UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2011 question paper

for the guidance of teachers

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 must be read in conjunction with the question papers and the report on the examination.

- Cambridge will not enter into discussions or correspondence in connection with these mark schemes.

Cambridge is publishing the mark schemes for the October / November 2011 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

1 (a) (i) Taking samples at equal distances / regular intervals / uniform intervals / spec every nth person.

(ii) <u>Accept disadvantages of random if express it that way round</u>
Easier because sampling sites are evenly spaced out (1)
Quicker to choose / locate sites (1)
May give fairer test / less or no bias than random (1)   [2 × 1 = 2]

(b) (i) Classification as sand, shingle or pebbles is subjective / inconsistent / may be classified differently at different sites / difficult to distinguish / student error / materials may be mixed up (1)
Estimating the percentages may lead to inaccuracy / inconsistency. (1)
Could be larger material such as cobbles / large stones / boulders (1)
Other beach material <u>qualified</u> e.g. seaweed / litter / shells (1)
Could take a long time to classify (1)   [1]
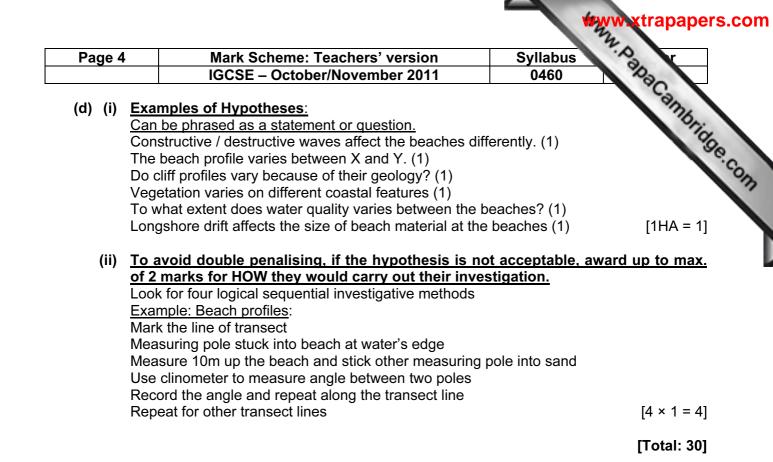
(ii) Completion of pie graph; 20% shingle, 5% pebbles (<u>Can be either way</u>)
1 mark for dividing line – should be 72 / 18 degrees; <u>allow 2 degree tolerance</u>
1 mark for shading <u>both</u> slices correctly.   [2 × 1 = 2]

(iii) <u>Answers must be comparative between X and Y beaches OR between sites on each beach – Beach X (Site 1 / 2) compared with Beach Y (Site 3 / 4).</u>
<u>1 mark max for each material.</u>

Sand: higher proportion / percentage at beach X / Site 1 or 2 (1)
        mainly sand at both sites on beach X but only at one site on beach Y (1)
Shingle: higher proportion / percentage at beach Y / Site 3 or 4 than 1 or 2 at X. (1)
Pebbles: no pebbles at beach X / Site 1 or 2 only pebbles at beach Y / Site 3 or 4 (1).
                    [3 × 1 = 3]

(iv) Hypothesis is true for **beach Y** – 1 mark reserve. **If circle wrong answer then no other marks to be awarded.**

Recognition that Site 3 is at LWM or site 4 is near cliff / further from LWM (1)
Sand decreases (1) from 75–0% / by 75% (1)
Shingle increases (1) from 20–50% / by 30% (1)
Pebbles increase (1) from 5–50% / by 45% (1)
<u>1 mark max. RESERVED for use of data indicating change for one size of material;</u>
<u>must use units i.e. percentages %.</u>   [1HA + (2 × 1) + 1 Data mark = 4]

(c) **(i)** <u>Look for three different decisions (3 × 1). Examples below.</u>

Decide on scoring system / range / scale of numbers (1) <u>NOT Carry out a bi-polar method.</u>
How many survey points to choose (1)
How long they have to carry it out (1)
Which types / forms of litter to measure in the survey (1)
How to choose the location of the survey sites / distance between them (1)
What area to be covered at each site (1)
When to carry it out (1)
How frequently to carry it out (1)
How to divide the work between the students / groups / pairs (1)
How to agree on what exactly the –2 to +2 scale meant re the litter types (1)
Decide on format to record the information (1)
Is the environmental survey only to do with litter? (1)   [3 × 1 = 3]

