Cambridge Assessment International Education

Cambridge IGCSE™

GEOGRAPHY **0460/43**

Paper 4 Alternative to Coursework **October/November 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.

Cambridge International is publishing the mark schemes for the October/November 2022 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

[Turn over

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).

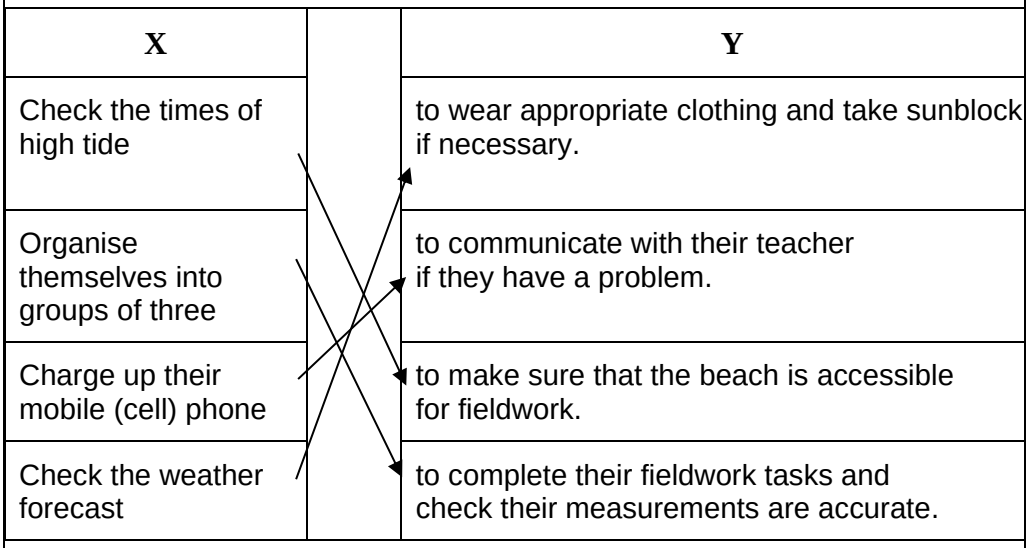
GENERIC MARKING PRINCIPLE 6:

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.

Question	Answer	Marks
1(a)	**Random:** Ask anybody / next person / no pattern / no order / no reference to age, gender or race; Use random number tables / pick numbers out of a hat to generate order to ask people; e.g., if number 6 selected ask the 6th person (DEV); **Systematic:** **Regular** / specific intervals / pattern / order / system / set intervals; Every tenth (nth) person (3 & over); Don't need comparison. Reserve 1 mark for description of each method.	**3**
1(b)(i)	Draw bars: 6 – 10km = 17, 21 – 25 km = 20.	**2**
1(b)(ii)	11 to 15 (km)	**1**
1(b)(iii)	**No** / hypothesis is **false** –1 mark reserve (✓HA); People travel further to indoor mall; OR 1 mark for statement comparing number of people travelling different distances to the centres e.g., More people travel 0–5 / 6–10 / 11–15 / 16–20 / 0–20km to city centre; More people travel 21–25 / more than 25km / more than 20km to indoor shopping mall; More people travel 11–15km to city centre and most travel 21–25km to mall; **1 mark for paired data** which compares number of people travelling a specific distance to the centres e.g., 10 travel 0–5km to mall & 18 travel 0–5km to city centre; 15 travel more than 25km to indoor mall & 3 travel more than 25km to city centre; 20 travel 21–25km to mall & 11 travel 21–25km to city centre; 35 travel 21km or more to indoor mall & 4 travel 21km or more to city centre; Yes / Hypothesis conclusion true / partly true = 0 (XHa) If no hypothesis conclusion ^HA & credit evidence.	**3**
1(c)(i)	Plot once a month = 30 people & less than once a month = 18 people 1 mark for dividing line at 82; 1 mark for correct shading.	**2**

Question	Answer	Marks
1(c)(ii)	People visit city centre shops more frequently / more often – 1 mark reserve; **Most** / highest number (NOT majority) go to city centre once a week **and most** / majority go to mall once a month; **More** visit city centre everyday / every 2 or 3 days / once a week; **More** visit the mall once a month / less than once a month; 1 mark for comparative data e.g., 36 people visit city centre once a week & 57 people visit indoor mall once a month; 6 people visit city centre every day **&** 0 people visit indoor mall every day; 52 people visit city centre at least once a week **&** 22 people visit indoor mall at least once a week;	**3**
1(d)(i)	Did pedestrian count by himself / worked alone / only one student / nobody checked figures; Did the two counts at different times / am & pm; Counted “in his head” / easy to lose count / count inaccurately / missed a few; Recording papers got wet in the rain / difficult to record in rain; NB: no credit for suggesting what the student should do e.g., should have done two counts at same time, use a tally chart.	**3**
1(d)(ii)	**Planning:** Decide on start time and end time / when to do the counts / start at same time; Do the counts at the same time in both centres; Decide how many times in a day / e.g., do it 4 times in a day; Decide on time period / length of counts to be the same / how long to count / e.g., do them for 1 hour / count for same length of time; Decide who will count / number of students per group e.g., do it in pairs or group or team / few people in each group; Decide whether to do counts on more than one day / e.g., do them weekdays and weekends / do them on different days; Decide **where** to do survey / do counts in different parts of each area e.g., one pair at entrance / people count at several entrances / some students go to centre and some go to mall; **Carrying out:** Tally method / “clicker” / counter; Timing of count / use watch / stopwatch; Jobs of student in each group e.g., two students do each count / count people going in different directions / one counts & one records;	**4**

