UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Ordinary Level

MARK SCHEME for the October/November 2009 question paper

for the guidance of teachers

2217 GEOGRAPHY

2217/02 Paper 2 (Investigation and Skills), maximum raw mark 90

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UNIVERSITY *of* CAMBRIDGE
International Examinations

1 **(a)** **(i)** Wide tarred road [1]

      (ii) W or SW or WSW [1]

(b) From SE/S to NW/N [1]

(c) **(i)** Height difference = 38 m [1]
     Road distance = 6800 – 7000 [1]
     Gradient = 1 in 179 to 1 in 185 [1]

    (ii) Road crossing valley
     Road goes down and up [1]

(d) **(i)** Measuring from A:
     R at 3 – 7 mm
     I at 41 – 46 mm
     M at 97 – 103 mm [3]

    (ii) Cultivation
     Medium Bush
     Road
     Track/cut line/game trail
     Huts
     Building
     Orchard/Plantation [4]

(e) **(i)** <u>Transport</u>
     Railway/Roads/Tracks/Aerodrome (landing area) [1]
     <u>Leisure</u>
     Sports Field/Club/Golf Course [1]
     <u>Health</u>
     Clinic/Sewage Ponds – allow Dip Tank [1]

    (ii) Accuracy of position
     Accuracy of shape
     Direction of flow towards north [3]

[Total: max 20]

2 **(a)** **(i)** Correct rainfall
     Correct temperatures [2]

    (ii) 1°C [1]

    (iii) Temperature = 27°C
     Rainfall = 70 mm [2]

(b) Less sunshine/more cloud cover [1]

(c) Any two from:
   <u>High rainfall...</u>
   can collect drinking water
   waterborne diseases
   mud
   inadequate shelter
   <u>High temperature...</u>
   no need for heating/blankets
   promotes disease
   food spoils quicker   [2]

   [Total: max 8]

3 (a) Algeria #
   D.R. Congo ///   [2]

(b) Intensive
   NE   [2]

(c) Advantages
   higher yields
   controls pests/diseases
   allow development – increased income/less food shortages

   Disadvantages
   contact with toxins (at work)
   pollution in water supply
   toxins in own food (subsistence)
   eutrophication
   can kill useful insects
   Max 3 for each section   [4]

   [Total: max 8]

4 (a) Correct locations of B, C and P   [3]

(b) (i) Right has more vegetation on slope/left has less vegetation on slope
        Right has rounded top/left is vertical to the top/left is steeper
        Right has vegetation at base/left has no vegetation at the base   [2]

   (ii) Right has base of cliff protected from wave action/left is exposed to wave action
        Right has no cliff retreat/left has retreating cliff
        Right has rounded top due to weathering/left has cliff collapse
        Right has material not being washed away so veg. grows/left has erosion so no veg.
        Right is protected from salt water/left has salt splash which prevents veg. growth   [3]

   [Total: max 8]

5 (a) Ranked in order as follows:
Norway
Canada
Italy
New Zealand
Indonesia
Honduras
Georgia
Haiti [1]

(b) (i) 2 correct plots [2]

(ii) Indonesia 44% primary, 38% tertiary
New Zealand 12% primary, 57% tertiary
+ or – 1 on all figures
1 correct for 1 mark, all correct for 2 marks. [2]

(c) MEDCs have higher % tertiary/LEDCs have lower % tertiary
MEDCs have lower % primary/LEDCs have higher % primary
MEDCs have higher % in secondary/LEDCs lower % secondary [3]

[Total: max 8]

6 (a) Two correct divisions [2]

(b) Central America [1]

(c) Africa/Oceania/Canada [1]

(d) Land border/adjacent area – Central America
Close proximity – Caribbean
Rich nation/perceived opportunities such as jobs – South America, Asia
Lack of opportunity to emigrate – Africa
Similar opportunities – Oceania and other MEDCs
Low population – Oceania
Links through companies/family – Europe [4]

[Total: max 8]

7 (a) (i) For veg. cover and height need reference to use of equipment and/or what it does for first mark. Any 4 points below; no reserves.

