CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2012 series

0460 GEOGRAPHY

0460/42 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.

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Page 2	Mark Scheme	Syllabus	Paper
	IGCSE – October/November 2012	0460	42

1 (a) Each horizontal pairing = 1 mark. Use ticks/crosses here.

	High pressure	Low pressure
Air is	sinking	rising
Weather conditions change	slowly	rapidly
Expected weather is	dry	wet

[3 × 1=3]

(b) (i) Examples: look for two points
Index pointer shows previous recorded value / align both pointers(1)
Arrow / pointer /needle moves on dial (1)
Difference between index pointer and arrow/ pointer needle / shows change (1)
Read value/pressure on dial (1) [1 + 1 =2]

(ii) 1018 (mb) [1]

(iii) Millibars [1]

(iv) Example
To get comparable reading / consistent / fair / reliable
NOT accurate [1]

(v) Examples: look for two points
Cones / cups revolve / spin / turn / rotate /moves (1)
Read speed off meter (1)
Shows reading as km per hour (1)

[1 + 1 = 2]

(c) (i) Plot on scatter graph 13th (1016mb & 12 km per hr) & 19th (1017mb & 7 km per hr) for Manama. 1 mark per plot. [1 + 1 = 2]

(ii) Hypothesis is NOT TRUE / as AP increases wind speed does not decrease –

Accept As AP increases, wind speed does slightly / positive relationship (1)
OR No relationship between AP and wind speed (1)

Data evidence:
e.g. at 1019mb speed is 13 km/hr but at 1010mb speed is 6 km/hour (1 max)
e.g. at same AP wind speeds have large extremes (1) at 1016mb there are 4 different speeds /range 3-12 km/hour (1 max) (ALSO ok if use 1012mb/1019 lines)
e,g. at same wind speed AP has large extremes (1) at 4km/hr AP ranges from 1012mb to 1019mb (1 max) (ALSO ok if use 7 km/hr line) [1HA + 3 = 4]

(d) (i) Primary data: using a rain gauge & measuring the speed of river flow (1)
Secondary data: researching on the internet & reading a newspaper report (1)

Mark as 1 correct = 0, 2 or 3 correct = 1, all 4 correct = 2.

[1 + 1 = 2]

(ii) Plot 2 bars for 18th in Manama: July= 999 mb, Jan = 1016 mb [1 + 1 = 2]

(iii) Hypothesis is TRUE

AP has larger differences in Manama / lower differences in Jakarta (1)

Credit data up to 3 max with reserve of 2 marks
In Manama AP varies between 16-23 mb between Jan & July (1) or raw figures (1)
In Jakarta AP varies between 1-3 mb between Jan & July (1) or raw figures (1)
Can compare individual data on any dates
e.g. on 11th January 1018mb at Manama but 11th July 997mb (1)
on 11th January 1012mb at Jakarta and on 11th July 1011mb (1) [1 HA + 3 = 4]

(e) Two examples required. Looking for weaknesses (Can be improvements)
May not have carried out pilot study (1)
Data only collected for 10 day periods (1)
These days may not be typical conditions (1)
Data collection only done twice a year (1)
How accurate were readings /student errors (1)
Unable to check the results from other school / confidence in other school (1)
Time zone/communication/language difficulties/issues (1)
Should have taken more than just 1 reading (1) [1 + 1 = 2]

(f) Ideas such as:
Credit for 1 max an acceptable hypothesis regarding temperature (1)

Use thermometer (1)
Where thermometer is located e.g. in the shade / Stevenson screen (1)
Details of readings taken e.g. maximum, minimum temperatures (1)
When readings are made (1)
How readings are recorded (1) [1 + 1 + 1 + 1 = 4]

Page 4	Mark Scheme	Syllabus	Paper
	IGCSE – October/November 2012	0460	42

2 (a) (i) Only two answers possible; do NOT credit examples of type or initials.

1. Hardware.
2. Professional service. [1 + 1 = 2]

(ii) Examples
To simplify the map / easier to read / understand / analyse/ can compare (1)
To group similar shops / services together (1)
To show a pattern of shops / services on the map (1)
Easier to carry out fieldwork (1) [1 + 1 = 2]

(iii) Examples
Around/near the market area (1)
In the market (1)
South and east of market (1)
Away from or west of the main road (1)
NW of cemetery (1) [1]

(iv) Examples
Along the main road (1)
To the east of the CBD (1)
On the edge of the central area/CBD / out of town (1)
Close to the bus station (1)
Close to petrol station (1)
To east of market (1) [1]

(v) Examples
W & G located where customers can walk to these shops frequently /daily (1)
Supermarkets are located for travelling shoppers / access for people in vehicles (1)
Supermarket customers may use vehicles so need space for parking / for access for lorries delivering goods (1)
Small shops/stores can afford rent in centre (1)
Supermarkets need more space / where land is cheaper (1)
Supermarkets away from centre as built later / no space in centre (1) [1 + 1 = 2]

(vi) Evidence does SUPPORT Hypothesis 1 / it is TRUE / commercial centre is near to market –

Shops surround market area / on three roads (1)
High density of small shops in centre (1)
Different types of shops and services in centre (1)
Offices/professional services in centre (1)
Government offices in centre (1)
Bus station in centre (1) [1HA + 2 = 3]

(b) (i) Examples
Results will not be affected / distorted by people going to work / children going to school /rush hour traffic (1)
10 minutes is long enough to get valid results / not too long to get bored (1)
Working days will give typical pattern of movement in week rather than weekend (1)
Repeating the survey on two days to get an average / check for reliability of results (1)
[1 + 1 + 1 = 3]

(ii) Completion of survey sheet – tally and total for bicycles & mopeds
= 18
1 mark for total of 18

[1 + 1 = 2]

(c) (i) Completion of 100 pedestrian isoline which must go:
Inside 97 and between 110 and 93 on right (1)
Outside 102 and between 110 and 84 on left (1)

[1 + 1 = 2]

(ii) Shading of area over 100 vehicles. [1]

(iii) Examples
Would separate out two groups of vehicles (1)
Would show when people went to different areas on different transport (1)
Would show where 2/3 wheeled vehicles went compared to 4-wheel vehicles or similar (1) [1 + 1 = 2]

(iv) Hypothesis is TRUE / pedestrian flows are highest in commercial centre / vehicle flows are lowest – 1 mark

Pedestrian flows are over 150 in commercial centre (1)
Vehicle flows are between 25 – 50 in commercial centre (1) [1HA + 2 = 3]

(v) NOTE 1 reserve mark for Pedestrian flow and 1 reserve mark for Vehicle flow

Examples:

Pedestrian flows are highest in area of market because:

People walk to buy food/ household/convenience goods/go to shop (1)
People come from nearby housing areas (1)
Many people may not own vehicles / don't need vehicles (1)
Likely to be more work in centre (1)
Quicker to get round shops than with vehicle (1)

Vehicle flows are highest along main road because:

People travelling between other settlements/ through traffic /commuting (1)
People go to supermarkets to buy in bulk (1)

Vehicles lowest in centre because of narrow roads/lack of parking space (1)

[1R + 1R + 1 = 3]

(d) Question is about this fieldwork investigation being done better in this town.

Ideas include:
Surveys done more frequently during the day (1)
Surveys done on >two working days (1)
More survey points to give greater coverage (1)
Comparison with survey done on a non-work day such as weekend (1)
At least three people doing survey so more checking (1)
Ensure each group has watch / stopwatch (1)
Use of counters / 'clickers' (1)
Carry out pilot study (1) [1 + 1 + 1 = 3]

[Total: 30 marks]