

Cambridge IGCSE™

GEOGRAPHY**0460/41**

Paper 4 Alternative to Coursework

May/June 2026**MARK SCHEME**Maximum Mark: 60

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 **12** printed pages.

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.

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
	Incorrect point
	Hypothesis answer used with another annotation e.g. tick, cross or inverted v
	Highlighting areas of text
	More information required
	Just enough information to answer the question
	Two statements are linked
	Repetition
	Open bracket
	Close bracket
	Page or response seen by examiner

Question	Answer	Marks
1(a)	Energy from resources that will not run out	1
1(b)	Pie graph completion Nuclear 66% Hydro 12% 1 mark for dividing line at 66% – 237–238° 1 mark for shading If plotted in wrong order credit 1 mark for shading if correct	2
1(c)(i)	- Includes / space for gender information - Includes / space for age <u>groups</u> / age groups don't overlap / it doesn't ask for exact age / asks for age <u>range</u> / all ages are included - Contains introduction / explanation / purpose of study - It is polite / thanks respondent - Asks for reason - Gives scale of agreement / agree or disagree / asks for opinions or views / qualitative information - Contains variety or different types of questions - Closed questions / open questions or extended writing / yes and no questions / multiple choice questions - Can convert to statistics / percentages / easy to graph / easy to put into chart - Questions are relevant to hypotheses / covers everything needed to answer hypotheses / asks relevant questions / gets the information they need / shows people's ideas about wind turbines - No personal questions / does not ask for name - Easy / quick / simple to complete / answer / understand ^ easy / quick Has a long answer question Range of answers Short questions Give a variety of opinions Asks about age Do not accept: sampling Simple / straightforward Specific questions Clearly shows answers Quantitative questions 4 @ 1	4

Question	Answer	Marks
1(c)(ii)	Systematic sampling Ask every nth / tenth (3–10) person / regular or equal or specific pattern Avoid bias / fair test / quick method / reliable OR Random sampling Use random numbers / pick numbers out of a hat / ask next person they meet / no system to choose Avoid bias / quick method / fair test / reliable / equal chance of anyone being chosen OR Stratified Get age group or gender balance / put into age or gender categories Avoid bias / fair test / reliable / representative sample If wrong name / no name then credit description and reason why chosen If name and description don't match then credit name only for 1 mark and reason for 1 mark	3
1(d)(i)	Wind power does not cause air pollution	1
1(d)(ii)	Plot bars: Wind is free = 16 Wind power is renewable = 9 Ignore shading 2 @ 1	2
1(d)(iii)	Hypothesis is true / yes / support – 1 mark reserve (✓HA) Number of yes answers is more than / double number of no answers More / majority / over half people say yes More people think wind power is good than <u>think it is bad</u> 70% answer yes / 30% answer no OR 70 people answer yes and 30 people answer no OR 70 out of 100 say yes / 30 out of 100 say no ^ 70 say yes Hypothesis conclusion is partially true / false / not support = 0 (XHa). Credit relevant evidence which supports the correct conclusion of true. If no hypothesis conclusion ^HA and credit evidence which supports the correct conclusion of true.	3

Question	Answer	Marks
1(d)(iv)	Advantages such as: • There are no waste materials • Land beneath / around the turbines can still be used (for farming) • Wind turbines can be a local scheme / set up singly / settlement does not have to rely on national grid • Turbines can be in a remote area / not intrusive • Turbines can be offshore / away from people • Cheap running costs / low maintenance • Noise is (relatively) low • No need to mine or reduces use of coal / gas / oil / fossil fuels • No need for expensive nuclear stations • Does not contribute to global warming • Job opportunities in construction / maintenance • Countries can be more energy secure / not rely on importing energy • No risk or radiation / explosion ^ cheap to install Cheap to produce electricity Operate 24/7 Green / clean energy Does not harm environment Safer Does not take up much space Do not accept: wind power does not cause air pollution Wind is free Wind power is renewable / will never run out Can be put anywhere Reliable in windy areas Sustainable Produces a lot of electricity Requires little labour No harm to wildlife Only needs wind Does not break Can put many turbines in small area 2 @ 1	2
1(e)(i)	Completion of divided bar Agree = 9 Disagree = 50 Strongly disagree = 34 2 marks for dividing lines at 16 and 66 1 mark for correct shading If wrong order credit 1 mark for both lines 1 mark for shading	3

