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Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

GEOGRAPHY **0460/41**

Paper 4 Alternative to Coursework **May/June 2018**

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.

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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)	Check weather forecast / don't go into the sea / measure waves from a safe position / keep away from water / stay on beach / check sea conditions Check tide times before setting off / watch for incoming tide / have an escape route Work in groups or pairs / take a mobile phone or whistle / stay together / stay in a small area 3 @ 1	**3**
1(b)(i)	Destructive waves: Waves are closer together Breaking wave plunges down / crashes down onto beach Weak swash **and** strong backwash / stronger backwash / weaker swash Pulls sand and pebbles down beach / remove beach material Constructive waves: Waves are further apart Breaking wave spills forward / gently rolls up beach Strong swash **and** weak backwash / stronger swash / weaker backwash Push sand and pebbles up the beach / bring material to beach / drops material 1 mark reserve for destructive / constructive wave process	**4**
1(b)(ii)	Pick a rock on beach / person stands in sea / put pole in sea / put float in sea Count number of waves breaking / hitting pole in one minute / fixed period of time / specified time / count float going up and down in one minute Use watch / chronometer / stopwatch / timer **for** timing / time for one minute Repeat counting / do counting more than once **and** take average	**3**
1(c)(i)	13.7	**1**
1(c)(ii)	Plotting measurement 7 (13) on Bervie beach	**1**
1(d)(i)	Put rope on beach / create transect line from sea to top of beach / up beach Put poles at each break of slope (NOT equal distances) Measure distance between poles Ensure they are vertical / perpendicular Hold clinometer next to top / at agreed height on marker pole / eye level Sight other marker pole at top / agreed height / string connecting same point on each pole Use a clinometer to measure angle / read angle / degrees / slope Repeat **along** transect / different places **up** beach	**4**

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Question	Answer	Marks
1(d)(ii)	Hypothesis is **true** / **correct** – 1 mark reserve Destructive waves / high frequency at Bervie beach which has steeper profile / is steeper / is higher Bervie beach = average of 13.7 waves per minute (credit highest / range / all over 10 waves per min) and increases by / difference in height of 5–6 m St Cyrus beach = average of 7 waves per minute and increases / difference in height of 3–4 m	**4**
1(e)(i)	Method to decide where to put quadrat such as sampling / along a transect / throw over shoulder Count the number of squares with different types of beach material Estimate percentage of different types of material / convert number of squares into a percentage No credit for repeat measurements up the beach / along the profile	**2**
1(e)(ii)	Plot result of site 1 (St Cyrus beach) onto graph – (dot not cross) Sand = 88%, Shingle = 12%, Pebble = 0%	**1**
1(e)(iii)	Hypothesis is **true** / **correct** – 1 mark reserve Bervie beach has large(r) material / shingle / pebbles and steepe(r) profile 1 mark for paired data comparing two beaches, e.g. At site 1 Bervie beach 100% shingle and pebble and St Cyrus beach has 100% sand and shingle Credit any comparison of size of material between the two beaches. If stats are just for one site, then the site must be identified	**3**
1(f)	Classify types of pollution / decide types of pollution / observe types of pollution Create environmental index / bi-polar index / 1–5 scale Explanation of how index is used Decide on sampling method / random / systematic sampling Use quadrat / transect Count / tally litter / estimate area of oil / sewage coverage / weigh litter Do count at two / three sites Do count at end of day / in different seasons Photographs of types of pollution / polluted areas	**4**

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Question	Answer	Marks
2(a)(i)	Bank (not B)	**1**
2(a)(ii)	2, 8, 7 (not description) 3 @ 1	**3**
2(b)(i)	Subjective decision which shops are used by tourists or residents / students cannot agree decision Shops would be used by tourists and residents Need further research / impossible to know different types of customers / looking is not an efficient way to categorise	**2**
2(b)(ii)	Completion of pie graph: 13% local residents and 26% tourists and local residents 1 mark for plotting line accurately at 74% 1 mark for shading	**2**
2(b)(iii)	**Yes** / **agree** with conclusion – 1 mark reserve Over half / majority used by tourists / less than half used by local residents 61% / over half used by tourists **only** (56/92) 87% used by tourists and residents (80/92) 13% for local residents **only** (12/92)	**3**
2(c)(i)	Students only want to ask locals / questionnaire is for residents or local people / some people they approach will not be residents / don't want tourists to use questionnaire Not waste time Results will be unreliable / wrong info if tourists are included / results will be reliable if only ask residents Only residents can answer questions correctly / know effects of tourism	**2**
2(c)(ii)	Removes bias / is fair / equal chance of everyone being selected Removes selection by questioner – such as look friendly / similar age to questioner / cannot choose who to give questionnaire to Easy to generate from a number table, calculator, telephone directory – 1 mark reserve 2 @ 1	**2**
2(d)(i)	Bar graph completion: 50% buy products from locals in Fig. 2.4 65% jobs are seasonal in Fig. 2.5 2 @ 1	**2**

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Question	Answer	Marks
2(d)(ii)	Hypothesis is **false** / **incorrect** – 1 mark reserve Tourism creates more problems than benefits More **answers** on problems / more **types** or **examples** of problems (than benefits) Total problems (Q3) = 386 and total benefits (Q2) = 328 OR 58 more problems Problems = 6 types / examples, benefits = 5 types / examples Credit paired data to **2 marks** maximum No credit for individual benefits / problems	**4**
2(e)(i)	Increase in people / traffic on roads in tourist season / due to tourists / more tourist traffic Roads are narrow / high density / not built for large number of vehicles Many tourist coaches block narrow roads / tourists drive slowly / tourists don't know where they are going / tourists are looking for parking space Effect of congestion such as people are late for work / disturbed by noise / cannot breath / more accidents / people have to leave earlier	**2**
2(e)(ii)	Car parks **on edge of town** Park and ride / more buses / trains / better public transport Parking restrictions – e.g. no parking zones Resident permit scheme for parking on residential roads By-pass Restrictions of coaches – time or location / no entry zones One-way system of roads More traffic police / traffic lights / roundabouts Clear signposting (of attractions) More footpaths / pedestrian zones Cycle lanes / cycle hire 3 @ 1	**3**
2(f)	Identify different / seven methods of travel / count different types of vehicle Do survey six times in the day / list the six times from table / repeat at each time shown in table Start (and finish) at same time Each survey to last for 30 minutes Use tally method of counting / clicker Work in pairs / groups Organisation, e.g. more than one person does each count / one student counts each type of vehicle / one student counts one side and another student counts on the other side of road	**4**

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