<u>Examples</u>
Sample points are 1 metre apart/equidistant/systematic (1)
Vegetation cover
<u>Tape</u> used to measure width of path (1) by laying across 10 metre transect (1)
<u>Quadrat</u> used to measure area of veg/cover/bare ground (1).
Calculate percentage of veg/bare ground by counting squares (1)
Vegetation height
<u>Ruler</u> used to measure height of vegetation at each sample point (1)
Take a number of measurements and calculate average (1)
4 × 1 = (4)   [4]

(ii) Completion of kite diagram.
Tick P for each plot. Tick S for shading.
2P + 1S = (3)   [3]

(iii) Completion of bar graph. <u>Plot 4, 5, 12, 17</u>. Tick P twice.
4 correct = 2 marks, 2 or 3 correct = 1 mark   Shading/1 correct =0   [2]

(iv) Hypothesis is true – tick H (1) OR erosion **does** decreases away from centre of footpath.
<u>If write hypothesis must change wording of that given</u>. Allow a tick D mark for ref. to any pair of data in evidence.

<u>Evidence</u>: More bare ground in centre. (1)
Vegetation increases in height away from centre (1)
No veg. at site 6 in the centre but heights of 14 cm and 11 cm at sites 1 and 11 away from centre (1 + 1D)
1H + 2 = (3)   [3]

(b) (i) <u>Must refer to three different pieces of equipment from diagram and what is done with each.</u>

<u>Examples</u>
Push or hammer <u>drainpipe/tube</u> into ground (1)
Pour a set/measured amount of <u>water</u> from <u>bottle/jug</u> into pipe/tube (<u>Water 1 max</u>.)
Use <u>stopwatch/watch</u> to time how long it takes for the water to soak into ground (1)
3 × 1 = (3)   [3]

(ii) Completion of line graph. <u>Plot 48, 30, 38</u>. Tick P twice. Plots need not be squares; part of plot must be on the centre square above the relevant number.

3 correct plots + complete line = 2, 1 or 2 correct plots + complete line = 1.
3 correct plots but no complete line = 1 max.
2 × 1 = (2)   [2]

(iii) More bare ground equals **longer/slower/higher/more** infiltration time
<u>OR reverse.</u>   [1]

(iv) <u>Focus on impact of people walking</u>

Examples
More people walking/trampling (1)
Soil becomes compacted/pressed down/hard (1)
More bare ground/less vegetation in centre due to people walking (1)
3 × 1 or (1 + 1) + 1 = (3) [3]

(c) Can refer to B and C in general or separately. Reserve 1 for H and W. Marks are for <u>HOW</u> and <u>WHY</u> (Tick H and tick W; max. 2 for each). Can match H/W any way.

Examples

HOW B and/or C different	WHY results differ
Vegetation could be taller (1) More veg. cover/less bare ground (1) Woodland path may be narrower (1) Greater compaction/erosion (1) Less compaction/erosion (1)	Because less walkers (1) Because further from car park (1) Because trees restrict width for walkers (1) Because walkers concentrated (1) Too far to walk to from car park (1)

2H + 1W or 1H + 2W = (3) [3]

(d) <u>Pedestrian count</u> to find out number of walkers.
<u>Questionnaire</u> to find out why people came to the area/frequency of visiting/when they came. If "destination" must refer to place within the map area.
<u>Different times of year</u> to see if results were affected by different weather/seasons/holiday patterns
3 × 1 = (3) [3]

(e) **<u>First list OK with no qualification/elaboration</u>. Ideas such as:**
Restoration of footpath/create permanent paths (1)
Create alternative/signposted paths (1)
Improve drainage (1)
Fence off areas/restrict access (1)
Re-seed area around footpath/allow area to recover (1)
Information and education centres (1)
Build small/low bridges (1)
Create nature reserves (1)

<u>List below needs qualification/elaboration</u>. Ideas such as:
Rules <u>about how to behave</u>/charges <u>for car parking</u>/fines <u>for misdemeanours</u> (1)
Use rangers <u>to manage where visitors go/the environment</u> (1)
More bins <u>to reduce littering</u> (1)
Education <u>about the environment</u> (1)

[Total: 30]

8 (a) 1 mark for each street i.e. correct plot and direction = 1. <u>If plots not labelled 05 and R5 no marks. Tick or x.</u>

<u>Direction</u> – allow within middle 30 degrees for SW and NE.
<u>Plot</u> – R5 must be on 2 km line; allow 4.5 or 4.6 km for 05 plot.
2 × 1 = (2)   [2]

(b) (i)

Clear road with light parking
Traffic moving freely, light parking
Traffic moving freely, heavy parking
Traffic congested, not moving freely

All correct for mark. Tick or x.   [1]

(ii) Ticks and/or x.

