



Cambridge IGCSE™

MARINE SCIENCE

0697/12

Paper 1 Theory and Data Handling

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.

This document consists of **14** printed pages.

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
	information missing or insufficient for credit
	incorrect or insufficient point ignored while marking the rest of the response
	benefit of the doubt given
	error carried forward applied
	contradiction in response, mark not awarded
	incorrect point or point rejected
	key point attempted / working towards marking point / incomplete answer / response seen but not credited / blank page seen

Annotation	Meaning
	point has been noted, but no credit has been given or blank page seen
	used to highlight parts of an extended response
	used to highlight parts of an extended response
	pages are linked together

Mark Scheme abbreviations

;	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 / alternative valid point
ORA	or reverse argument
AW	alternative wording
<u>underline</u>	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
OR	separates two different routes to a mark point and only one should be awarded
MP	marking point
+	statements on both sides of the + are needed for that mark

Question	Answer	Marks
1(a)(i)	process evaporation run off condensation precipitation description water vapour cools and turns into a liquid water runs over soil into rivers water turns from a liquid to a gas solid water turns into a gas water falls as rain or snow All correct for 2 marks 2 or 3 correct for 1 mark	2
1(a)(ii)	loses (kinetic) energy ;	1
1(b)(i)	increases / goes up / becomes greater, (the closer to the ocean it gets) ;	1
1(b)(ii)	at low tide salinity is low(er, est) ; as tide rises / sea water enters the estuary, salinity increases ORA ; at high tide salinity is at its high(er, est) ;	3
1(b)(iii)	gas dissolves ; warmer water holds less, gas / named gas ORA ; (as) it cools entering the ocean (so will hold more gas) ;	3
1(b)(iv)	warm water is less dense (than cool water) ORA ; river water is less saline (than ocean water) ORA ;	2

Question	Answer	Marks
2(a)	E Continental slope ; F abyssal plain ; G Mid-ocean ridge ;	3
2(b)(i)	11 000 + m ;	1
2(b)(ii)	no light (in the Mariana Trench) ; photosynthesis cannot occur ;	2
2(b)(iii)	<i>Any 2 from:</i> bioluminescent ; slow moving ; long life span; dark brown / black colouration ; gelatinous bodies ; backward facing teeth ; AVP ;	2

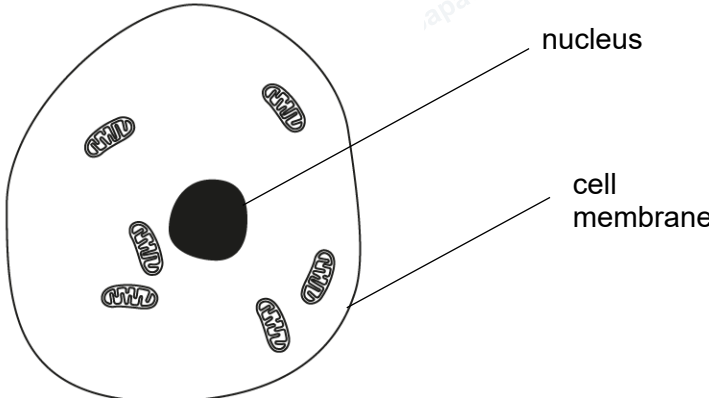
Question	Answer	Marks
3(a)(i)	<i>Any 1 from:</i> bilateral symmetry ; unsegmented body ; (internal or external) shell ;	1
3(a)(ii)	<i>Any 2 from:</i> over harvesting for food ; increased predation / new predator ; lack of food ; global warming / climate change ; water pollution / eutrophication ; new / increased transmission of, disease ; new competitor / increased competition, 1 for food / space ; habitat destruction ;	2

Question	Answer	Marks
3(b)(i)	$7.2 \times 250 = 1800$ $50\,000 / 1800 = 27.7 = 28$;	2
3(b)(ii)	42 500 ;	1
3(c)	<i>Any 4 from:</i> increased, nutrients / waste from oysters OR runoff / from land, of nutrients / fertilisers ; increased growth of producers / phytoplankton / algae / algal bloom ; increased, decomposition / decay, after death of producers ; increased aerobic respiration of decomposers ; reduced dissolved oxygen ;	4
3(d)	(commercially grown oysters) reduce need to collect wild stock for consumption ; allows wild population to increase ; AVP ;	2

