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Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

GEOGRAPHY **0460/42**

Paper 4 Alternative to Coursework **October/November 2018**

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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This syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **10** printed pages.

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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)	Commercial: sell produce / aim for profit / for money / resale / market (1) Subsistence: feed family / themselves / not for profit / for survival / personal use (1) **(2 × 1)**	**2**
1(b)(i)	155 (thousand tonnes) **TICK/CROSS**	**1**
1(b)(ii)	Tea production rose (1) Maize production fell (1) Check years being used in relation to trend stated. **(2 × 1)**	**2**
1(c)	Athi Kamunyuni / Athi / Kamunyuni	**1**
1(d)(i)	Examples: TWO ideas looked for: Check if questions are appropriate / change questions if inappropriate / test method / correct errors / make less mistakes / to practise fieldwork (1) Become confident / experienced / prepared in using questionnaire (1) Saves time with real fieldwork if questions are inappropriate (1) Find out how long questionnaire might take (1) Get an idea of how cooperative / willing farmers might be (1) **(2 × 1)**	**2**
1(d)(ii)	Credit ONE advantage and ONE disadvantage Advantage: Removes bias / is fair / reliable (1) Can use random numbers to generate order to ask farmers / identify farms (1) Equal chance of being selected (1) Disadvantage: May not result in a representative sample / may not give variety / may not cover area (1) Difficult to organise for sample of 20 if random number table is used (1) **(1 + 1)**	**2**

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Question	Answer	Marks
1(d)(iii)	ONE mark for sampling method, TWO marks for description If sampling method wrong, can credit description of Systematic or Stratified. Do NOT credit RANDOM as method or description. Systematic (1) Choose farmers / farms at regular / constant intervals (1) Every fourth/nth farmer they meet / every fourth/nth farm they pass (1) Use grid over area and choose farms in every fourth/nth square (1) **OR** Stratified (1) Find out gender or age balance of all the farmers in area (1) Ask a balanced number or proportionate number of farmers of different age group (1) **1 + (2 × 1)**	**3**
1(e)(i)	Data collected for the first time / first hand / by yourself / by students / fieldwork data / raw data / original data / not processed	**1**
1(e)(ii)	Examples: Language difficulties (1) Unpredictable hours when available / farmers not in (1) People not willing to answer questions / too busy / may lie / impolite (1) Farmers unwilling to give / may not know precise details about their farm (1) Accessibility / transport issues / large area to cover (1) May take long time to cover area (1) **(1 + 1)**	**2**
1(f)(i)	If grid is not 3 × 3 but is 9 squares can still credit shading Draw 3 × 3 = 9 squares on map using provided axis close to Kaiani (1) Shade any 4 crops and any 5 animals using the provided key (1) **(1 + 1)**	**2**

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Question	Answer	Marks
1(f)(ii)	Hypothesis is **TRUE** – 1 mark reserve. Evidence Cattle in north and goats in south (1) North even / similar land area used for crops and animals, south less land used for crops than animals(1) More crops in north / less crops in south (1) More animals in north / less animals in south (1) Credit 1 mark MAX for paired data comparing north and south. e.g. 11ha / 13ha crops / animals in north but 3ha / 11ha in south (1) 11ha in north for crops but only 3ha in south (1) 13ha in north for animals and 11ha for animals in south (1) Accept use of "ONLY" as "less than" for statement mark **1HA + (1 + 1)**	**3**
1(g)(i)	Completion of pie graph **TICKS/CROSSES** 13% slice plotted clockwise at 80% (1) Correct shading using key provided (1) If plot wrongly from top i.e. 87% no credit for plot BUT credit shading if large slice and small slice are shaded correctly. **(1 + 1)**	**2**
1(g)(ii)	Hypothesis is **FALSE/NOT SUPPORTED –** 1 mark reserve Evidence Main difficulties are human / economic / non-environmental / financial (1) Highest / top two difficulties are transport and loans (1) Over half / majority / most of the responses are human / economic / non-environmental / financial difficulties / less than half are environmental (1) Credit 1 mark MAX for supporting data e.g. 55% human / economic and 45% environmental OR 55.5% and 44.5% (1) 76 say issues non-environmental and 61 environmental (1) 42% / 22% and 20% are transport and loan difficulties (1) Accept use of "ONLY" as "Less than" for statement marks. **1 HA + (1 + 1 + 1)**	**4**

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Question	Answer	Marks
1(h)	Examples: Wells / boreholes (1) Irrigation (1) Using pumps (1) Traditional methods e.g. *shaduf* / Archimedes screw / sakia (1) Creating boundaries / low walls / bunds to hold water (1) Sprinkler systems (1) Grow drought resistant crops / fast growing crops (1) Pipes / canals from wetter areas (1) Harvest / store / save rainwater / storage tanks (1) Magic stones (1) Transfer water from wetter areas / north to south **(3 × 1)**	**3**