(ii) Plotting on Fig. 5.
1 mark each for shading accurate bars at –2 on C and +1 on D <u>for plastic</u>   [2 × 1 = 2]

(iii) <u>Examples: Note – Differences must be comparative.</u>
Answers must relate to the results NOT overall judgements

<u>Similarity:</u> "no wood" scored +2 in both (1)
 "no plastic" scored +2 in both (1)
All scored + 1 (1)
Same amount of wood / plastic in both (1)
No negative scores at all / all scores are positive. (1)

<u>Difference</u>: glass / paper / other litter scored +1 at site A but +2 at site B (1)
Site A has some paper / glass but B has none (1)   [2 × 1 = 2]

(iv) Yes / hypothesis is true / correct / impact does vary between beaches
<u>Reserve 1 mark for agreeing with hypothesis (1)</u>
<u>If disagree / partially agree no marks at all.</u>
<u>If no decision made mark correct explanation for 1 max.</u>

Positive or no –ve impact at beach X / mostly –ve impact at beach Y (1)
Beach X / Sites A and B cleaner than Beach Y / Sites C and D (1)
Beach X / Sites A and B have less litter than Beach Y / Sites C and D (1)

If use Sites instead of X and Y must refer to both Sites on that beach.   [1HA + 1 = 2]

(v) <u>Examples: Look for three separate reasons (Can be opposites on each beach)</u>

Beach X has less litter as hotels / officials / council clear up litter (1)
Beach X has less litter as it has bins (1)
Beach Y has more litter due to caravan park (1)
Beach Y has more litter as less likely to have litter bins (1)
Beach Y has more litter as not cleared up (1)
Beach Y has more litter due to longshore drift / wind (1)   [3 × 1 = 3]

(d) (i) <u>**Examples of Hypotheses**</u>:
<u>Can be phrased as a statement or question.</u>
Constructive / destructive waves affect the beaches differently. (1)
The beach profile varies between X and Y. (1)
Do cliff profiles vary because of their geology? (1)
Vegetation varies on different coastal features (1)
To what extent does water quality varies between the beaches? (1)
Longshore drift affects the size of beach material at the beaches (1)   [1HA = 1]

(ii) <u>**To avoid double penalising, if the hypothesis is not acceptable, award up to max.**</u>
<u>**of 2 marks for HOW they would carry out their investigation.**</u>
Look for four logical sequential investigative methods
<u>Example: Beach profiles</u>:
Mark the line of transect
Measuring pole stuck into beach at water's edge
Measure 10m up the beach and stick other measuring pole into sand
Use clinometer to measure angle between two poles
Record the angle and repeat along the transect line
Repeat for other transect lines   [4 × 1 = 4]

[Total: 30]

2 (a) (i) <u>Examples</u>
Census figures (1) **<u>NOT</u>** carry out a census
Electoral roll (1)
Estimate by counting the number of houses & multiplying by 2 or 3 (1) Use records (1)
Use guidebooks (1)
Use the internet (1)   [2 × 1 = 2]

(ii) **<u>NO MARK FOR METHOD CHOSEN</u>**
<u>Examples:</u>

<u>Method A</u>
Easy to compare total number of services in different villages (1)
Easy to record during fieldwork (1)
None will be missed out / wider range likely (1)
Needs less preparation (1)

OR

<u>Method B</u>
Easy to group for comparing / graphing / classifying (1)
Only need to find one example of each service (1)
Easier to tick boxes (1)
All will be looking for same services (1)
Less time-consuming than A (1)

<u>ALSO credit if choose one then give disadvantages of other.</u>   [2 × 1 = 2]

(iii) <u>Examples of disadvantages:</u>
Lack of consistency in methodology between different pairs. (1)
Safety / supervision aspects of two students in a village. (1)
May be too much for 1 pair / too little for others. (1)
Only get results of 1 village (1)   [1]

(b) (i) All three (café, general store, post box) ticked correctly. Do not need the small x putting in.   [1]

(ii) Total = 6.   [1]

(iii) Railway station   [1]

(iv) Population / number / size of population on horizontal axis.   [1]

(v) Results for Ince (1500 population / 9 types of service) plotted on Fig. 6. <u>No need to label Ince.</u>   [1]

(vi) Look for three statements that support the decision but credit use of data to 2; data not essential; can be 3 statements.

