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Cambridge Assessment International Education

Cambridge IGCSE™

GEOGRAPHY **0460/41**

Paper 4 Alternative to Coursework **May/June 2022**

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 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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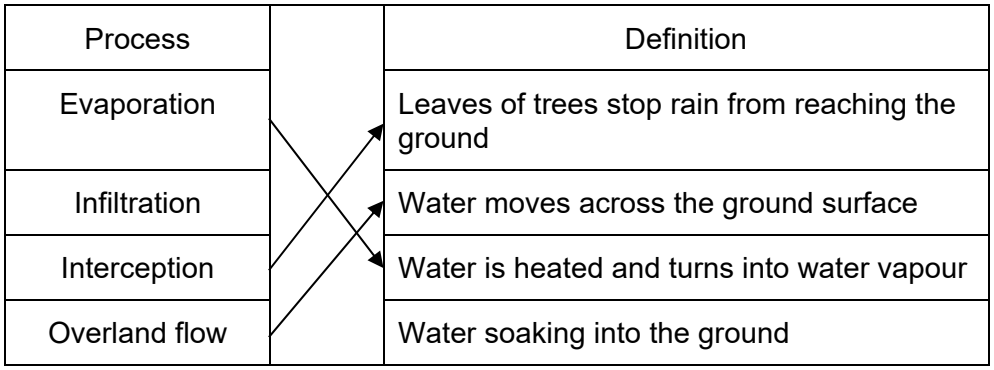
Question	Answer	Marks
1(a)	 3 correct = 2 marks, 1 or 2 correct = 1 mark	**2**
1(b)(i)	Square frame (no label needed); Internal divisions – at least 5 × 5 (no label needed); Vegetation 60 / Bare soil 40 split – labelled on diagram or in key;	**3**
1(b)(ii)	Vegetation = 70% and bare soil = 30% Need dividing line at 70 and shading for mark	**1**
1(b)(iii)	Correct for all sites except site 6 / 7 (anomaly) Credit data for 2 marks (supporting and not supporting HA) e.g. Vegetation percentage increases from 0% at site 4 to 95% at site 1 Vegetation is 70% at site 6 and 55% at site 7	**3**
1(c)(i)	Bottomless cylinder: to hold or collect the water / water is poured into it / see how water level drops; Ruler: measure height of water / measure how much water level falls / measure water in cylinder; Stopwatch: time each minute / know when to measure water height / time how long it takes for water to infiltrate / soak in / disappear; 3 @ 1	**3**
1(c)(ii)	Water level falls more / quicker at site 1 and less / slower at site 4; All water had gone from site 1 after 7 mins but still water in cylinder after 10 mins at site 4; 1 mark reserve for stats: Falls 120 mm in 7 minutes at site 1 and 55 mm in 10 minutes at site 4; Goes down to 0 m in 7 mins at site 1 and to 65 mm at site 4 in 10 mins; After 7 minutes = 0 mm at site 1 and 80 mm at site 4 (accept **any time** to compare);	**2**
1(c)(iii)	1 $\frac{115}{10}$ or $\frac{120-5}{10}$	**1**
1(c)(iv)	Site 1	**1**

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Question	Answer	Marks
1(d)(i)	Plot infiltration = 11.5 mm / min and vegetation cover = 55% (don't need site number)	**1**
1(d)(ii)	Hypothesis is **true** – 1 mark reserve (✓HA) OR Infiltration rate goes up as vegetation cover increases; Graph shows **positive** relationship; Credit 1 mark for comparative data e.g. (site 4) vegetation cover = 0% and infiltration rate = 5.5 mm / min and (site 1) vegetation cover = 95% and infiltration rate = 17.1 mm / min; Hypothesis conclusion is partly true / false = 0 (XHa) If no hypothesis conclusion ^HA and credit evidence	**3**
1(e)(i)	Put **tape measure** across the path / from one side to the other; Taut / tight / stretched; Measure equal intervals / 50 cm across tape (allow 20–100); Use **ruler** to measure depth of path; Ruler must be vertical; Use **ruler** to measure from tape to ground; Record / write down results / read results off ruler / read measurements / take notes of measurement (if context is correct);	**3**
1(e)(ii)	Plot 6 cm at 3.5 m, 3 cm at 4 m 1 marks for two correct plots 1 mark for line	**2**
1(e)(iii)	There is less infiltration where there is most footpath erosion; People walking compact soil / water cannot soak in;	**2**
1(e)(iv)	Ideas such as: **Existing** path – permanent path / tarmac path / concrete path / artificial path / man-made path / rocks in path / steps (to go uphill); **New** paths Alternative / signposted paths / build more paths; Restore eroded footpaths / fill in hole / replace soil; Put fencing along edge of path; Improve drainage; Re-seeding around footpath / more grass around path; Prohibit use / allow treated paths time to recover / restrict access times / 'keep off' signs / fines for going on path; Small / low bridges / boardwalks / walkways / platforms; Education about / raise awareness of footpath erosion / park rangers; 3 @ 1	**3**

