CAMBRIDGE INTERNATIONAL EXAMINATIONS
Cambridge International General Certificate of Secondary Education

MARK SCHEME for the October/November 2015 series

0460 GEOGRAPHY

0460/42 Paper 4 (Alternative to Coursework), maximum raw mark 60

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1 (a) (i) **Examples**

Give instant readings/faster/quicker/saves time (1)
Easy to use/clear to read/larger digital readout/no parallax error/less complex/simpler to use (1)
Don’t need to know how to read digital thermometer/don’t have to read off thermometer (1)
Exact figures/accurate/precise (1)
Less chance of making mistakes in reading/mis-reading/less errors/error free (1)
Portable/can be used at more than one site/easier to reset/don’t need to reset (1)
Can download results to computer/store data (1)
Safer if dropped because no mercury/sturdier if dropped (1) \[1 + 1 + 1 = 3\]

(ii) **Examples**

Take more than one reading with different digital/other thermometer (1)
Partner/other student checks readings are accurate (1)
Take more readings and calculate the average (1) \[1 + 1 = 2\]

(b) (i) 35.6°C. \[1\]

(ii) 4 m. \[1\]

(iii) Plot 36 at 4 m (1) and 35.2 at 8 m (1). No credit for line/time of plot. \[1 + 1 = 2\]

(iv) **The Eno building** – 1 mark reserve.
Comparative evidence for Eno building being best choice; do not credit individual sites.
**Average** temperature at 0.5 m/next to Eno building is higher than Guyot (1)
Temperature next to Eno building 31.2°C but only 29.9°C at Guyot (1) OR 1.3°C higher (1)
– no need to state average if stats used are the average stats.
Temperature at Eno decreases from 31.2°C at 0.5 m to 30.8°C at 8 m but at Guyot average temperature increases from 29.9°C at 0.5 m to 30.3°C at 8 m (1)
– no need to state average if stats used are the average stats \[1R + 1 + 1 = 3\]

(v) **Examples**

Buildings absorb/store heat from sun or internal heating system (1)
Buildings radiate/emit heat (1)
Buildings sheltered from cooling influences e.g. wind/rain (1)

(vi) 8 m \[1\]
(c) (i) 34.2 (Accept 34.24 as TICK JU) [1]

(ii) Should plot 34.2/34.24 with small circle at 12.30 for the mark.
    IF calculation wrong in (c)(i) must credit the ensuing plot if correct on the graph to avoid ECF. [1]

(iii) Examples of evidence (All refs to average temperatures NOT single data)

    **Average** temperatures all higher at all distances from Eno building which is south facing (1)
    At all **times** except 06.30 average temperatures higher at Eno building (1)
    Only one time/06.30 when **average** temperatures are the same/22.6°C at both buildings (1)

    Credit paired data (can be two time refs or two distance refs or one time and one distance. Must refer to **AVERAGE** temperatures to 2 marks max but do not need to use the word ‘average’ if statistics used are the averages

    e.g. Eno building 31.2°C at 0.5 m compared to Guyot with 29.9°C at 0.5 m (1) OR 1.3°C higher at 0.5 m at Eno.(1)
    At 15.30 Eno building 35.7°C but Guyot only 35.1°C OR 0.6°C higher at Eno at 15.30. (1) [1 + 1 + 1 = 3]

(iv) Examples

    Guyot building/north facing side in shade (1)
    Eno building/south facing side in sun (1)
    Heating may have been switched on in Eno not in Guyot (1) [1]

(v) Examples

    Colour of ground surface (albedo)/ability to reflect or absorb heat (1)
    Type of land-use/vegetation/ground material (1)
    Height above sea level (1)
    Type of building materials (1)
    Shelter from/exposure to wind (1)
    Presence of water/lake so differential heating/cooling/humidity (1) [1]

(vi) Examples

    Take temperature readings at closer distances/more sites on the day (1)
    Take temperature readings at other/more times in the day (1)
    Take temperature readings on more/different days (1)
    Check readings in pairs/with a partner/within group (1) [1 + 1 = 2]
(d) (i) The amount of moisture in the air as a percentage of the total moisture it could hold at that temperature. [1]

(ii) 1 mark MAX for stating the difference.
e.g. Dry bulb/thermometer on LHS shows higher temperature (1)
    Wet bulb or thermometer RHS shows lower temperature (1)
    Dry 24 °C and Wet 15 °C/dry is 9 °C higher (1)

Three marks max for reasons for differences:
Dry bulb/LHS thermometer higher because:
Exposed to the air giving the air temperature (1)
Dry bulb/LHS thermometer is higher as no cooling effects on the bulb (1)

Wet bulb/RHS thermometer is lower because:
Bulb linked to container of water (1)
Bulb wrapped in cloth/muslin/wick (1)
This keeps the bulb continuously moist/cool (1)
Heat lost in evaporating water/moisture (1) [1 + 1 + 1 + 1 = 4]

(iii) Wet bulb temperature = 15 °C
    Difference = 9 °C (1)

Relative humidity = 36% (1)
1 mark for calculation ALLOW ECF. [1 + 1 = 2]

[Total: 30 marks]
2 (a) (i)

<table>
<thead>
<tr>
<th>Time</th>
<th>09.30 – 09.45</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day</td>
<td>Monday</td>
</tr>
<tr>
<td>Month (Season)</td>
<td>July (Summer)</td>
</tr>
<tr>
<td>Number of visitors</td>
<td>27</td>
</tr>
</tbody>
</table>

1 mark for time, day, month. Allow ticks or underlines.

