Cambridge Assessment International Education

Cambridge IGCSE™

GEOGRAPHY **0460/42**

Paper 4 Alternative to Coursework **February/March 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)(i)	Answers should be from point of view of Questionnaire 1. Examples More polite / less personal (1) Includes gender (1) Asks for age group information / age group rather than asking age / does not ask exact age (1) Includes where student is from / international school (1) Includes the purpose / reason / introduction (1) Tick boxes / options to choose from / not open-ended / closed-ended/ multiple choice (1) Easier to compare answers / no long answers to analyse (1) Fewer questions / only 3 questions (1) Quicker to answer / complete or shorter answers (1) Easier to record / tally/ / get data / draw graphs (1) All questions are relevant (1) If answer from point of view of **Q2** there must be direct comparison referring to **Q1** too. **NOT**: Better described / easier / more convenient / more specific Q / straightforward / more direct / get groups / short questions / less time (1 + 1 + 1)	**3**
1(a)(ii)	Examples Ask anybody / next person / no pattern / no specified order (1 mark max) Use random number tables / pick numbers out of a hat to generate order to ask people (1) e.g. if number 6 selected ask the 6th person (1) **NOT:** Ask random people (1 + 1)	**2**
1(a)(iii)	Advantage (1 MAX) Lots of tourists to ask / easy access to people to ask / lots of people (1) Tourists would know their reason for the visit / able to answer **Q3** (1) **NOT:** No distractions Disadvantage (1 MAX) People are tired at end of a busy day / cannot be bothered to answer questions / get annoyed / angry (1) People in a rush to set off to their activity/ for home (1) Only visitors travelling by car will be surveyed / ignores visitors coming by train or bus or walking (1) Dangerous / safety issues (1) (1A + 1D)	**2**
1(b)(i)	Completion of histogram. Credit plots; ignore shading. 0–5 km = 8; 6–10 km = 20 (1 + 1)	**2**

Question	Answer	Marks
1(b)(ii)	Examples : Most / highest tourists travelled between 11–15 km/ 6–15 km (1) Fewest / travelled >20 km / lowest >16 km (1) **More** travelled between 0–5 km / 6–10 km **than** 16–20 km / more than 20 km (1) No credit just for statistics; must be comparative statements. (1 + 1)	**2**
1(c)(i)	27	**1**
1(c)(ii)	Completion of divided bar graph From bottom going up from 21–100: Memorial gardens & historic buildings = 44 (@65); Walking trails = 13 (@78); Woodland scenery = 22 (up to 100). 2 marks for dividing lines at 65 and 78, 1 mark for correct shading. If do it in reverse from top 1 mark max if plots + shading correct. Plots will be at 56 and 69 (1 + 1 + 1)	**3**
1(c)(iii)	Hypothesis is **true** - 1 mark reserve (✓HA) Need 2 statements plus 1 reserve of paired supporting data. Data can be numbers or %ages Examples Cycling is more / most / main reason for under 20 than any other group / e.g. of other age group (over 60) (1) e.g. cycling = 54% of under 20 age group and 4% of over 60 age group (1RD) Memorial gardens & historic buildings are more / most / main reason for over 60 than any other group / e.g. of other age group (41–60) (1) e.g. memorial gardens = 44% over 60 and 9% of under 20 (1RD) Playgrounds & picnic areas are more /most / main reason for 20 – 40 than any other group / e.g. of other age group (under 20) (1) e.g. playgrounds = 52% 20–40 and 7% 41–60 (1RD) **Can link statements** e.g. Most under 20 like cycling but most over 60 like memorial gardens (1) e.g. cycling under 20 = 54% and gardens over 60 = 44% (1RD) Hypothesis conclusion is partly true / incorrect = 0 (XHa) If no hypothesis conclusion ^HA & credit evidence (1HA + 1 + 1 + 1RD)	**4**

Question	Answer	Marks
1(d)(i)	Pie graph completion Quite severe problem = 15, slight problem = 18, not a problem = 5 2 marks for dividing lines at 27 (163°/167° from top/left) and 45 (324°). 1 mark for correct shading. (1 + 1 + 1)	**3**
1(d)(ii)	Brings money into the area	**1**
1(d)(iii)	No credit for stating hypothesis is **false; they are told this in the question.** **GENERAL (1 max statement plus 1D)** More residents say more positive benefits than negatives (1) OR More residents say benefits are very important / quite important (1) OR More residents see problems are slight / not important (1) 32 people thought the problems were 'very severe' and 45 people thought the benefits were 'very important' (1) **TABLE 1.3 (1 max statement plus 1D)** Examples of evidence Less people think **litter** is a problem (1) Less people think **noise** is a problem (1) Less people think **anti-social behaviour**/rudeness is a problem (1) Less people think **traffic** is a very severe problem (1) Credit data which supports the statements Only 20/50 think litter is a very/quite severe problem (1) Only 14/50 think noise is a very/quite severe problem (1) Only 16/50 think ASB/rudeness is a very/quite severe problem (1) Only 12/50 think traffic congestion is a very severe problem (1) **TABLE 1.4 (1 max statement plus 1D)** More people think **creating jobs** benefit (1) More people think **bringing money** in is a benefit (1) 30/50 thought **creating jobs** very/quite important benefit (1) 33/50 thought **bringing money into area** was very/quite important benefit (1) (1 + 1 + 1RD)	**3**