Question	Answer	Marks
1(e)(ii)	No credit for hypothesis conclusion – no clear conclusion Results / numbers / data are very close or similar OR Equal number of opinions agree and disagree (with hypothesis) / no dominant pattern – 1 mark 249 agree and 251 disagree / difference of 2 between agree and disagree –1 mark <u>Credit one statement which supports hypothesis</u> They will cause a lot of noise / They will spoil the view supports hypothesis / has a large amount of agrees / mostly agree / most agree / most or more or majority say, believe, think that they will cause a lot of noise etc. 1 mark for <u>supporting</u> statistics Noise: 85 agree / 63 strongly agree and 22 agree View: 62 agree / 22 strongly agree and 40 agree <u>Credit one statement which does not support hypothesis</u> ‘They will put tourists off / They are a danger to walkers does not support hypothesis / has a large amount of disagrees / mostly disagree / most disagree / most or more or majority say, believe, think that they will put tourists off etc. 1 mark for <u>supporting</u> statistics Tourists: 66 disagree / 48 disagree and 18 strongly disagree Walkers: 84 disagree / 50 disagree and 34 strongly disagree <u>Credit one statement which has even balance of opinions</u> 1 mark ‘They will cause disruption in the area while being constructed’ has similar amount of agrees and disagrees / even number say, believe, think that they will cause disruption 1 mark for <u>supporting</u> statistics 52 agree and 48 disagree Do not accept: lots / many 1 mark reserve / 2 marks maximum for statistics	4
1(f)(i)	• HEP / Hydro • Tidal • Solar • Geothermal • Biogas • Wave Do not accept: water / river velocity / sunlight Nuclear 2 @ 1	2

Question	Answer	Marks
1(f)(ii)	<u>Using more renewable energy:</u> Will reduce the need to burn fossil fuels Fewer greenhouse gases / carbon emissions are emitted / build up in atmosphere Fewer greenhouse gases to form blanket in atmosphere Does not trap outgoing radiation / does not trap heat in atmosphere Less radiation reflected back towards earth's surface OR more radiation from earth can escape Less atmospheric heating / reduces greenhouse effect <u>If answer is from point of view of burning fossil fuels</u> Burning fossil fuels release greenhouse gases Greenhouse gases build up / emitted in atmosphere Form blanket in atmosphere Traps outgoing radiation / traps heat in atmosphere Less radiation escapes More atmospheric heating Do not accept: reference to pollution	3

Question	Answer	Marks								
2(a)(i)	South east (SE)	1								
2(a)(ii)	A= Source B= Confluence C= Mouth 3 @ 1	3								
2(a)(iii)	Tributary	1								
2(b)(i)	<table><tr><th>possible hazard</th><th>how to reduce the risk</th></tr><tr><td>getting wet while taking measurements in the river</td><td>Wear waterproof clothing Do not accept: don't go too deep / boots / swimsuit / appropriate clothing / towel / gloves / wellingtons / waders</td></tr><tr><td>being injured by slipping on rocks on the river bed or slipping on the river bank</td><td>Wear shoes with grip / boots / work with a partner / don't work alone / use a stick for support Do not accept: shoes / avoid slippery rocks / first aid kit / tie yourself to partner / check before stepping on rocks</td></tr><tr><td>losing balance and falling over caused by the fast river current</td><td>Avoid the area of fast water / work with a partner / don't work alone / stay in group / use rope to tie to tree or partner / use a stick for support / stay where current is slower Do not accept: avoid deep water / don't go in the water / do the work from bank / hold onto rocks</td></tr></table> No double credit	possible hazard	how to reduce the risk	getting wet while taking measurements in the river	Wear waterproof clothing Do not accept: don't go too deep / boots / swimsuit / appropriate clothing / towel / gloves / wellingtons / waders	being injured by slipping on rocks on the river bed or slipping on the river bank	Wear shoes with grip / boots / work with a partner / don't work alone / use a stick for support Do not accept: shoes / avoid slippery rocks / first aid kit / tie yourself to partner / check before stepping on rocks	losing balance and falling over caused by the fast river current	Avoid the area of fast water / work with a partner / don't work alone / stay in group / use rope to tie to tree or partner / use a stick for support / stay where current is slower Do not accept: avoid deep water / don't go in the water / do the work from bank / hold onto rocks	3
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2(b)(ii)	It would give them opportunities to learn how to use fieldwork equipment. It would help them to decide what measurements to make. 2 @ 1	2								

