Cambridge Assessment International Education

Cambridge IGCSE™

GEOGRAPHY **0460/41**

Paper 4 Alternative to Coursework **October/November 2023**

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 2023 series for most Cambridge IGCSE, Cambridge International A and AS Level components, and some Cambridge O Level components.

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.

Marking annotations

Examiners must use the following annotations:

Annotation	Meaning
	Correct point
	Incorrect
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 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

Question	Answer	Marks
1(a)(i)	Credit 2 marks maximum: Most in July/August; Least in September/October/November. Credit 1 mark for comparative statistics from two months (one high & one low) – must **support** statement: e.g. July 1.73 m/August 1.68m **&** September 1.41 m/November 1.4 m OR difference. Credit any 2 months with correct trend/change to 2 marks max. – must be a continuous increase/decrease: e.g. Increases May to July; Increases November to December; Decreases July to September. Credit 1 mark for stats showing change between two months – must **support** statement: e.g. May 1.47 m & July 1.73 m/by 2.6 m. **Note:** 1 **reserve** mark **maximum** for stats (must have millions once in answer). 3 @ 1 mark	**3**
1(a)(ii)	Hotter/warmer/drier in July/variation in temperatures/rain; (Traditional) holiday period (where tourists come from)/school holidays/public holidays/when people have holidays/when people are not at work; Availability of flights; Cost of holidays/flights; Extreme weather conditions or example; Festival/parade/special event/Christmas or e.g. 2 @ 1 mark	**2**
1(b)(i)	Look at the Singapore Tourist Board website 1 mark	**1**
1(b)(ii)	Food and drink 1 mark	**1**
1(b)(iii)	21–23% 1 mark	**1**
1(c)	(Most) in the south/ south-east (of the island/map)/near Singapore Strait; Most are clustered together/close together/in one area; One in the north/one on a (separate) island/two in centre/three inland (or named/number of attraction). 2 @ 1 mark	**2**

Question	Answer	Marks
1(d)	Description is not random sampling/not how random sampling works OR It is systematic sampling – reserve mark. Should describe random sampling as: Ask anybody/next person/no pattern/no order; 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). 3 @ 1 mark	**3**
1(e)(i)	Arrow to show 60 tourists from Asia 1 mark	**1**
1(e)(ii)	Shows direction of movement; Shows which area of world/continent tourists come from/how many come from each area/where tourists come from; Shows distance/how far tourists travel; Singapore is positioned in the centre of the map; Bigger arrow equals more tourists/width of arrow shows the number of tourists; 1 mark	**1**
1(e)(iii)	Hypothesis is **false** – 1 mark reserve (✓HA). Most/more tourists come from Asia/all other parts of the world/biggest arrow is from Asia; Credit 1 mark for paired data e.g.: 23 from Europe & 60 from Asia OR 37 more from Asia/23 from Europe & 78 from rest of world OR 53 more from rest of world; 41–60 from Asia & 21–40 from Europe; 60 from Asia & 21–40 from Europe. **Note:** Hypothesis conclusion is true / partially true = 0 (XHa). If no hypothesis conclusion ^HA & credit evidence.	**3**
1(f)(i)	Rank 1 = 50 Rank 2 = 32 2 @ 1 mark	**2**
1(f)(ii)	Plot Singapore Flyer = 2 Marina bay Sands Resort = 39 2 @ 1 mark	**2**

Question	Answer	Marks
1(f)(iii)	Hypothesis is **true** – 1 mark reserve (✓HA). Up to 2 marks for identifying top attraction for each age group e.g.: Under 20 most like Resorts World; 20–40 most like Marina Bay Sands Resort; 41–60 most like Gardens by The Bay; Over 60 most like Raffles Hotel. Compare any two age groups liking for one attraction up to 2 marks maximum e.g.: Resort World liked more by under 20 than over 60; Asian Civilisations Museum more liked by over 40 than under 40 age group. Credit 1 reserve mark for **supporting** statistics from two age groups e.g.: Resort World: 88 score from under 20 age group & 9 from over 60; 88 score for under 20 age group for Resort World & 66 score for over 60 age group for Raffles Hotel. **Note:** Must be specific named attractions. Hypothesis conclusion is partly true / generally true / false = 0 (XHa). If no hypothesis conclusion ^HA & credit evidence. 1 HA + 1 + 1 + 1D mark	**4**

Question	Answer	Marks
1(g)	Positive impacts such as: Creates jobs/income (for local people)/e.g. of job; Sell to tourists/tourists buy products/income for local business; Brings money into the area/economy/increase GDP/country earns money/ economic growth/helps the economy; Local people experience cultures from other countries/share culture/local traditions across the world/preserves local culture/new languages; Improves local services/public transport/health/education; Locals can use tourist facilities/services. Negative impacts such as: Traffic congestion/increase in traffic; Tourists don't respect local culture/alcohol/drugs/religious issues/racial tension/prostitution/loss of culture/locals change to foreign cultures; Tourist hotels/knock down houses/farmland cleared for hotels; Hotels spoil the view/visual intrusion; Tourist industry uses scarce resources/water/electricity; Air pollution or named gas/water pollution/waste/litter/noise; Seasonal jobs; Increase in prices (of goods)/cost of living increases; Loss of privacy; Loss of habitat; Deforestation; Impact on ecosystem; Over-fishing; Damage to coral reefs; Queues in shops/restaurants are full/private or crowded beaches; **Note:** No reserve for positive or negative impacts (do not need to specify). 4 @ 1 mark	**4**

