UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Ordinary Level

MARK SCHEME for the May/June 2010 question paper

for the guidance of teachers

2217 GEOGRAPHY

2217/21 Paper 21 (Investigation and Skills), maximum raw mark 90

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.

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Section A

1 (a) (i) 1985 or 2286 or 2287 or 2384 [1]

(ii) 216840/1 [1]

(iii) Gliding Club
Country Club
Golf Course [2]

(b) (i) 6–6.2km [1]

(ii) Embankments
Curving route to follow contours [2]

(c) (i) Mine Name
Mine Dump
Quarry or Excavation
Mining or Prospecting Trench [3]

(ii) In mining area
On/next to cultivated land
Around reservoir
Along track/cut line/game trail
Near river
Around railway
Along road
Next to orchard/plantation
Avoid highland
At 10A Long Acres [4]

(d) (i) Near river
Main area is east of river
Adjacent to roads or tracks
Within or next to cultivation [2]

(ii) Gradient almost flat
Variable width/measurement of width
Meandering
Tributaries
Weir
Dam [4]

[Total: 20]

2 **(a)** **(i)** June, July, August, September [1]

(ii) No, graph shows average figures [1]

(b) **(i)** Correct temperature plot
Correct rainfall plot [2]

(ii) La Paz has lower temperatures
La Paz has more rain
La Paz has rain in every month but Arica has rain in only 4 months [2]

(c) Temperature – effect of altitude
Rain – Arica in rain shadow of Andes [2]

[Total: 8]

3 **(a)** Hilly
Valley
Gentle slope along river/valley
Steep valley side
(river) cliff
flat floodplain [3]

(b) **(i)** Annotations of
Woodland/forest
grass
individual trees (along river)
bushes
long grass [3]

(ii) Steep slope not suitable for cultivation/building
Trees reduce soil erosion/stabilise slope [2]

[Total: 8]

4 **(a)** Central
North of the central area
Along railways
Along roads
Along river
Mining area
Tourist area [3]

(b) **(i)** 2–2.2 (%) [1]

(ii) Migrants for work
Less commitments so more mobile
(Money to support) families elsewhere [2]

(iii) Lack of females
Males have families back home
Females come to work not raise families/have children later
Contraception more easily available in urban area [2]

[Total: 8]

5 **(a)** **(i)** 1 million (per year) [1]

(ii) Western Europe
Japan
China [1]

(iii) Large populations to buy cars
Large labour force for car factories
Rich populations can afford cars
Good road networks
Tradition of the industry in Western Europe and Japan
China is an emerging industrial nation [2]

(b) Flat floodplain
River – water supply/cooling
River – transport/export
Railway
Road
Power supply
Residential area – labour [4]

[Total: 8]

6 **(a)** Correct data plot
Line joined correctly [2]

(b) Steady 2003–2004
Increase in 2005
Decrease in 2006...
... to near 2003/4 level [3]

(c) War relief
Natural disaster relief
Influx of refugees
Decrease after peak due to recovery of own supplies
Steady decrease due to improvement in agriculture
Decrease due to more urgent need elsewhere
Decrease due to shortage in source country
Variations in weather causing variations in harvest [3]

[Total: 8]

Section B

7 **(a)** Consult tide tables/work at low tide/watch out for waves and currents
Watch out for slippery rocks/uneven groyne
Avoid working near foot of crumbling cliffs/wear hard hat
Wear protective clothing/clothing that is easily visible
Wear shoes to protect against sharp objects
Use sunblock
Take a mobile in case of emergency/to call for assistance
Stay in group/pairs

NOT: work under teacher supervision/don't go into sea

2 @ 1 [2]

(b) **(i)** 1 mark for each arrow linking pebble positions, i.e.
direction of swash
direction of backwash
1 mark max. if no arrow heads [2]

(ii) Left box: Direction of prevailing wind
Right box: Direction of longshore drift
Both correct for 1 mark [1]

(iii) Wind drives waves/wave move in direction of wind
Waves come to the beach at an angle/oblique
Swash carries material up the beach
Backwash takes material back down the beach
Process is repeated with each wave

No credit for swash/backwash by themselves [3]

(c) **(i)** Make them easy to see
See how far or in what direction the pebbles had moved [1]

(ii) 1 mark for plotting and shading bar graph: 8
Ignore shading
1 mark for accurate pebble size: 4cm (4 squares) [2]

(iii) Longshore drift moves pebbles along the beach (NOT down beach)
Most pebbles/specific number of pebbles moved between 20–40 metres
Accept any two groups between 10–50 m
Smaller pebbles moved further than larger pebbles
Mode is 20–30 m [3]

(d) **(i)** 1.5 (m) [1]

(ii) 1 mark for each bar
5 m = 1.2; 10 m = 1.5
1 mark max. if lines drawn on bars [2]

(iii) Hypothesis is correct/groynes do reduce movement of material – reserve
North side of groyne has bigger build up of material
Distance from top of groyne to beach material is less on north side
Groyne has less influence towards sea/more than 25–30 m away from point X
Credit comparative data for N & S of groyne to 1 mark max. (not reserve)
e.g. average measurement from top of groyne to beach = 1.1 to north,
1.5 to south of groyne.

