of the statement, but this may not be balanced. **<u>Level 1</u> [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. **<u>No response or no creditable response</u> [0 marks]** *indicative content for:* Climate change is the main reason why people lack a reliable source of clean water. *reasons why climate change is the main reason:* increased global temperatures increased frequency of extreme weather e.g. hurricanes damage water pipes increased in evaporation due to high temperatures more droughts / more years without enough rainfall groundwater has been extracted faster than replenished sea level rise from climate change cause flooding / salination of water supplies *reasons why climate change is not the main reason:* poverty LEDC cannot afford infrastructure to provide clean drinking water	**6**

Question	Answer	Marks
7(b)	LEDC have other priorities idea of low population density or sparce communities water sources can become contaminated by another means (instead of salinization / due to extreme weather events) named examples of contamination and explained e.g. acidification / open defecation / lack of sanitation increased demand as population increases seasonal variations / dry seasons stores in water cycle changing water wars / disputes	