Question	Answer	Marks
2(a)	<table><tr><td>B</td><td>source</td></tr><tr><td>C</td><td>tributary</td></tr><tr><td>D</td><td>confluence</td></tr><tr><td>E</td><td>meander</td></tr></table> 4 correct = 2 marks, 2 or 3 correct = 1 mark, 0/1 correct = 0	**2**
2(b)	The volume of water which flows through a river channel in a given time 1 mark	**1**
2(c)(i)	Not go to area where the river is fast flowing/strong current/velocity; Not go to where river is too deep/too wide/banks are unstable/depth/width; (Away from) human impact/dam/weir/canalised section/artificial levees; (Away from) waterfalls/rapids; Away from slippery rocks; Not in private land/farmers' fields/make sure that land is open to public; Not go to areas where river is polluted/water pollution/pollution level; Avoid dangerous animals/mosquitoes; Accessibility of sites (from road/school); Distance between sites/evenly spaced/spread out/upstream & downstream/ different river sections/different courses. 3 @ 1 mark	**3**
2(c)(ii)	Agree **methodology**/what measurements to take/where each student works/ what each student does/who does what/teamwork; Practise fieldwork **techniques**/learn how to use equipment/learn how to measure everything/avoid mistakes when measuring/what needs to be done to improve/know what to do; Test **equipment**/make sure equipment works/decide what equipment is needed/replace broken equipment. 2 @ 1 mark	**2**

Question	Answer	Marks
2(d)(i)	**Either:** Measure a fixed/certain distance/5–10 metres along river; Put poles/sticks/students at start and end (of fixed distance)/10m apart/mark start & finish points; Put float/orange in river at start of measured distance; Start stopwatch or timer when float/orange is put in river; (Stopwatch or timer) measures time it takes to travel the measured distance/ stop stopwatch or timer when float reaches end of measured distance; Repeat task at points across river channel/repeat task **and** calculate average. **OR:** Put velocity meter/propeller/flowmeter below surface of river/into the water; Propeller/flowmeter must be facing upstream/nothing in front of propeller; Read/look at digital reading or display/speed is shown on display; Take several readings **and** calculate average. 4 @ 1 mark	**4**
2(d)(ii)	Width of channel: Stretch/put/use tape measure across river/from bank to bank/side to side/ measuring tape from bank to bank; Keep tape measure taut/horizontal/stretched/tight; Measure perpendicular/at right angles to banks/straight across/directly opposite; Measure where tape touches the banks. Depth of river: Rest ruler or metre rule on river bed/ground (inside river)/bottom; Measure vertically/perpendicular to surface; Measure where water level is/wet part of ruler/measure where water surface touches ruler/look at number at the water level; Measure at equal points across channel. **Note:** Reserve 1 mark for width and 1 mark for depth. 4 @ 1 mark	**4**
2(d)(iii)	0.46 Accept 0.5 (m) 1 mark	**1**
2(e)(i)	Plot 1.4 cumecs at site 4 1 mark	**1**
2(e)(ii)	Hypothesis is **true** – 1 mark reserve (✓HA). Credit 1 mark for paired data from any two sites e.g.: 0.12 cumecs at site 1/upstream & 2.62 cumecs at site 5/downstream. **Note:** Hypothesis conclusion is false / partially true = 0 (XHa). If no hypothesis conclusion ^HA & credit evidence. 1 HA + 1 mark	**2**

Question	Answer	Marks
2(e)(iii)	Tributaries/streams join river; Bring water from other areas of drainage basin; Larger catchment area downstream. 2 @ 1 mark	**2**
2(f)(i)	Plot 1.3 at site 4 1 mark	**1**
2(f)(ii)	Hypothesis is **partly true** – 1 mark reserve (✓HA). Credit 1 mark for paired data supporting hypothesis from any 2 sites: e.g. Sinuosity score = 1.18 at site 1/upstream **increases to** 1.63 at site 5/downstream. Credit 1 mark for paired data showing exception: Sinuosity score = 1.37 at site 3 **decreases to** 1.3 at site 4; Sinuosity score = 1.18 at site 1 **decreases to** 1.16 at site 2. Note: Need 2 sites & 2 statistics. Hypothesis conclusion is true / false = 0 (XHa). If no hypothesis conclusion ^HA & credit evidence. 1 HA + 1 + 1 mark	**3**
2(g)	Faster/stronger current on outside; Erosion on outer/concave bank; Erosion where river current is stronger/river flow is faster; Hydraulic action/abrasion/helicoidal/helical flow (or description); Forms river cliff/undercutting bank; Slower/weaker current on inside; Deposition on inner/concave bank; Deposition where river current is weaker/river flow is slower; Forms slip-off slope. **Note:** Credit either written answers or labels on a diagram. Accept underlined words to credit on diagram or in text. 4 @ 1 mark	**4**