Question	Answer	Marks
2(c)(i)	<u>Width of channel:</u> - Stretch / put / use tape measure / use it across river / from bank to bank / side to side / measuring tape from bank to bank / pole to pole / student to student / measure from bank to bank - Take measurement where tape touches the banks - Keep tape measure taut / horizontal / stretched / tight - Measure perpendicular / at right angles to banks / straight across / directly opposite Do not accept: put poles on bank / students on each side / one end to the other (instead of bank) / repeat and average / recording results <u>Depth of channel:</u> - Find / look for the deepest part of channel - Rest metre rule on river bed / ground (inside river) / bottom - Measure vertically / perpendicular to surface - Measure where water level is / wet part of ruler / measure where water surface touches ruler / look at number at the water level / look where water level reaches on ruler Do not accept: measure at regular intervals across river Measure at deepest part Read at eye level, repeat and average Recording results Reserve 1 mark for width and 1 mark for depth	4
2(c)(ii)	Plot width = 2.1 m and depth = 8 cm at site 4 (don't need 4)	1
2(c)(iii)	Hypothesis is partly true – 1 mark reserve (✓HA) Both width and depth increase from site 1 to site 7/8 – 1 mark Site 1 = 0.7 m wide and site 8 = 5 m wide / site 7 = 5.9 m and site 1 = 5 cm deep and site 8 = 22 cm deep / site 7 = 29 cm deep OR width increase by 4.3 m and depth increase by 17 cm (sites 1–8) width increase by 5.2 m and depth increase by 24 cm (sites 1–7) – 1 mark Hypothesis is partly true – 1 mark reserve (✓HA) Both width and depth increase from site 1 to site 7/8 – 1 mark Site 1 = 0.7 m wide and site 8 = 5 m wide / site 7 = 5.9 m and site 1 = 5 cm deep and site 8 = 22 cm deep / site 7 = 29 cm deep	4

Question	Answer	Marks
2(c)(iii)	OR width increase by 4.3 m and depth increase by 17cm (sites 1–8) width increase by 5.2 m and depth increase by 24 cm (sites 1–7) – 1 mark Credit 2 marks max for anomalies (1 statement and 1 data) e.g. Width decreases between sites 4 and 5 Site 4 = 2.1 m wide and site 5 = 1.3 m wide Width decreases between sites 7 and 8 Site 7 = 5.9 m wide and site 8 = 5.0 m wide OR Depth decreases between sites 5 and 6 Site 5 = 18 cm deep and site 6 = 12 cm deep Depth decreases between sites 7 and 8 Site 7 = 29 cm deep and site 8 = 22 cm deep Hypothesis conclusion is completely true / false = 0 (XHa) Credit relevant evidence which supports the correct conclusion of true / partly true. If no hypothesis conclusion ^HA and credit evidence which supports the correct conclusion of partly true.	
2(c)(iv)	• Increased discharge / volume / flow / velocity / speed / stronger current • Tributaries join (main river) • Bed / banks are eroded or vertical / lateral erosion • (Channel) eroded by abrasion / corrasion / corrosion / solution / hydraulic action • Bedrock may be weaker so increases rate of erosion • Specific human interference with river channel e.g. dredging / flood prevention ^ more erosion / tributaries Do not accept: attrition / deposition / force of water / more water downstream 2 @ 1	2
2(d)(i)	• Use tape / metre rule to measure 10 metres (along river) • Put poles / sticks at measured distance / 10 metres / at start and end of measured distance • Put float / orange / ball in river at start / at first pole • Start stopwatch or timer when float / orange is put in river • Measure time float takes to travel the measured distance • Stop stopwatch or timer when float reaches end of measured distance / second pole • Measure at points across the channel Do not accept: Repeat task at each site / at same site	4

Question	Answer	Marks
2(d)(ii)	• (Floats got stuck on) obstacles / rocks / vegetation logs / potholes • Float doesn't move in straight line • Float affected by wind • Variation in speed across a meander / faster on outside bend / slower on inside bend / faster in deeper water / slower in shallower water / more friction is shallow water • Error in calculation / measuring distance / measuring time ^ there may be a meander 2 @ 1	2
2(d)(iii)	Draw bar to show 0.6 m / sec at site 5	1
2(d)(iv)	Hypothesis is true / yes / agree – 1 mark reserve (✓HA) Credit 1 mark for paired average data supporting hypothesis from sites 1 and 8 e.g. 0.2 m/sec at site 1 and 1.2 m/sec at site 8 / by 1 m/sec OR Credit all 3 individual measurements at sites 1 and 8. Must identify left, centre and right. Site 1: left = 0.25 m/sec, centre = 0.29 m/sec, right = 0.15 m/sec Site 8: left = 0.95 m/sec, centre = 1.10 m/sec, right = 1.48 m/sec No credit for anomaly Hypothesis conclusion is partly true / false = 0 (XHa). Credit relevant evidence which supports the correct conclusion of true. If no hypothesis conclusion ^HA and credit evidence which supports the correct conclusion of true.	2