

**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.

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

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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]

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- 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]**

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- 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]**

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- 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]

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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]

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- (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]

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- 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]

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- (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]

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(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]