CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2013 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.

Cambridge will not enter into discussions about these mark schemes.

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

1 (a) (i) 9,10,11,12 (October) or 9–12th; dates can be in any order. **[1]**

(ii) Rain gauge **[1]**

(iii) Examples – look for two causes of time lags
Rain does not fall directly into river (1)
Rainwater needs time to drain into the river (1)
River level continues to rise after the rain stops/during rainfall (1)
River is not full/at bankfull discharge (1)
Interception by trees/vegetation (1)
Rain stored in rocks/soil (1)
[1 + 1] **[2]**

(b) (i) Secondary **[1]**

(ii) Examples (Can compare either way between years)
More built-up / urban area is larger (1)
Buildings constructed near river / on floodplain (1)
By-pass / road constructed (1)
Railway lines do not continue/destroyed/cut off (1)
Less woodland area (1)
Parkland in different places (1)
River route different (1) [1 + 1] **[2]**

(c) (i) Examples
Open space/expansion for buildings (1)
Flat land (1)
Cheap land (1)
Water for transport/cooling/manufacturing/power (1 max for water) [1 + 1] **[2]**

(ii) Examples: must be a comparison
Residential buildings are east/NE but manufacturing are west (1)
Manufacturing buildings are more/further downstream than residential (1)
Manufacturing buildings are nearer the river/residential are further away (1)
Both are on same side/north of river (1) **[2]**

(iii) Completion of pie graph – manufacturing (12%) and public buildings (4%)
1 mark for correct line; must be within 5% of vertical (should be 4%);
1 mark for correct shading using the key. [1 + 1] **[2]**

(iv) Hypothesis is false / incorrect / not true

Most / majority / mainly/ over half /55%/ 73/133 of building use is for shopping (1)
Only 16 out of 133/ 12% buildings are for manufacturing (1)
More buildings are for residential / office use than manufacturing (1)

[1HA + 2] **[3]**

(d) (i) Completion of divided bar graph
1 mark for correct line at 15 from either direction (1)
1 mark for YES/NO in bars or appropriate key is clear (1) [1 + 1] **[2]**

(ii) Completion of bar graph
1 mark for plot at 64; no credit for shading. **[1]**

(iii) Examples: Can give reverse for credit (NB NO HYPOTHESIS MARK)
Most or 95/110 or 86% had no warning (1) OR only 15/110 or 14% had warning (1)
All or 100% or 110/110 businesses had increase in insurance costs (1)
Most or 101/110 or 92% businesses were affected by loss of customers **OR** only 9/110 or 8% were not affected by loss of customers (1)
Most or 99/110 or 90% businesses had repair costs (1)

Credit data to 1 mark max but not a reserve mark [1 + 1 + 1] **[3]**

(e) Examples of Opportunities:
Fertile soil/good for farming (1)
Water for irrigation /crops/drinking/bathing etc (1 max for refs to water)
Can use river for transport (1)
Flat land for building roads / railways (1)
River is source of fish for food (1)

Examples of Problems:
Farmland/crops/livestock can be flooded (1)
Food stores can be damaged by flood (1)
Foundations of homes are made unstable / homes are washed away (1)
People are drowned / swept away (1)
Flooding makes travel impossible (1)
Water-borne diseases/contamination/water pollution (1)
High insurance costs / cost of rebuilding (1)
Dangerous wildlife e.g. crocodiles/mosquitos/malaria (1) [2 + 2] **[4]**

(f) Increase size / depth of river channel (1)
Afforestation in catchment area (1)
Construct a dam / creates a reservoir (1)
Build embankments / levees / walls / barriers (1)
Straighten river course / remove meanders (1)
Dig a flood relief channel / divert river (1)
Dredging river / removing debris (1)
Build a drainage system/ditches (1)
Dyke (1) [1 + 1 + 1 + 1] **[4]**

2 (a) (i) Examples
Good views / attractive scenery (1)
Historical building (1)
Access by roads/paths (1) **[1]**

(ii) Cafe **[1]**

(b) (i) Examples
Student(s) in pairs/groups (1)
Start counting people walking at same time (1)
Count people walking to the tower (1)
Use a stopwatch/timer to measure time (1)
Use 10 minutes / >10 minutes / same time span (1)
Tally method/counter to record pedestrians (1) [1 + 1 + 1 + 1] **[4]**

(ii) Examples from the Table
Not a working day/children not at school (1)
Sunny/dry/warm weather (1)
Good visibility from hilltop (1)
Attraction / tower open (1)
Tower closed on Wednesday (1 max for ref to Wednesday) [1 + 1] **[2]**

(c) (i) Completion of scatter graph
Plots at 12 (site 4) and 27 (Site 5). 1 mark per plot. [1 + 1] **[2]**

(ii) Examples: NOTE this refers to Fig 9 i.e. the SUNDAY pattern
Highest number of people at site 5 / nearest tower **OR** both highest nearest tower (1)
But number of walkers generally decreases towards tower / from Site 1–4(1)
Same pattern of results for both paths (1)
Path A: 45 to 36 to 50 (1 max for any two of these figures)
Path B: 16 to 12 to 27 (1 max for any two of these figures)

Credit data (two numbers from either A or B) to 1 mark max but not a reserve mark
[1 + 1 + 1] **[3]**

(iii) Examples (Can be reverse of following)
Highest number at site 5 / tower because people may have come to hilltop via other paths (1)
Highest at site 5 / tower because of any valid activity e.g. came earlier and stayed there/ taking photographs / picnics / enjoy the views (1)
Path A goes from a car park (1)
Higher number at site 1 on path A because people stay close to car park (1)
Path B may be too steep to go all the way (1)
May wander off path between Sites 1/5 (1) [1 + 1] **[2]**

(d) (i) Examples
Worked in pairs / groups (1)
Put quadrat on ground / down (1)
Estimate/count number of squares which include vegetation cover/bare soil (1)
Estimate/work out percentage of quadrat with bare soil/veg **OR** multiply squares counted by 4 = 100% (1)
Record their results (1) [1 + 1 + 1] **[3]**

(ii) Completion of divided bars
1 mark for correct plot of bar at 44/56% and shading for Site 4.
1 mark for correct plot of bar at 10/90% and shading for Site 5. [1 + 1] **[2]**

(iii) Path A: Hypothesis is incorrect / not supported

With the exception of site 5 percentage of bare ground / vegetation cover is similar / varies slightly / fluctuates for all sites (1)

Path B: Hypothesis is correct / agree with hypothesis

Bare ground percentage increases / vegetation cover decreases at each site nearer to tower (1) [1 HA + 1] + [1HA + 1] **[4]**

(e) Examples
Carry out pilot study (1)
More sampling sites on each path (1)
Sample more paths up hillside (1)
Do more quadrat samples at each site (1)
Measure depth of footpath erosion at each site (1)
Do more pedestrian counts at different times of the day / more days (1)
Use data from Wednesday & Sunday / don't ignore Wednesday data (1)
Do pedestrian count at different times of year / seasons (1)
Use other students to check results (1) [1 + 1 + 1] **[3]**

(f) Examples must be physical things they could see not strategies that could be carried out

Paved path / aggregate / limestone / artificial surface man-made paths (1)
Signs to tell walkers to stay on paths / warnings re fines (1)
Information boards (1)
Fences/barriers alongside paths / conservation areas (1)
Re-seeding worn areas / fenced off (1)
Wardens / guides / security guards (1)
Litter bins (1)

Car parks (1)
Seating / picnic places (1) [1 + 1 + 1] **[3]**