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Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

GEOGRAPHY **0460/43**

Paper 4 Alternative to Coursework **May/June 2019**

MARK SCHEME

Maximum Mark: 60

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.

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This syllabus is regulated for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **8** printed pages.

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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 descriptors 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.

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Question	Answer	Marks
1(a)	Destructive wave: waves are close together wave plunges downwards as it breaks Constructive wave: waves are far apart wave spills forward as it breaks 4 correct = 2 marks 2 or 3 correct = 1 mark 1 correct = 0 marks	**2**
1(b)	Use stopwatch / timer / clock for 1 minute Count number of waves breaking / going up beach / hitting stick or person or rock in 1 minute **'1 minute' is only required once** – either with 'stopwatch' or 'count number of waves ….' Take an average (of their measurements) Do method on both beaches	**3**
1(c)(i)	Create a transect line / line from sea to back of beach / pole at back of beach and tape to sea / pole at back and pole at sea and tape between poles Put poles at each break of slope OR at equal intervals up beach Measure distance between poles Ensure poles are vertical Same length of pole above surface at each point / resting on surface / same depth in ground Use a clinometer to **measure** angle / **read** angle / **read** degrees Hold clinometer next to top / at agreed height on marker pole / eye level Sight other marker pole at top / agreed height / string connects same height Repeat along transect / different places up beach	**4**
1(c)(ii)	Hypothesis is **true** / **correct /** Afandou beach profile is produced by constructive waves (✓HA) Average wave frequency (per minute) is 7.3 In the frequency range for constructive waves / between 6 and 9 per minute Beach profile is similar to profile of **constructive beach** / beach formed by **constructive waves** Ripples / undulates near the sea / from 30 m to the sea Increases in height between 0 – 9 m / height decreases after ridge Has a ridge at 8 / 10 m / has a ridge not steep slope Reserve 1 mark for frequency and profile	**4**

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Question	Answer	Marks
1(d)(i)	Line along / up beach / transect line How sampling sites are chosen: Systematic sampling / Select pebbles at equal / regular distances / equal number of paces / pick up pebble every metre OR Random sampling / Could use random number tables to decide distance apart of pebbles / pick up pebbles at different distances along beach / from back of beach / throw quadrat over shoulder How pebbles are chosen at each site or beach: e.g. random numbers / randomly choose / select from quadrat Pick up same number of pebbles at each site / on each beach / do the same task on both beaches	**3**
1(d)(ii)	Measure pebble with tape / ruler / callipers / pebbleometer Adjust callipers / pebbleometer to hold pebble / put pebble between teeth of callipers / blocks of wood Measure long axis / longest side / maximum length (not length) Read in mm / cm	**2**
1(d)(iii)	Plot pebble 1 = 8.5 cm on Fig. 1.6	**1**
1(d)(iv)	Hypothesis is **false** / **incorrect** – 1 mark reserve (✓HA) Beach material / pebbles are larger at beach formed by destructive waves OR Beach material / pebbles are smaller at beach formed by constructive waves At **Afandou** beach pebbles / average size / median size is **smaller** where the wave frequency is **lower** / **constructive** waves OR At **Archangelos** beach pebbles / average size / median size is **larger** where the wave frequency is **higher** / **destructive** waves Afandou beach **average** size = 9.6 cm (0.6 cm smaller), at Archangelos beach = 10.2 cm (0.6 cm larger) Afandou beach **median** / **middle** size = 9 cm (0.5 cm smaller), at Archangelos beach = 9.5 cm (0.5 cm larger) Specific feature of pebble sizes e.g. 5 pebbles over 14 cm at Archangelos beach and 1 pebbles over 14 cm at Afandou beach Credit **2 marks** maximum for comparative figures, 1 mark reserve for data	**4**

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Question	Answer	Marks
1(e)(i)	Wind drive waves / wave move in direction of (prevailing) wind Pebbles / waves / swash come to the beach **at an angle** / oblique / waves come in at an angle / 45° Backwash / waves takes material **back down** the beach at **right angles** / perpendicular / waves go out at 90° Waves move in zig-zag along beach Credit in text or on diagram Do not credit swash / backwash labels on diagram – need description above No reserve mark for describe or explain	**3**
1(e)(ii)	<u>Answer must focus on how far pebbles move along beach</u> Paint pebbles / using different coloured pebbles Identify / put a pole at starting point Put them in the wave swash / backwash zone / where waves break / in sea near beach or shore Leave them for period of time / one day (more than 3 hours) Measure distance from starting point / measure distance pebbles have moved Measure long axis of pebble Measure distance moved and get average OR <u>Answer can focus on how far pebbles move along beach or how long they take to move along beach</u> Mark start and finish points / put poles at start and finish Lay out tape measure along beach / measure a distance along beach Put float / orange wave swash / backwash zone / where waves break / in sea near beach or shore Start stopwatch when floats put in sea Time how long it takes float to reach finish point / measure how far float moves (in set period of time / 5 minutes) Repeat a number of times and take average OR <u>Answer focuses on groynes</u> Measure from top of groyne to beach surface On both sides of groyne Measure at equal distances along groyne Calculate average distance from top to beach on both sides of groyne Repeat for other groynes to confirm movement along beach	**4**