1 mark for tally showing 27 as 5 units of 4 vertical strokes crossed through plus 2 single strokes. [1 + 1 = 2]

(ii) **Examples**

- Start at the correct/same time (1)
- Finish at the correct/same time (1)
- Use a watch/timer/cell phone to time (1)
- Work in pairs/within group/more than one person to count/check (1)
- Use tally method to record pedestrians (1)
- Use same location at all three times (1) [1 + 1 + 1 = 3]

(iii) **Examples**

- More people on Sundays/less people on Monday/compare numbers (1)
- Sunday non-working day/Monday working day (1) [1 + 1 = 2]

(iv) **Examples**

- **HOW**: Less visitors (1R)
- **WHY**: Not in the main tourist season/January colder/lower temperature (1R) [1R + 1R = 2]

(v) Completion of two bars at 16.30 in Valledoria. 46 (Sunday) and 35 (Monday)

1 mark for each correct plot; ignore shading or bar width. [1 + 1 = 2]
(b) (i) **Examples**

**Score may vary:**
- Carry out pilot study to develop consistency/agreement on scores (1)
- Work in groups and discuss/agree score (1)
- Calculate the average score from a group of students (1)

**Score may vary at different times:**
- Make sure both surveys are done at same time/agree a time for survey (1) [1 + 1 = 2]

(ii) +4. Must have + [1]  

(iii) **Three small circular plots needed as follows; ignore any line joining them:**  
- *Beach facilities at –2*
- *Views behind beach at +2*
- *Noise at +1*

All correct = 2 marks, 1 or 2 correct = 1 mark. [1 + 1 = 2]

(iv) Question requires **data** evidence for Valledoria having more visitors and being more attractive e.g.

**Number of visitors:** (1 max)  
- Sunday – Valledoria = 144, Badesi = 129/Valledoria 15 more (1)  
- OR Monday – Valledoria = 119, Badesi = 116/Valledoria 3 more (1)  
- OR Total – Valledoria = 263, Badesi = 245/Valledoria 18 more (1)

**Attractiveness survey** (1 max)  
- Valledoria = +4/4, Badesi = +2/2 OR Valledoria 2 more (1) [1 + 1 = 2]

(c) (i) **Looking at the scenery** = 20  
- *Sailing* = 17  
- *Walking* = 14

All correct = 2 marks, 1 or 2 correct = 1 mark. [1 + 1 = 2]

(ii) Hypothesis is **CORRECT/TRUE** – 1 mark reserve.  
- If say False/Incorrect/Partly True = X HA and no further marks

Main reasons at each place are completely different/specific named examples from table e.g. sunbathing top in Badesi but windsurfing top in Valledoria (1)

Credit paired data to show differences to 2 marks max  
- e.g. sunbathing is rank 1/23% in Badesi & rank 8/3% in Valledoria (1)  
- 17% visit Badesi for shopping & no visitors go to Valledoria for shopping (1)  
  [1HA + 1 + 1 + 1 = 4]

(iii) To see if there is any relationship between age/gender of visitors and reasons for visit/activities chosen. [1]

(iv) Visitors may have come for more than one reason/might not be one main reason [1]
(d) 1 mark for each question and 1 mark for each reason.

It is not the case that all questions are valid; credit only those questions that extend the survey into tourism and are appropriate/relevant. See examples.

Examples of appropriate questions:

*Is there anything you do not like in this area?* (1)
To find out what needed to be improved to attract more visitors (1)

*Where have you come from today?* (1)
To find out information about catchment area/sphere of influence (1)

*How long are you staying in this area?* (1)
To find out if tourists are mainly one day visitors or staying in the area (1)

*What type of accommodation are you staying in?* (1)
To find out the preferred demand for hotels, self-catering, camping, etc. (1)

*Is there another reason for your visit?*
To find out additional activities other than the main reason (1)

*Are you travelling alone or with others/your family?* (1)
To find out if the resort attracts certain groups/individuals (1)

*What transport did you use to get here?* (1)
To find out travel patterns such as use of cars, rail (1)

*Do you come here often? How many times have you visited here?* (1)
To find out if resort attracts regular custom (1)

Examples of inappropriate questions

What is your marital status?
How much money have you brought with you/how much will you spend?
Which place do you like the most? (May not have been to both)
How many information boards are there?
Are you a tourist or resident? (See intro to questionnaire) [2 × (1 + 1) = 4]

[Total: 30]