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Question	Answer	Marks
2(a)(i)	**NOTE:** both need to be correct for ONE mark **Erosion** in top box **Deposition** in bottom box	**1**
2(a)(ii)	Oxbow lake	**1**
2(b)(i)	Examples: Hold pole of flowmeter at top (1) Put propeller / flowmeter below surface of water / into the river / in the water / submerged (1) Propeller must be facing upstream (1) Allow propeller to rotate / turn (1) Read number of turns in fixed period / 1 minute (1) Read digital screen / velocity display (1) **(2 × 1)**	**2**
2(b)(ii)	**Advantage** – accurate / reliable reading / instant reading / quick / no calculating / can save readings (1) **Disadvantage** – inaccurate in low flow conditions / battery may go flat / may break / cannot use in deep water / obstacles get in way (1) **(1 + 1)**	**2**
2(c)(i)	Plotting of correct criss-cross shading for 0.53 at 2.5 m on cross section	**1**
2(c)(ii)	NOTE: Candidates are told decision re hypothesis is correct. So no need to credit any decision they give. Evidence: Velocity is highest near to outside bend / by concave bank / at 4 m on meander and highest in centre on straight section / at 2.5 m (1) **Stats:** 0.63 / more than 0.6 m close to outside bend on meander but 0.53 / 0.51–0.6 / below 0.6 m near centre of straight section (1) Velocity increases more across the meander than across straight section (1) **Stats:** Range 0.28 to 0.58 / 0.3 m across meander but only 0.3 to 0.37 / 0.07 m across straight section (1) Velocity increases across meander but straight section rises and falls around the middle (1) **Stats:** Range 0.28 to 0.58 / 0.3 across meander but rises 0.3 to 0.53 and falls to 0.37 m / s in straight section (1) Credit 1 mark MAX/RESERVE for paired data to compare **velocity** on meander & straight section **(1 + 1 + 1)**	**3**

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Question	Answer	Marks
2(c)(iii)	Examples: TWO differences required; can be statement or stats. NOTE Fig 2.4 = now; Fig 2.5 = previous. Accept use of Figs. Do NOT credit comparing individual sites/distances as stats. Higher velocity recorded in students' results now OR more than 0.6 / 0.63 now compared to 0.41–0.5 range before (1) Greater range of velocity in students' results now OR 0.21–0.3 / 0.28 to more than 0.6 / 0.63 compared to 0.21–0.3 to 0.41–0.5 before (1) **(1 + 1)**	**2**
2(c)(iv)	Examples: TWO separate suggestions needed More measurements in students fieldwork / 9 now compared to 5 before / different intervals used (1) More rainfall before fieldwork now / less rainfall or drier conditions before (1) Higher discharge before fieldwork now / lower discharge before(1) Measuring errors (1) Floats may become stuck before (1) Different instruments / flowmeter now instead of float / different methods (1) **(1 + 1)**	**2**
2(d)(i)	Examples: No mark for just stating callipers / pebbleometer. Put pebble into callipers or pebbleometer / adjust callipers to hold pebble (1) Measured length on scale / measure long axis with ruler or tape measure (1) **(1 + 1)**	**2**
2(d)(ii)	Plot crosses at 2 m and 4 m as follows. **2 m**: 0.42 / 12 (1) **4 m**: 0.63 / 17 (1) **(1 + 1)**	**2**

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Question	Answer	Marks
2(d)(iii)	Meander: Hypothesis is **TRUE** / results support hypothesis – 1 mark reserve Credit 1 mark for supporting data – need 2 sets of velocity and pebble length measurements e.g. at 0.28 m / s size is 4 cm but at 0.58 m / s size is 15 cm. (1) Straight section: Hypothesis is **NOT TRUE/FALSE** results do not support hypothesis – 1 mark reserve Credit 1 mark for supporting data – need 2 sets of velocity and pebble length measurements e.g. at 0.30 m / s size is 8 cm but at 0.40 m / s size is 5 cm (1) **2 × (1HA + 1)** If say FALSE for meander mark X HA = 0 and do not mark evidence. If say TRUE for straight section mark X HA = 0 and do not mark evidence. If say PARTLY TRUE for either mark X HA =0 and do not mark evidence.	**4**
2(e)(i)	Completion of histogram; credit plots ignore shading. 21 at 6–10 cm (1) 8 at 11–15 cm (1) **(1 + 1)**	**2**
2(e)(ii)	Examples: More pebbles between 1–5 cm downstream **OR** 9 downstream at 1–5 cm but 4 upstream / 5 more downstream (1) More pebbles between 6–10 cm downstream **OR** 21 at 6–10 cm downstream but 14 upstream / 7 more downstream(1) Less pebbles between 11–15 cm downstream **OR** 8 downstream at 11–15 cm but 17 upstream / 9 less downstream (1) Less pebbles between 16–20 cm downstream **OR** 2 downstream at 16–20 cm but 5 upstream / 3 less downstream (1) **(1 + 1)**	**2**
2(e)(iii)	Examples: terms must be defined correctly for credit. Eroded by water for longer time (1) Attrition – pebbles crash into each other (1) Corrosion or solution – dissolves pebbles (1) Abrasion or corrasion – pebbles rub against bed and banks (1) Pebbles are moved further downstream because they are lighter to transport / heavier pebbles were deposited upstream (1) **(2 × 1)**	**2**

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Question	Answer	Marks
2(f)	*channel depth increases downstream* *discharge increases downstream* Rows 2 and 4 are correct. **(1 + 1)**	**2**

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