No credit for explanation, e.g. trapping material

1 + 2 [3]

(e) (i) Establish eye level height on each pole and mark it with a piece of visible tape/top of pole
Use tape measure to measure 10 m/distance between poles
Put the two ranging poles at 10 m intervals across beach
Hold the clinometer at arm's length and sight the visible marker
Read the angle of deviation from the horizontal/measure the angle with the clinometer
Record the angle on a recording sheet
Repeat every 10 m along/up/down/across beach
Take measurements on north and south sides of groyne [4]

(ii) Steeper profile on the north side of the groyne
More uneven profile on the north side of the groyne
North side of groyne is higher
Answer must be comparative

NOT more material on north side of groyne

2 @ 1 [2]

(iii) Hypothesis is true/groynes did/do affect the beach profile
Accept 'Yes' + hypothesis

NOT 'Yes' by itself [1]

(f) Do more profile measurements either side of the groyne/every 5 m
Do more profile measurements at different sites along beach/at other groynes on this beach/at sites where there are no groynes on this beach
NOT on other beaches
Test if the results would be the same at different times of the year/days/conditions
Check accuracy of measurements for angle of profile/distance between ranging poles/from top of groyne to beach (What)
Check accuracy of measurements by doing more often and calculating average/more people involved/same people do all measurements (How)
1 'fallback' mark for check accuracy of measuring/check if measuring done correctly – if no other detail

NOT check pebbles data [3]

[Total: 30]

8 (a) Road junction/cross-roads
Peak land value point
Historic building or site e.g. church or square
Town hall
Indoor shopping centre/mall

NOT: highest buildings/most shops/most businesses/most pedestrians/bus station/outdoor market/car park

3 @ 1 [3]

(b) (i) Total = 17 [1]

(ii) Advantage:
Can be measured accurately on a map
Systematic coverage of CBD area – points at 100, 200, 300 m
Covers all directions
Well distributed (NOT wide area)

Disadvantage:
Difficult to measure accurately on a road
Site may be inappropriate to use for survey
Distances between sites are too large so few survey sites
Gaps between four roads are not covered by survey

No credit for opposites

1 + 1 [2]

(iii) To see if there is any variation during the day
To include factors which affect specific times e.g. going to work/lunch time

NOT: wider variety of results/average results/accurate results

2 @ 1 [2]

(c) (i) Shading of area with more than 150 pedestrians – needs shading in all 4 quadrants (NOT line shading) [1]

(ii) Isoline plotted on Fig. 12
Subtract 1 mark for each error [2]

(iii) Information does support the hypothesis/numbers decrease – reserve
But the rate of decrease varies in different directions
All totals decrease away from CBD
Use of comparative figures from Fig. 8 to support conclusion [2]

(iv) High number/lot of pedestrians/numbers increase near car park
High number/lot of pedestrians/numbers increase near bus station
High number/lot of pedestrians/numbers increase near shopping centre
High number/lot of pedestrians numbers increase near town hall
No important buildings on Bluebell St so less pedestrians

Do not accept: less shops/more shops [2]

(v) Increase in number/more pedestrians generally at car park/at bus station/at shopping centre
Increase in number/more pedestrians along Albion St/near market
Increase in number/more pedestrians particularly during 08.00, 10.30 and 13.00 counts/ between 08.00 and 13.00/when market is open

NOT 'lot of people' [3]

(d) (i) 1 mark for name of sampling method
2 marks for describing method:
Stratified
Appropriate gender balance
Appropriate age balance
Systematic
Use a system of sampling
Asking every tenth person
Random
No pattern to sampling
Random number tables [3]

(ii) Attractions:
Accessible by bus/train/public transport
Car parking space
Indoor shopping
High level of security/safe
Facilities – toilets/play area/disabled provision
Pleasant environment – landscaping/displays
Pedestrianised
Everything within walking distance
Entertainment/cinema/theatre/museum/coffee shops
Place to meet friends

NOT: shops/services/cheaper prices/jobs/clean area

Concerns:
Difficulty of parking/narrow roads
Begging/harassment
Lack of facilities – toilets/rest areas
Too many down-market shops affect the image/lots of empty shops
Groups of youths/crime/violence/drugs/insecure
Dangers from traffic in busy area/congestion

Air pollution/noise/dangerous needs qualifying
No credit for opposites

2 + 2 [4]

[Total: 25]

(e) Graphs:
Need type of graph + purpose for each mark, such as:
pie chart of attractions
pie chart of concerns
divided bar graph of concerns
bar chart of age groups
pie chart of attractions for females
pie chart of attractions for males
bar chart of opinions (attractions + concerns)

Analysis:
Rank results
Pick out the top three/top one/what attracts or concerns most
Identify differences in results between genders
Identify differences in results between age groups
Look for patterns/comparisons (e.g. between male and female)
Compare results with secondary data

Recommendations:
What people like
What concerned people

Reserve 1 mark for each of the three sub-sections
No transfer of marks between headings (mark under headings) [5]

[Total: 30]