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CAMBRIDGE
International Education

Cambridge IGCSE™

GEOGRAPHY **0460/42**

Paper 4 Alternative to Coursework **May/June 2024**

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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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.

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Marking annotations
Examiners must use the following annotations:

Annotation	Meaning
	Correct point
	Incorrect or No Response
HA	Hypothesis answer used with another annotation e.g. tick, cross or omission mark
Highlight	Used to link parts of an answer or show where credit has or has not been given
	Omission or further development/detail needed to gain credit
J	The point has 'just' been allowed / benefit of the doubt given
	Unclear or validity is doubted
LNK	Linking 2 or more ideas or paired data together to gain a mark
REP	Idea has been repeated
{ }	Brackets used to show where a point has or has not been awarded within a longer answer
	1 Response has been seen but no credit given 2 Additional page has been checked

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Question	Answer	Marks
1(a)(i)	Extreme weather	**1**
1(a)(ii)	Examples: **Hypothermia**: Wear warm / waterproof clothes / layers of clothes / change of clothes / wear coat / wind-resistant clothes / thick clothes / hat / scarf; **Uneven ground**: Wear shoes / boots / avoid slippery surfaces or uneven ground / avoid wet areas / use poles; **Getting lost**: Stay in groups / carry a cell (mobile) phone / carry whistle / use GPS or tracking / have a meeting point / do regular headcounts / wear bright clothes / use a walkie-talkie / carry a map / carry a compass;	**3**
1(b)(i)	Quadrat	**1**
1(b)(ii)	Examples: Throw / place / put quadrat on ground / at site / on vegetation / on area; Use a random / systematic / specific system; Estimate percentage of quadrat / count number of squares / see the number of squares with vegetation / bare ground / count amount of veg in squares; Repeat this task at each site / different areas;	**3**
1(b)(iii)	Examples: Measurements taken at different areas; Might be more rocks in one quadrat / measurement; Effect of volcanic eruption / lava flow in some parts and not others; Student error in measuring / counting / different students measured it;	**2**
1(b)(iv)	Completion of pie graph for site **B.** Medium veg. cover = 12% plot @ 84% + 12% = 96% (346°) Dense veg. cover = 4%. 1 mark for dividing line at 96% Set @ 14° left from top; allow 12°–16° tolerance (344–348°). 1 mark for shading in order of key.	**2**

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Question	Answer	Marks
1(b)(v)	**Yes** / Hypothesis is **true** / supported – 1 mark reserve (✓HA). **Statement**: Site C / 3850 m is higher than site A / 3700 m and percentage of vegetation decreases from A to C (1); Percentages of sparse / medium / dense vegetation cover decrease from site A to site C but C is higher than A; Note: Can use site letters or heights - sites A and C only. **Data 1 Max.**: e.g. (Average) veg. cover at site A = 39% and at site C = 5%; Comparison of one vegetation category e.g. (Average) dense vegetation cover at site A = 15% and at site C = 0%. Note: No / hypothesis is partly true / false / not supported = X HA but credit relevant evidence which supports the correct conclusion. If no hypothesis conclusion ^ HA and credit evidence which supports the correct conclusion.	**4**
1(c)(i)	Water soaking into / absorbed by OR into soil OR ground.	**1**
1(c)(ii)	Examples: **Plastic pipe**: to hold / contain the water / water is poured / put into pipe; **Ruler**: measure the level / height / amount of water / how much the water level falls / measure the water in mm; **Stopwatch:** time / record / measure for 10 minutes; To ensure use same / consistent / specific time.	**3**
1(c)(iii)	Site C	**1**
1(c)(iv)	Examples**:** Big or large difference in the two measurements; Anomaly larger or smaller than other data / at C; 85 mm too large / 14 mm too small; 71 mm difference between two measurements.	**1**
1(c)(v)	Draw bar at site B = **47.5 mm.** Ignore shading Note: Accept just above 47 / below 48.	**1**
1(c)(vi)	No credit for hypothesis conclusion – told it is Agreed/True. Rate of infiltration OR fall in water level higher at site C / 3850 m than at site A / 3700 m; (Average) Fall in water level (infiltration) **49.5 mm** at C and **12.5 mm** at A.	**2**
1(c)(vii)	Examples Amount of vegetation / bare rock / soil; Slope / gradient of land / steepness; How saturated / wet OR dry the ground / rocks / soil is; Porosity / permeability of rocks / soil / ground / rock type; Soil structure / how compacted the soil is / soil density / soil type.	**2**

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Question	Answer	Marks
1(d)	Examples: **Sites at random**: Use systematic method to select sites / equal distance / evenly spaced; Use a transect. **Estimates subjective**: Repeat / check / take more measurements; Another student reads the measurement / compare measurements. **Measurement unreliable**: Repeat / check / take more measurements; Another student reads the measurement; Read the measurement at eye level; Check ruler at bottom of pipe; Use 2 stopwatches OR make sure stop at 10 minutes; Repeat the experiment. Note: Do not credit same answer twice.	**3**