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Question	Answer	Marks
2(a)(i)	Work in pairs / groups / not alone; Don't block pavement / entrance to shops; Be polite to interviewees / thank them; Accept that some people won't want to answer questions / check if people are willing to talk / don't ask them if they are busy; Ask a range of people / get a representative sample of age / gender / get a random sample / ask every 10th person; Choose a time when there are plenty of people shopping / when shops are open / e.g. morning or weekend; Explain what survey is about; Ask same number of people in each shopping centre / ask at least 20 at each place; 3 @ 1	**3**
2(a)(ii)	Once a month = 56% Less than once a month = 22% 2 @ 1	**2**
2(a)(iii)	Hypothesis is **true** – 1 mark reserve (✓HA); Credit 2 marks for data which compares two shopping centres – only refer to each frequency once (can combine every day and every 2 or 3 days); 1 mark for comparing **neighbourhood with CBD** e.g. 28% visit neighbourhood centre every day and 5% visit CBD everyday; 1 mark for comparing **neighbourhood with out of town** e.g. 35% visit neighbourhood centre every two or three days and 4% visit out-of-town centre every two or three days; Hypothesis is false / partially true = 0 (XHA) If no hypothesis conclusion ^HA and credit evidence	**3**

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Question	Answer	Marks
2(a)(iv)	Credit comparative statements + **supporting** stats More use **bus** to CBD than …. 39% to CBD and 15% to neighbourhood OR 17% to out-of-town; More use **car** to X than Y 83% to out of town and 12% to neighbourhood OR 43% to CBD and 12% to neighbourhood OR 83% to out of town and 43% to CBD; More / only use **train** to CBD than …. 10% to CBD and 0% to neighbourhood / out-of-town; More **walk** to neighbourhood than ….. 73% to neighbourhood and 8% to CBD OR 0% to out-of-town; **Car** is **most popular /** used by **many** people to go to CBD / out-of-town compared with **walk** / bicycle to neighbourhood centre 43% use car to go to CBD and 73% walk / bicycle to neighbourhood centre 83% use car to out-of-town centre and 73% walk / bicycle to neighbourhood centre; 2 mark maximum for supporting statistics, 1 mark reserve	**4**
2(a)(v)	Ideas such as: Distance to travel / out-of-town mall is far away; How long it will take to travel to shopping centre; Likely duration of visit / how long shoppers stay; What / how much they are buying / type of shop they visit; Availability of regular bus service / train; Availability of car parking; Level of car ownership / do shoppers own a car / can shopper afford car; Cost of parking / petrol / bus fare / train fare; Traffic congestion / amount of traffic; How much time they have; Risk of crime / safer to drive; Fitness / ability to walk; Personal preference; 3 @ 1	**3**
2(b)(i)	Plot wide range of shops = 39% and convenient parking = 42% 1 mark for dividing line at 58% 1 mark for shading	**2**
2(b)(ii)	Plot clothes / jewellery = 31% and other = 10% 1 mark for dividing line at 90% 1 mark for shading	**2**

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Question	Answer	Marks
2(b)(iii)	Hypothesis is **false** – 1 mark reserve (✓HA); Shoppers are attracted to shopping centres for different reasons 1 mark maximum for **comparison between 2 lines** for main reasons for visit Attracted to **CBD** by wide range of shops / good access to public transport; Attracted to **neighbourhood** shopping centre because near home; Attracted to **out-of-town** centre by convenient parking / wide range of shops; 1 mark maximum for **comparison between 2 lines** for main items bought Main / many / lot of items bought from **CBD** are gifts / clothes / jewellery; Main / many / lot of items bought from **neighbourhood** shopping centre are food and drink; Main / many / lot of items bought from **out-ot-town** centre are clothes / jewellery / furniture / electrical goods; 1 mark maximum for **statistics** which compare one reason for visit / main item bought across all 3 centres e.g. near home: CBD = 6% and neighbourhood = 79% and out-of-town = 0% e.g. food and drink: CBD = 10% and neighbourhood = 74% and out-of-town = 15%; Hypothesis is true / partially true = 0 (XHA) If no hypothesis conclusion ^HA and credit evidence	**4**
2(c)(i)	Where do you live? Where do you come from? Which area of the town / city do you live in?	**1**
2(c)(ii)	Use a map / maps which show the two shopping centres; Plot answers to question / where people live on a map / two maps; Draw desire lines from locations to shopping centre(s); Draw a frame around furthest distances;	**3**
2(c)(iii)	More shops / bigger shopping centre; Greater choice of goods / variety / type of shops / larger shops; High order / more expensive / specialist goods in bigger centres / low order cheapest in smaller centres / or e.g.s; Go less frequently to big centres so willing to travel further; Larger shopping centres have more services / other services e.g. cinemas More parking space; People travel further to out-of-town mall / neighbourhood is for local people; Good access routes / close to main roads / close to road junctions / more accessible; More neighbourhood centres (than out-of-town malls); Comparison may be implied.	**3**

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