CAMBRIDGE
International Education

Cambridge IGCSE™

ENVIRONMENTAL MANAGEMENT **0680/22**

Paper 2 Management in Context **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.

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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 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)(i)	**M1** axes labels: *x*-axis: year and years **AND** *y*-axis: population; **M2** suitable linear scale for both axes such that plotted points cover at least half of grid; **M3** 5-7 points correct plotted ± half a small square tolerance; **M4** 8 points correct plotted ± half a small square tolerance;	**4**
1(a)(ii)	increases / growing **AND** constant / levels off / becomes stable / becomes stationary / slows down / stops increasing / stagnates;	**1**
1(b)(i)	migration;	**1**
1(b(ii)	***max one climate:*** **M1** (very) cold / cold throughout the year; **M2** long winters; **M3** short or cool summers; ***max one* economy:** **M4** less / lack of / limited, job opportunities / most jobs only in fishing or tourism or seasonal employment/high unemployment; **M5** low paying jobs; **M6** unattractive employment opportunities / do not want to work in fishing industry; ***max one* education:** **M7** lack of opportunities / options for / shortage of education facilities / university / further / higher education; **M8** limited/poor (quality), education;	**3**
1(c)(i)	Nuuk Sisimiut Ilulissat Qaqortoq Aasiaat ;	**1**

Question	Answer	Marks
1(c)(ii)	26 / 25.6 / 25.61 / 25.605;	**1**
1(d)(i)	*any three from:* **M1** dispersed; **M2** along the coast; **M3** on ice free land; **M4** (most) next to / near to ports or airports; **M5** (most) west / southwest; **M6** (most) inside / north, of the Arctic Circle / ORA; **M7** none in national park; **M8** one on an island;	**3**
1(d)(ii)	*any two from:* **M1** fly / (aero)plane / air / helicopter / flights; **M2** sea / boat / ship; **M3** snowmobile / skidoo; **M4** dog sled; **M5** walk; **M6** ski;	**2**
1(d)(iii)	45%;	**1**

Question	Answer	Marks
1(e)(i)	<table><tr><td>north</td><td>south</td></tr><tr><td>35.8</td><td>20.3;</td></tr><tr><td>124;</td><td>857</td></tr></table>	**2**
1(e)(ii)	May **AND** June **AND** July;	**1**
1(e)(iii)	*any two from:* **M1** no / few, hours of daylight; **M2** lights (need to be) on during the day; **M3** very cold / temperatures below freezing / very low temperatures; **M4** houses need to be heated;	**2**
1(e)(iv)	*any three from:* *idea of control of:* **M1** heat / temperature; **M2** light (intensity); **M3** day length / using extra lighting to extend day; **M4** water / irrigation / humidity; **M5** soil nutrients / fertiliser / minerals added to soil; **M6** soil pH; **M7** pests / diseases; **M8** carbon dioxide; *impact:* **M9** extends growing season; **M10** optimises / best conditions for / increases rate of, photosynthesis;	**3**
1(f)(i)	the direction / flow / transfer, of <u>energy</u>;	**1**

Question	Answer	Marks
1(f)(ii)	**M1** phytoplankton → zooplankton → fish → seal → (polar) bear; **M2** correct direction of arrows;	**2**
1(f)(iii)	chlorophyll;	**1**
1(f)(iv)	carbon dioxide + water → glucose + oxygen **M1** reactants: carbon dioxide + water; **M2** products: glucose + oxygen;	**2**
1(f)(v)	**M1** pollen; **M2** anther; **M3** stigma;	**3**
1(g)(i)	**B**, **A**, **F**, **C**, **E** 5 consecutive in correct order = [3] 3-4 consecutive in correct order = [2] 2 consecutive in correct order = [1]	**3**
1(g)(ii)	systematic;	**1**
1(g)(iii)	400 000;	**1**

Question	Answer	Marks
2(a)(i)	**M1** water or lakes are at <u>higher</u> level (than turbines / generators); **M2** water turns / spins / rotates the turbines; **M3** the turbines turns / spins / rotates the generators;	**3**

