CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2013 series

0460 GEOGRAPHY

0460/41

Paper 4 (Alternative to Coursework), maximum raw mark 60

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 will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.



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1 (a) (i) Must be comparative

Homemade rain / Fig. 1 gauge is:

Simpler

Not as accurate to use

Plastic rather than metal / glass

Re-cycled material / old bottle compared to proper equipment

Cheaper

Wider / shorter

Separate ruler not measuring cylinder

Cut off top from bottle compared to proper funnel

Transparent not opaque measuring bottle

2 @ 1 [2]

(ii) Put the rain gauge in soil / in a field / away from buildings / away from trees / on grass / not on concrete

Leave for 24 hours (max) / wait a certain or set time / check level at the same time each day

Use **ruler** to measure water level / measure amount of rain

Empty container and replace

[3]

(b) (i) Bigger sample of results / more results / more reliable

Avoid student error / anomaly

Can calculate average

[2]

(ii) 96/6 OR 14 + 16 + 16 + 17 + 15 + 13 / 6 = 16

[2]

(iii) Days 8, 4, 14

All correct for 1 mark

[1]

(iv) Figures plotted on Fig. 4

Circle at 14 mm on day 13; square at 2.8 mm on day 4 – need correct symbol

2 @ 1 [2]

(v) Yes / hypothesis is **correct** / less rainfall reaches ground as density of vegetation cover increases – 1 mark reserve

Least rainfall **reaches ground** OR lower reading in coniferous **woodland** / densest vegetation cover / wood with vegetation cover all year / higher readings in deciduous than coniferous woodland

More rainfall **reaches ground** OR higher reading on **bare ground** / no vegetation cover / less rain reaches ground in deciduous woodland than bare ground

1 mark **max** for paired data comparing two vegetation types e.g. on day 14–2.9 mm in coniferous woodland and 17.8 mm on bare ground average for 14 days: 1.6 mm in coniferous woodland, 9.9 mm in deciduous woodland, 11.6 / 11.7 mm on bare ground (any 2 figures for 1 mark)

lowest in coniferous woodland = 1.6 mm and lowest in bare ground = 12.8 mm

Hypothesis conclusion is incorrect / partly correct no credit

[4]

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(vi) Amount: Where there is most vegetation cover / coniferous woodland more rainfall / water is intercepted / stops rain / water reaching ground / catches more rain / where there is no vegetation cover / on exposed bare ground there is no interception

Spacing: Widely spaced vegetation lets more rain through / denser vegetation prevents rain getting through

Seasonality: Deciduous trees / some trees loose leaves in winter but coniferous / others don't

(c) (i) Primary data: using a barometer & measuring the speed of river flow

Secondary data: getting information from a newspaper report and researching on the internet

All 4 correct = 2 marks

2 or 3 correct = 1 mark [2]

(ii) Deciduous woodland

[1]

(iii) Hypothesis is correct for deciduous woodland

1 mark reserve

13.9 mm in winter compared with 7.1 mm in summer / 6.8 mm more in winter

Hypothesis conclusion is incorrect no credit

Hypothesis is **not correct** for coniferous woodland

1 mark reserve

2.3 mm in both summer and winter

Hypothesis conclusion is true / correct no credit

[4]

(iv) Deciduous trees have more leaves in summer / lose leaves in winter Coniferous woodland stays the same all year round / fall off throughout the year **and** are replaced / don't lose leaves in winter

Don't need link to interception

[2]

(d) Ideas such as:

Measure / record maximum and minimum temperature / read the temperatures (must be plural)

Method of measuring by using thermometer – index, magnet to reset – to 2 marks max

When readings are made – daily / weekly / monthly NOT hourly

Take reading at same time each day / fixed period of time

Calculate difference between max and min temperatures

[3]

[Total: 30]

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2 (a) (i) Comparison may be implied from point of view of Questionnaire 2:

Gives a scale of agreement / quantitative answer

Includes gender

Asks for age group information / age group rather than asking age / does not ask exact age

Includes the purpose of the questionnaire / includes where student is from

Tick boxes / options to choose from

Fewer questions / all questions are relevant

If answer from point of view of questionnaire 1 there must be direct comparison

3 @ 1 [3]

(ii) Stratified / systematic / random – 1 mark reserve

Stratified / Quota sampling -

Get an appropriate gender balance;

Get an appropriate age balance;

Break population down into groups

Systematic sampling –

Ask people at regular intervals / pattern

Ask every tenth person

Random / Opportunity sampling –

Ask the next person they meet / ask any person

Random number tables to generate order to ask people

[3]

(iii) Why: People would be better equipped to answer Q 3 / talk about what they had done / have views about the day's activities

Waited until people have finished the day's activities / will not disturb people whilst doing activities

(1 mark maximum) [2]

Disadvantage: People are tired at end of a busy day / cannot be bothered to answer questions

People in a rush to set off for home

May not get enough answers and too late to do anything about it

Only visitors travelling by car will be surveyed / ignores visitors coming by train or bus or walking

(1 mark maximum) [2]

(b) (i) Pie graph – completion 1 mark (61–80 = 26%; more than 80 = 31%)

1 mark for dividing line; 1 mark for shading

[2]

(ii) Many / more / most visitors came from far away / least visitors come from nearby

More visitors as distance increases

Largest number / travelled more than 80 km

Most visitors travelled less than 80 km

Smallest number travelled less than 20 km

Over half of the visitors travelled more than 60 km

[2]

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(iii)	Insert figures Visiting friends: 2 in 20–35 age group and 1 in over 69 (both for 1 mark) 27 in total of 35–50 column	5 age group	[2
(iv)	Conclusion that hypothesis is correct / partially correct – 1 mark reserve		е
	Active / energetic activities (or description) such as / cycling / mountain biking / horse riding / running / jogging are more popular with younger people (under 35)		
	Passive / relaxing activities (or description) such a historic buildings / bird watching are more popular with	-	•
	Walking is popular with most age groups / visiting historic buildings or friends heven split of young and old, so doesn't support hypothesis No credit for stats without interpretation		
	Hypothesis conclusion in incorrect = no credit		[4
c) (i)	Only wanted local people / residents / not tourists Not waste time doing the interview / if they don't liv impact	ve in the village the	y will not knov [1
(ii)	Completion of divided bar – dividing lines at 32 and 4: (if 32 is incorrect, add 10 to line for second line places Shading = 1 mark – must be in correct order		[3
(iii)	Many jobs will be seasonal Money spent in the area will drop for 6 months Congestion / overcrowding between April and September / in these months summer		se months / ir
	Traffic congestion / noise / litter in summer / in these	months	[1
(iv)	Brings money into the area		[1
(v)	No Hypothesis mark. Allow any hypothesis choice data.	but credit supportin	g evidence and
	e.g. Support hypothesis / hypothesis is correct		
	Most / many people see problems as very severe quite important Most / many people see benefits are slightly important		very important

Credit data which illustrates problems or benefits for 1 mark reserve –

thought that litter was a very severe problem.

data must be related to total or is comparative or proportionate e.g. 30 out of 50 people

[3]

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(d) Do a traffic survey / count vehicles

Do it in different streets / areas of village Do survey in different seasons Do it at different times of day Tally method of counting, Do for 10 minute period

Compile a questionnaire / interview
Ask drivers / visitors / pedestrians what are the traffic problems
Ask questions such as: where is congestion worst – 1 max
Think about sampling technique

Observe traffic jam and time how long it takes to get through village

[3]

[Total: 30]