Question	Answer	Marks
1(d)(iii)	Bar graph completion 95 pedestrians to city centre at 16.00 & shaded.	**1**
1(d)(iv)	The hypothesis is correct for **some** of the times surveyed 1 mark reserve (✓HA); Correct for 10.00 & 13.00 **and** incorrect for 16.00 OR Correct for 10.00 & 13.00 **only** OR More in city centre at 10.00 and 13.00 and more in mall at 16.00; Credit 2 marks for paired data which compares number of people at 10.00 / 13.00 and 16.00 e.g., At 10.00 141 people in city centre & 69 in indoor mall (72 more) OR At 13.00 156 people in city centre & 110 in indoor mall (46 more) At 16.00 95 people in city centre & 137 in indoor mall (42 less); NO credit for **overall** totals. Hypothesis is correct for all times / hypothesis is incorrect for all times = 0 (XHa) If no hypothesis conclusion ^HA & credit evidence.	**4**
1(e)(i)	High order goods are usually more expensive than low order goods; People travel further to buy high order goods than low order goods;	**2**
1(e)(ii)	Shade PCs / computer tablets / laptop computers = high order goods; Shade magazines / newspapers= low order goods;	**2**

Question	Answer	Marks
2(a)	 4 correct = 3 marks 2 or 3 correct = 2 marks 1 correct = 1 mark	**3**
2(b)(i)	Use (measuring) **tape** / metre rule / to measure every 3 metres (or at 9m) up the beach / from LWM; Put quadrat on ground / mark point with pole; Pick up 5 pieces of beach material; At random / use random sampling / systematically / use systematic sampling / suitable description of how pieces are chosen; Measure size /them with tape / ruler / callipers / pebbleometer / micrometre / screw gauge; Measures longest axis / length;	**3**
2(b)(ii)	Plot “x” at 18 m = 54 mm	**1**
2(b)(iii)	Results agree with hypothesis 1 for **one** beach – 1 mark reserve (✓HA); Agree for beach B / beach B material gets larger; Credit paired data for beach B for 1 mark e.g., 20mm at 0m / LWM / sea **&** 98mm at 30m / top of beach /furthest from sea OR 78mm bigger at 30m; No credit for statements or statistics at beach A. Results agree for both beaches / results agree for neither beach = 0 (XHa) If no hypothesis conclusion ^HA & credit evidence.	**3**

Question	Answer	Marks
2(c)(i)	Put **ranging poles** at either end of measured distance / 3m from each other; Ranging poles are vertical; Ranging poles rest on surface / equal depth into beach material; Hold **clinometer** next to top / at agreed height on ranging pole; Sight other ranging pole at top / agreed height / same height Use clinometer to read / measure angle; Repeat every 3m / repeat **up the beach;** No reserve mark for each piece of equipment. Note: Need measure then ranging poles NOT ranging poles then measure.	**4**
2(c)(ii)	Plot 17º (cross) & average = 11.2º (line) at beach B 2 @ 1	**2**
2(c)(iii)	Hypothesis is **true** – 1 mark reserve (✓HA); Beach B has larger material and steeper profile (“only” is acceptable); Credit 1 mark for supporting comparative **average** data: average size of beach material at beach B = 54.3mm and average slope angle = 11.2° **and** average size of beach material at beach A = 8.8mm and average slope angle = 5.4°; Credit 1 mark for supporting comparative data from the **same distance** from sea e.g., At 3m: average beach material at beach B = 28mm and slope = 15° **and** average beach material at beach A = 4mm and slope = 7º; OR Credit data about comparative **range** of results: At beach B average material varies between 20mm & 98mm and angle ranges from 6° to 19° **and** at beach A average beach material varies between 4mm & 17mm and angle ranges from 1° to 9°; OR Credit data about comparative **largest** results: largest size of beach material at beach B = 98mm and largest slope angle = 19° **and** largest size of beach material at beach A = 17mm and largest slope angle = 9°; Hypothesis conclusion is false = 0 (XHa) If no hypothesis conclusion ^HA & credit evidence.	**4**
2(d)(i)	Work as a pair / work together **and** agree / discuss scores; Do the survey individually **and** calculate the average / compare results; Survey / look at all 3 methods on same day / at same time of day / in similar (weather) conditions;	**2**

Question	Answer	Marks
2(d)(ii)	Plot for rip rap: stops access to beach = -2, expensive to construct = 0, construction causes lots of disturbance = -1; Draw lines to join plots; 1 mark for plots & 1 mark for lines	**2**
2(d)(iii)	Gabions 1 mark reserve; Highest / higher total **score** / only positive total score / least negative scores / **only** method with no measurements at -2; Credit 1 mark for comparative total scores gabions = +1 & rip rap = -3, sea wall = -5;	**3**
2(d)(iv)	Method = 1 mark, description = 1 mark, protection = 1 mark. **Groyne;** Wooden / concrete barrier built **down the beach** / at 90 degrees; Beach material piles up at one side of groyne / Slows or prevents longshore drift; **Revetment;** Sloping barriers that face the sea; Absorb energy of breaking waves / prevent waves reaching the cliffs behind them; **Beach replenishment / nourishment;** Replacing beach material / material is sprayed back onto beach / sand brought from other areas; Builds up the beach which has been removed by longshore drift; **Plant vegetation;** e.g., marram grass on sand dunes; Prevents sand from being blown away / roots stabilise dunes; **Plant vegetation;** e.g., mangroves; roots stabilise coast; **Offshore breakwater;** Concrete wall out at sea / tyre barrier out at sea; Absorb power of waves / waves break on barrier; If answer does not match method credit description & protection e.g., method is revetments & description / protection is groyne.	**3**