Question	Answer	Marks
2(a)(ii)	*any one of:* **M1** layer of frozen soil; **M2** soil held together by ice; **M3** permanently frozen soil;	**1**
2(a)(iii)	*any three from:* **M1** lack of workforce/no people live nearby / low population density; **M2** remote area/difficult to get to/no (access) roads / steep terrain / no airport; **M3** safer **AND** reason e.g. as people do not operate machinery or do not need to go underground or in mountain or mountainous area; **M4** people do not have to work in cold, climate / temperatures; **M5** reduces labour cost; **M6** idea of working continuously;	**3**
2(a)(iv)	*any three from HEP:* **M1** renewable / non-finite; **M2** sustainable; **M3** does not, emit GHG / less carbon dioxide released / less carbon emissions / contribute to global warming / climate change; **M4** does not cause acid rain / less SO_2 or NOx released; **M5** no particulate emissions / less smog; **M6** less respiratory or lung disease; **M7** cheaper than buying / importing / transporting, fossil fuels;	**3**

Question	Answer	Marks
2(a)(v)	*any three from:* **M1** turn off lights or electrical devices / do not leave on standby mode / unplug devices; **M2** use energy efficient appliances/stated example of energy efficient appliances; **M3** insulation; **M4** windows with, several layers of glass / double or triple glazing / reflective glass / low energy glazing / reduce size of windows; **M5** orientation of windows / construct more windows for light;	**3**
2(b)	*any three from:* **M1** weather dependent / not reliable; **M2** large amount of land needed; **M3** additional source of power needed; **M4** cost of solar cells or panels or equipment; **M5** lack of, skilled workers / necessary technology; **M6** cost of batteries / cost to maintain;	**3**

Question	Answer	Marks
2(c)	*any three from:* **M1** reliable (energy) resource (in Greenland); **M2** renewable / non-finite; **M3** sustainable; **M4** idea of, change in government policy / to meet carbon targets; **M5** does not, emit GHG / less carbon dioxide released/less carbon emissions / contribute to global warming / climate change; **M6** does not cause acid rain / less SO_2 or NOx released; **M7** no particulate emissions / less smog; **M8** less respiratory or lung disease; **M9** cheaper than buying / importing / transporting, fossil fuels; **M10** increased demand;	**3**
2(d)	*any one from:* **M1** not on / near, a plate boundary; **M2** no active volcanoes / not a volcanic area / not near a source of magma; **M3** too difficult to reach hot rocks underground e.g. too deep; **M4** do not have, the technology / knowledge / (skilled) workforce; **M5** not near, hot springs / hot underground water;	**1**
2(e)	nuclear;	**1**

Question	Answer	Marks
3(a)(i)	*any one from:* **M1** transport by sea / ease of exportation; **M2** availability of workers; **M3** availability of mineral deposits / reserves located on the coast; **M4** constant water supply for extraction; **M5** lower cost of extraction / quicker or easy to extract, compared to extraction from land covered by ice;	**1**
3(a)(ii)	Aappaluttoq **AND** rubies **AND** White Mt. **AND** anorthosite;	**1**
3(a)(iii)	checking for endangered species; surveying wildlife; waste disposal;	**3**
3(b)	*any two from:* **M1** only asked men / one gender / not representative / biased; **M2** people questioned, live in Denmark / do not live in Greenland / not local to the mine; **M3** small sample size; **M4** relies on people returning questionnaire / limited number of responses / people do not receive questionnaire; **M5** answers may not be truthful;	**2**

Question	Answer	Marks
3(c)	**M1** formed from magma; **M2** (magma) cools; **M3** (cooled magma) crystallises / hardens / solidifies / becomes solid;	**3**
3(d)	*any three from:* **M1** increase efficiency in extraction and processing / stated example; **M2** reduction / increased efficiency, in use / stated example; **M3** recycling / reuse; **M4** using alternatives; **M5** legislation / laws / rules / monitoring / fines / extra taxes, for overproduction or not recycling or quotas;	**3**
3(e)	*any two from*: **M1** contaminate water / water pollution; **M2** disruption / enters, food chain; **M3** bioaccumulates / builds up over time / excretion rate lower than absorption rate; **M4** concentration of substance increases along a food chain (to humans); **M5** mercury poisoning which leads to negative impact on health; **M6** negative impact on exports or sale of fish; **M7** negative impact fishing jobs;	**2**

Question	Answer	Marks
4(a)	*any two from*: **M1** rising sea levels; **M2** flooding; **M3** loss of habitat; **M4** loss of biodiversity;	**2**
4(b)	*any three from:* **M1** minerals easier to, access / mine; **M2** oil or gas exploration more accessible; **M3** more water for HEP; **M4** more land suitable for, agriculture / settlements / industry; **M5** more land available for, infrastructure / roads / railways;	**3**