Question	Answer	Marks
4(a)(i)	(nearby) estuary / river / run off / carries nutrients / fertiliser ; absorbed by phytoplankton / algae / plants / producers ; to increase rate of photosynthesis / growth / reproduction ; AVP ;	2
4(a)(ii)	more, food / phytoplankton to eat / energy fixed ; to pass up the food chain to large fish / more fish to catch ;	2
4(a)(iii)	<i>Any 1 from:</i> water pollution may be harmful for health / fish absorb pollutants and pass it to humans ; <i>ref. to</i> impact on ecosystem ;	1
4(b)	sonar ; radar ; GPS ; compass + chart ;	4

Question	Answer	Marks
5(a)	<i>Any pair from:</i> (black) stripes (on body) ; to confuse bird predators ; special shaped mouth ; to squirt water at insects/their food (so they fall into water as food) ; forward facing / moveable eyes ; to give binocular vision / so they can judge distance to spit accurately ; AVP ;	2
5(b)	<i>Any 2 from:</i> predation ; food supply ; disease ; competition ;	2
5(c)(i)	<i>Any 3 from:</i> timber ; fuel ; shrimp farms / aquaculture ; nursery areas (for fish / shellfish) ; breeding grounds for economically important fish ; coastal protection ; <u>source</u> of medicines ; AVP ;	3
5(c)(ii)	land for (named) infrastructure + reduces habitat ; trees <u>over</u> harvested + reduces habitat ; oil spills + damage / kills, organisms ; water pollution + damages / kills organisms ; dredging / removal of, sand + reduces habitat ; AVP ;	2

Question	Answer	Marks
6(a)(i)	female returning to breed ; always returns to shore she was hatched on ; comes ashore every 10 days to lay more eggs ;	3
6(a)(ii)	temperature of incubation determines the gender ;	1
6(a)(iii)	Any 2 from: (male and female), sex cells / gametes, fuse (in sexual) + no gametes in asexual / single parent only / no mate needed ; (sexual) produces offspring with features of both parents + asexual all offspring are identical ; AVP ;	2
6(b)(i)	Any 2 from: iron used to make haemoglobin ; which holds oxygen ;	2
6(b)(ii)	decreases ;	1
6(b)(iii)	(pressure) increases ;	1
6(b)(iv)	Max 2 from: (oxygen concentration) decreases ; as further from the light for producers (to release oxygen) / further from surface for atmospheric dissolution OWTTE / ORA ; further for oxygen to <u>diffuse</u> from surface water ; AVP ;	2

Question	Answer	Marks
6(c)(i)	 nucleus cell membrane	2
6(c)(ii)	controls movement of substance into or out of the cell ;	1

Question	Answer	Marks
7(a)(i)	Any 2 from: (rocky shores) higher wave action ORA sandy shore ; higher oxygen concentration (in water) ORA sandy shore ; stable substrate ORA sandy shore ; large, diameter / size, substrate ORA sandy shore ; erosion greater than deposition ORA sandy shore ; AVP ;	2
7(a)(ii)	Any 2 from: (sandy) live in U shaped burrows ; specialised / large amounts of, haemoglobin (to absorb more oxygen in low oxygen environment) ; ingest sand to digest microorganisms in the sediment ; AVP ;	2

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Question	Answer	Marks
7(b)	<i>Any 3 from:</i> offshore / cross shore, wind / wind pushes (surface) water away / offshore ; deep water ; rises / replaces (displaced / surface, water) ;	3

Question	Answer	Marks
8(a)	<i>Any 2 from:</i> microplastics taken up by producers / plankton and travels up the food chain ; (large) plastics ingested by animals cause starvation / death ; (large) plastics entangle animals cause suffocation / death ; AVP ;	2
8(b)	legislation / laws ; banning / taxing, single use plastics ; banning dumping rubbish at sea ; education ; on the effects of plastics pollution ; reduce use of plastic water bottles ; reduce + reuse + recycle ; beach cleanups ; charities / organisations, developing plastics collection in garbage patch ; AVP ;	6