Question	Answer	Marks
1(e)	**Litter** More bins (1) Increase /introduce litter collection / removal / clean-up campaigns (1) Litter wardens (1) Fines (1) Signs / posters e.g. 'Take your litter home' (1) **Traffic congestion** More car parks (1) Parking restrictions – e.g. no parking zones (1) Resident permit scheme for parking on residential roads (1) Provide Park and ride / more buses / more trains / more public transport (1) By-pass roads around villages (1) **NOT:** One-way system of roads/ more traffic police / traffic lights / roundabouts/ charging to park / designate roads for buses only / ban large vehicles / widen roads / cycle paths / car-pooling / new laws /recycling / use less plastic bags 2 x (1 + 1)	**4**

Question	Answer	Marks
2(a)(i)	**Painted white**: To reflect heat/light/sun/ reduce direct heating by the sun / heat is not absorbed (1 max) **120cm above ground**: Instruments are not affected by heat from the ground / takes temperature of the air (1 max) **Gaps in the sides**: Air / wind can circulate round the thermometers / air can get in / ventilated (1 max) (1 + 1 + 1)	**3**
2(a)(ii)	Away from buildings (1) On the grass lawn (1) (1 + 1)	**2**
2(b)	The playground will be sheltered ..... **location 3** Classrooms will be hotter ..... **location 4** It will be cool and windy in shade and facing the wind..... **location 7** (1 + 1 + 1)	**3**

Question	Answer	Marks
2(c)(i)	Examples of digital advantages over traditional – no comparison needed Give instant readings / faster / saves time / more sensitive (1) Easy / clear to read / large digital readout / easy to record (1) Don't need to know how to read a thermometer (1) Exact figures / accurate / precise (1) Less chance of making mistake in reading / misreading (1) Portable / can be used at more than one site / no need to reset (1) Can download to computer / store data (1) Safer if dropped / less hazardous / harder to break (1) Credit if give disadvantage of traditional in a **comparison** with digital (1 + 1 + 1) **NOT:** Easier to /use different units/ avoids parallax error / more reliable / measures continuously/ cheaper / no need to reset (1)	**3**
2(c)(ii)	Examples To get consistent / comparable readings (1) Remove variable of time of day (1) Temperatures will change during the day / e.g. hotter at midday than early morning (1) **NOT**: Increase accuracy / to get average / to be fair / reliable / weather conditions change during day.	**1**
2(d)	Hypothesis is **partly true** 1 mark reserve (✓HA) Highest temperatures at sites 3 /4 **BUT** also higher temperature at site 5 (1) e.g. 18.8°/19° at 3/4 near but 18.7° at 5 away (1RD) **OR** Highest temperatures at sites 3 /4 **BUT** lower temps at sites 6 / 7 (1) e.g. 18.8°/19° at 3/4 near but 16.4°/16.3° at 6 / 7 near (1RD) **OR** Lower temperatures at sites 1 / 2 **BUT** also lower temps at sites 6 / 7 (1) e.g. 16.7°/16.5° at 1/2 away but 16.4°/16.3° at 6/7 near (1RD) **OR** Lower temperatures at sites 1 / 2 **BUT** higher temperature at site 5 (1) e.g. 16.7°/16.5° at 1 / 2 away but 18.7° at 5 away (1RD) **OR** Site 4 is higher than Site 1 **BUT** Site 5 is higher than Site 7 (1) e.g. 19° at site 4 and 16.7°at Site 1 **BUT** 18°.7 at Site 5 and 16.3 at Site 7 (1RD) Hypothesis conclusion is true/ false = 0 (XHa) If no hypothesis conclusion ^HA & credit evidence (1HA + 1 + 1RD)	**3**

Question	Answer	Marks
2(e)(i)	Anemometer	**1**
2(e)(ii)	Plot 10.3 km/h at site 5 @ 5.15/5.2 cm height. Credit bar plot; ignore shading.	**1**
2(e)(iii)	Hypothesis is **false** – 1 mark reserve (✓HA) Wind speed is greater at sites 1 / 5 than 3 / 4 (1) e.g. wind speed at sites 1/5 = 13.2/10.3 km/hr higher than sites 3/4 = 0.8 / 0.4 (1RD) Hypothesis conclusion is true / partially true = 0 (XHa) If no hypothesis conclusion ^HA & credit evidence (1HA + 1 + 1 RD) Ignore all refs to Sites 2/6/7.	**3**
2(f)(i)	**Answer 3:** *The amount of moisture in the air as a percentage of the total moisture it could hold at that temperature*	**1**
2(f)(ii)	Examples Read temperatures / take readings on both thermometers / compare temperatures (1) Calculate difference in temperature / temperature depression / wet bulb depression (dry bulb temp minus wet bulb temp) (1) Use relative humidity table (1) RH table shows dry bulb temperature & temperature depression (1) Calculate RH% from table (1) **NOT:** ref to Stevenson Screen (1 + 1 + 1 + 1)	**4**
2(f)(iii)	Site 1	**1**

Question	Answer	Marks
2(g)	Examples Choose site away from trees / on grass not concrete / accessible / away from animals / human interference / buildings / open space / away from shade / flat ground / level ground (1) **NOT On roof** **Rain gauge** Gauge stood firmly / dug in ground (1) Top above ground (1) Funnel and jar placed in casing / gauge (1) Leave so rain collects in jar / enters gauge / goes through funnel (1) Measure/read every day / at same time each day / fixed time period / 24 hours (1) Water poured into measuring cylinder (1) Read off in cm/mm / read off the scale (1) Read at eye level (1) Measuring cylinder is emptied after measuring (1) **OR** **Pluviometer** Fasten gauge to post (1) Leave so rain falls into / is collected in the funnel or container (1) Measure every day / daily / fixed period / every 24 hours Read water level / height in container in cm/mm (1) Empty container and replace (1) (1 + 1 + 1 + 1)	**4**

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