Examples
There is a positive relationship / correlation / directly proportional (1)
Ince / the largest village / the village with largest population has most different types of service. (1)
Stanley / the smallest village / the village with smallest population has least different types of service (1)
Ince has a population of 1500; Stanley has 40 (1D)
Ince has 1500 population – more than twice any other village (1D)
Stanley only has 40 population – next highest is 234 (1D)
Ince has 9 services; Stanley has 1 (1D)
Stanley has only 1 type of service; others all have 3 or more (1D)
Albany has second largest population and number of types of service (1)
Mead has a smaller population and fewer types of service than larger villages (1)
                                                    [(3 × 1) or (2 + 1D) or 1 + 2D = 3]

(vii) Examples: allow two separate points or one elaborated or one with example.
More people / higher population to support higher order services / more services (1)
More customers in larger villages / to meet needs of villagers (1)
More people / customers so may be more profit / good for business (1)
More customers so higher threshold population for extra services (1)
Larger villages will also contain lower order services (1)   [(2 × 1) or (1 + 1) = 2]

(c) (i) 1. Born in the village (1)
         2. Good access to motorway (1)
         3. Attractive scenery (1)   [3 × 1 = 3]

(ii) Plotting on Fig. 7 (Retirement 20 + Low Crime rate = 6). No tolerance here.
1 mark each for accurate bars; no credit for shading.   [1 + 1 = 2]

(iii) Hypothesis is incorrect / these are not the main reasons why people live in Bethel / disagree with hypothesis –
1 mark reserved for hypothesis.
If agree / partially agree with hypothesis no marks at all.
If no decision credit correct evidence for hypothesis being incorrect.

Evidence should include data or rankings (1 Data mark Reserved for identifying ranks or including data – but can credit up to 2 max)

These factors have low rankings / lowest numbers (1)
Attractive scenery is rank 6, they were born there is rank 4 and peaceful location is rank 8 (1)
24/25% / only a quarter / 28/113 chose the factors in the hypothesis (1)
Other reasons are more important – especially good access to motorway / retirement / cheaper house prices. (1)
59/60% / over half / 67/113 surveyed chose three more important reasons (1)
                                                    [(1HA + 2 + 1D) or (1HA + 1 + 2D) = 4]

(d) Examples

People refusing / don't want to answer / unwilling / privacy / too busy (1)
Not finding enough people to make the survey valid / reliable (1)
Survey may be biased by not interviewing people at work / some not at home (1)
Survey may contain a large proportion of retired people / people at home (1)
Language difficulties / local dialect problems to understand the survey / Q / A (1)
Take a long time to survey 113 people / in Bethel (1)   [1 + 1 = 2]

(e) 1 mark reserved for suitable investigation into village changes and 3 marks for HOW it could be done. Investigation examples:

Examples: **CHANGE** in buildings / traffic flows / travel patterns / employment / shops & services / community activity / sphere of influence / quality of life –

How it could be done: Focus on how could investigate change with past or into future.
Old / current maps (1)
Old / current photographs (1)
Interviews or questionnaires with residents about past to present (1)
Study of local workplaces and past work (1)
Observe new housing and previous land-use (1)
Record the information (1)

Allow 1 mark for hypothesis plus 1 max for a suitable investigation that is NOT a change
Examples,
Investigate types of buildings, quality of services, air pollution, noise pollution –

If investigation not suitable or none suggested no further marks
Population changes, effect of a ring road, influence of cities, living conditions,
services today – any that could NOT realistically be carried out in a village in a
MEDC.   [1 + 3 = 4]

                                                                                        [Total: 30]