Question	Answer	Marks
2(a)(i)	Examples: Circle the location; Decide / agree what each score/ scale means; They / students look at / observe each feature; They / students decide the score for each feature / rate each feature; Put a tick / record / fill in the appropriate row / box.	**3**
2(a)(ii)	Examples: **Suggestion**: Work in groups/ pairs / use more students / do it twice; Same student makes all judgements. **Reason**: So other students check scores; Makes results less subjective / biased / more consistent / can take an average / can compare. **Suggestion**: Go to different parts of each area / go to more sites. **Reason:** So they survey as many roads as possible in each area; Gives a larger sample / more representative. **Suggestion:** Do surveys on same day / same time / same conditions; Do surveys at different times/conditions. **Reason:** So comparisons are consistent; To get a wider range of results. Note: 2 marks for 2 suggestions and 2 marks for reasons	**4**
2(a)(iii)	Complete radial graph for Mid-Levels: Vegetation = +1, Amenities = +1, Vandalism and graffiti = +2. 1 mark for 3 correct positions on radial graph. 1 mark for 4 correct lines (solid or dash).	**2**

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Question	Answer	Marks
2(a)(iv)	Hypothesis is **false** - 1 mark reserve (✓HA) Quality of environment OR score is highest in The Peak and lowest in Central / deteriorates from The Peak to Central / all / 7/8 factors decrease from the Peak to Central / reduces towards Central. Note: Above could be reverse way round. Credit 1 mark for **TOTAL** scores comparing two areas: e.g. The Peak = (+) 13 to Central = -5; e.g. The Peak all +ve but 5/8 in Central -ve. Note: Yes / hypothesis is true / partly true/ is supported = X HA but credit relevant evidence which supports the correct conclusion. If no hypothesis conclusion ^ HA and credit evidence which supports them correct conclusion.	**3**
2(b)	Examples: Noise level is highest in Central / 8–12; Noise level is lowest in The Peak / 1–3; Noise level increases (from The Peak / 1–3) towards Central / 8–12; Noise level increases from The Peak/ 1–3 to Mid-Levels / 4–7; Noise level increases from Mid-levels / 4–7 to Central / 8–12; Negative correlation between noise and altitude / as height above SL decreases, noise level increases;	**2**
2(c)(i)	Rows 1,2 + 5 correct: Traffic must be counted moving past in both directions. Counting must start and finish at the same time at all counting sites. A tally method can count and record vehicles in groups of five.	**3**
2(c)(ii)	Plot point 10 = 76. Note: Plot must be a cross.	**1**

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Question	Answer	Marks

2(c)(iii)	Hypothesis is **false** - 1 mark reserve (✓HA).
	
	No pattern is shown / no relationship / no correlation between amount of traffic and distance from CBD;
	Increases to Mid-levels then decreases to CBD;
	Highest and lowest results are both in Mid-Levels.
	
	Credit 1 mark MAX for any **3 OR 4** numbers of vehicles that show up and down:
	e.g. Site 1 = 60 and site 4 = 69 and site 11= 28;
	e.g. Site 6 = 91 and site 7 = 19 and site 8 = 80;
	e.g. Average result for Peak 54.3, Mid-Levels = 64 and Central = 58.4;
	Note: If Average must include DP not rounded.
	e.g. Site 6 = 91 and Site 7 =19.
	
	Note: Yes / hypothesis is true / partly true / is supported = X HA but credit relevant evidence which supports the correct conclusion.
	If no hypothesis conclusion ^ HA and credit evidence which supports the correct conclusion.
		4

2(d)(i)	Plot bus / coach = **9%** and van / lorry / truck = **26**% at site 5. Note: 1 mark for dividing line at 74%. 1 mark for shading dots + horizontal lines.	**2**
2(d)(ii)	Examples: can reverse e.g. lower. Can refer to The Peak (S1) and Central (S10): Site 1 has more / higher percentage of bicycles/ motor bikes / 11% more; Site 10 has more / higher percentage of cars / 2% more; Site 1 has more / higher percentage of taxis / 25% more; Site 10 has more / higher percentage of bus / coach / 5% more; Site 10 has more / higher percentage of van / lorry / truck/ 29% more.	**2**
2(e)	Examples: Identify a transect across the city; Go to sites / go to fieldwork sites / go to different places / go to residential areas; Select buildings at random / along a measured length / systematically / every 5/10 buildings; Count / estimate number of storeys in each building **OR** Use trigonometry / clinometer and measuring tape / measure distance from building; Calculate the average number of storeys / height; Record / tally results / put results on table / recording sheet.	**4**

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