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Question	Answer	Marks
2(a)(i)	Learn how to do survey / agree method / know what to do / know how to use survey sheet / know how to collect data Agree what the descriptions mean Find out what doesn't work / change it / correct mistakes / to check if survey works / check if survey is appropriate Experience of working as a team / team organisation / in a group 2 @1	**2**
2(a)(ii)	Get into groups Students or groups go to different locations / Ratcliffe and Mossbank OR go to Ratcliffe on one day and Mossbank on the next day Agree on time of survey / both surveys done at same time / start and finish at same time Circle Ratcliffe or Mossbank on survey sheet Individual student decides the score / group discuss / agree score NOT ask people Mark score on their form / record score / fill in the form / record data in table	**4**
2(b)(i)	Completion of graph for Ratcliffe Traffic +2, vandalism and graffiti +3, litter +1 3 correct = 2 marks, 1 or 2 correct = 1 mark	**2**
2(b)(ii)	Hypothesis is **true** – 1 mark reserve (✓HA) **Need comparison but no double credit** <u>Ratcliffe:</u> Higher total score More positive descriptions Score for each category is higher All positive descriptions but Mossbank has negative decsriptions <u>Mossbank:</u> Lower total score More negative descriptions Score for each category is lower All negative descriptions but Ratcliffe has positive descriptions 1 mark reserved for paired data comparing the two areas Can credit 2 marks for data e.g. total for Mossbank = –10 and for Ratcliffe = 9 5 negative scores for Mossbank and 0 for Ratcliffe 6 positive scores for Ratcliffe and 0 for Mossbank 4 negative for Mossbank and 6 positive for Ratcliffe No credit for scores of individual categories	**4**

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Question	Answer	Marks
2(c)(i)	Systematic sampling Ask every tenth person / regular pattern to identify people OR Random sampling Use random numbers / ask next person they meet / ask any people OR Stratified sampling Ask appropriate age / gender balance/ representative sample of population Name is wrong (e.g. linear sampling) but credit description if correct for any method Name and description don't match then just credit name (if correct)	**2**
2(c)(ii)	Saves time / only a limited amount of time to do the survey / quicker Impossible to ask all people in the area / produces too much data	**2**
2(d)(i)	Need **comparison** between students and residents results e.g. Residents' results for the two areas are nearer in total / less difference / smaller variation 19 difference for students and 6 difference for residents / more variation in students' results for Mossbank Residents' results are higher than students' results / more positive results for Mossbank / residents –1 and students –10 Residents' results are lower than students' results for Ratcliffe / residents 5 and students 9 Credit reference to **one** feature to show the difference e.g. Mossbank housing design = –3 from students and –1 from residents Traffic: students say better in Ratcliffe and residents say better in Mossbank	**2**
2(d)(ii)	Residents / students may be biased in their opinion Both student and resident opinions are subjective / different people have different opinions Students' results are a snapshot of one time (e.g. when it was busy) / whereas residents' results reflect long-term view / residents know more about the area Residents and students have different backgrounds 2 @ 1	**2**
2(e)(i)	Plotting divided bar graph for community spirit in Ratcliffe 1 mark for correct plotting of dividing lines (2,6,13,16) 1 mark for correct shading	**2**

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Question	Answer	Marks
2(e)(ii)	Residents' opinions are higher for Mossbank / residents say Mossbank has higher quality of life More excellent / good for Mossbank OR fewer excellent / good for Ratcliffe Fewer poor / very poor for Mossbank OR more poor / very poor for Ratcliffe Credit 1 mark maximum for paired **total** data to support this conclusion e.g. Excellent rating = 26 in Mossbank and 11 in Ratcliffe Very poor rating = 16 in Mossbank and 26 in Ratcliffe Credit 1 mark maximum for paired data of an **individual** aspect e.g. 6 opinions of excellent parks in Mossbank and 1 in Ratcliffe (5 more) OR 1 opinion of very poor community service in Mossbank and 9 in Ratcliffe (8 more)	**3**
2(f)	<u>Credit any two **housing** features</u> Look at features such as roof / windows /walls / paintwork / gutters / Look at other features such as garden /driveway / fencing Look at type of housing / height / building materials / age / density / prices **2 marks maximum** <u>Methods such as:</u> A survey index / bi-polar survey Field sketches Photographs Count (number of storeys) Use secondary data such as house prices, age of housing **2 marks maximum (simple or developed)** <u>Record results:</u> Put results in table Add up scores (if appropriate) Calculate average (if appropriate) Plot results on bar graph / land use map etc. **2 marks maximum (simple or developed)**	**5**

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