BEST = **e.g. intermediate level of noise**
WORST = **e.g. High/loud/very noisy**

Or similar descriptions. Look for a "step-up" in noise as go down the table.
2 × 1 = (2)   [2]

(iii) Do not allow what they have already done e.g. chosen sites/area of town to survey; prepared an env. survey sheet.

<u>**Examples**</u>
Whether to survey individually or in a group/pairs (1)
How much time was available to do surveys (1)
When would be best to do the surveys (1)
Subjective nature of survey (1)
Whether to base survey on whole street or measured section (1)
Ground floor only/all floors land-use (1)
How to identifying main land use (1)
Safety refs (1 max.)
4 × 1 = (4)   [4]

(c) Question is about designing a sheet that would work NOT fill in a sheet with one street's imaginary results. If do latter allow max. 1 for Category mark below.

Tick C for land-use categories; must have min. of three from list below.
Tick S for a scoring system that relates to 0–3
Tick T for ref. to totalling the env. scores.

Environmental Quality Survey
(Name of Street ………………………………..)

Litter	3	2	1	0
Roads and pavements	3	2	1	0
Trees, shrubs, grass verges	3	2	1	0
Street furniture	3	2	1	0
Road signs	3	2	1	0
Traffic	3	2	1	0
Noise	3	2	1	0

Total environmental quality score

$3 \times 1 = (3)$ [3]

(d) (i) Plotting on dispersion graph. Plot 8 and 17 (two ticks P) plus circling Median of 15 Tick M.
$2P + 1M = (3)$ [3]

(ii) Shopping, Residential, Open space, Industrial. <u>All correct for mark</u>   [1]

(iii) **Agree with Hypothesis** Tick H **or** Main land use does affect the quality of environment. Need it stating in different words for latter.

Evidence: Different land-uses have different env. scores (1)
        Median scores are different for different land-uses (1)
        Shopping has higher env. score than industry which is lowest (1)
$2 \times 1 = (2)$ [2]

(iv) No need to compare.
<u>**Shopping areas have higher environmental score because**</u>:
Better looked after, jobs to improve environment
Need to attract customers, therefore needs to be attractive
May be newer or re-developed areas
<u>**Industrial areas have lower environmental score because:**</u>
Noise from heavy machinery/heavy lorries accessing/leaving area
Air pollution from factory
Old sites, maybe semi-derelict
$3 \times 1 = (3)$ [3]

(e) (i) Plotting on scatter graph. 1.4/8; 2/12; 4.4/17
$3 \times 1 = (3)$ [3]

(ii) No marks for accepting/rejecting H. Marks for evidence supporting either.
Credit data mark tick D if refer to two distances/env. scores.

<u>Agree with the hypothesis that it does vary because</u> there is a range of environmental scores with high scores both close and far away from the centre and lower scores between.
<u>Disagree</u>: because there is no clear overall pattern that environmental quality is affected by distance from the town centre
2 × 1 = (2)   [2]

(f) Reserve of 1 mark in each.

<u>Environmental quality reference sheet:</u>
Descriptions are vague (e.g. small amount of litter and much litter. No noise)
Not all subject categories apply to each street (e.g. Open space street may have no street furniture)
Individuals will score the same street differently because survey is subjective
New categories needed e.g. type of pollution.

<u>Four land use categories</u>:
Most streets contain a mixture of different land uses
Land use categories are wide (e.g. residential, open space)
Not enough categories/more land-uses/not varied enough
Open space may be farmland or derelict land or
Industrial may be a modern distribution site or 19th century factory
No commercial/offices
No schools/leisure centres/ other specific uses/"Others" (1 max)

3 + 1 or 2 + 2 = (4)   [4]

[Total: 30]