

CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Ordinary Level

MARK SCHEME for the May/June 2013 series

2217 GEOGRAPHY

2217/23

Paper 2 (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 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.

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Page 2	Mark Scheme	Syllabus	Paper
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Section A

- 1 (a) (i) Dam [1]
- (ii) Dip Tank [1]
- (iii) 1111 metres [1]
- (iv) Cultivation [1]
- (v) Other [1]
- (vi) Correct position of river [1]
- (vii) High / hilly / mountain
Highest contour 1360 m
Lowest contour 1040 m
Hill in SE
Ridge
Steep sided
SE slope steeper than NW / steepest in the SW
Concave slopes
Gap / col
Runs SW to NE
Valley [5]
- (b) (i) 330° [1]
- (ii) 1 [1]
- (c) 528746 [1]
- (d) (i) (S / SW) to N / NE
Higher land in the SW / lower land in the NE
V shape of contours pointing upstream
Direction of dam wall
Angle of tributaries [2]
- (ii) Variable width
Meanders
Braiding / islands
Tributaries
Rapids
Dam [4]

[Max: 20]

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- 2 (a) (i) Poland
1960
- Both for 1 mark [1]
- (b) 0% / (slightly) negative in 1970
Sharp increase initially
Steady around 1%
Dips / slightly lower in 1979
Decrease towards end of period / from 1984
Increase from 1989 to 1990 [4]
- (c) (i) 1970 / 1999 / 2000 / 2001 / 2002 / 2003 / 2004 / 2005 / 2006 / 2007 [1]
- (ii) Birth rate lower than death rate / death rate higher than birth rate
Outward migration / Emigration to Germany [2]
- [Max: 8]
- 3 (a) Swash = B
Backwash = C
Longshore drift = A
- 2/3 correct = 2 marks
1 correct = 1 mark [2]
- (b) Prevention erosion of settlement / hotels
Prevent flooding of settlement
Retain beach for tourist industry / recreation
Prevent flooding of campsite [3]
- (c) Spit
Deposition at X
Beach extending across estuary / to E / SE
River diverted to east
Vegetation growth
Salt marsh in sheltered area
Sand dunes behind beach [3]
- [Max: 8]

Page 4	Mark Scheme	Syllabus	Paper
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- 4 (a) Foreground flat / plain
Background steep slopes
Background hills / ridge [3]
- (b) (i) Grassland
Scattered trees
Scattered bushes / scrub
Bare patch [3]
- (ii) Grass is shorter / cut
Bare patch from overuse
Trees cut for goalposts
Vegetation used for huts [2]
- [Max: 8]
- 5 (a) (i) Correct temperature plot
Correct symbol for October [2]
- (ii) Highest temperature in July / middle of year
Lowest temperature in January / beginning and end of the year [1]
- (b) (i) Correct division of Fig. 5. [2]
- (ii) 9000 [1]
- (iii) Very low rainfall / in a desert
All rain evaporates due to high temperatures
Demand exceeding supply / being over used
Not renewable
Cheaper option [2]
- [Max: 8]
- 6 (a) (i) Scattergraph [1]
- (ii) Negative relationship [1]
- (iii) No – most points are below the line
No – there is no relationship [1]
- (b) Correct plot on graph [1]
- (c) (i) High(est) sunshine hours
Low(est) rainfall total
High Temperatures / not too hot
Rain only on 12 days [3]
- (ii) November [1]
- [Max: 8]

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Section B

- 7 (a) (i) Go to 2 sites on each road/opposite sides of road
 Split into groups/pairs
 Organise tasks within group
 Which points on the roads to do the survey
 Which day/when to do the survey
 What equipment they would need – stopwatch/clock/counters/clickers
 Synchronising timing/start & finish at same time
 Agree vehicle categories
 Information to include on recording sheet/put location or date
 Method – tally count/automatic counters [4]
- (ii) Being unable to count accurately at busy times/lots of traffic/traffic going too fast/too many lanes to count.
 Students losing concentration/bored/no break
 Breathing difficulties/breathing exhaust fumes
 Timings is hard to synchronise
 Specific weather difficulty – e.g. rain ruins paper/sunstroke
 Keep returning to do count/meet at different times (3 @ 1) [3]
- (b) (i) 158 [1]
- (ii) Completion of divided bar graph – van/minibus to 140 & lorry/bus to 158 for 1 mark each.
 Don't need V & L [2]
- (iii) Pie Chart [1]
- (iv) Hypothesis is true – 1 mark reserve
 Total number of vehicles decreases during day
 Bikes also decreases during day
 Cars/vans/lorries slightly increase then decrease/decrease overall
 Paired data to show changes to 2 mark max – need 2 times of day & figures
 e.g. at 08.00 total was 160 & at 14.00 total was 126
 e.g. at 08.00 there were 8 bikes and 2 bikes at 17.00 [4]
- (v) Number: less vehicles at site 7/more at site 3
 Type: more lorries/vans/less cars at site 7
 Need comparison (2 @ 1) [2]

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- (c) (i) Bike = 3, Lorry = 54 (2 @ 1) [2]
- (ii) Completion of line graph: 14.00–15.00 = 1120, 17.00–18.00 = 1400
 Both points plotted accurately + line = 2 marks
 Both points plotted accurately but no line = 1 mark **OR**
 1 point plotted accurately + line = 1 mark [2]
- (iii) Hypothesis 2 is incorrect – 1 mark reserve
 Congestion only occurs at sites 1, 4, 5, & 6 (accept any 3)
 No congestion occurs at sites 2, 3, 7 & 8 (accept any 1)
 Credit data to 2 marks max – need time and site and reference to congestion level
 e.g. at 08.00 at site 2 traffic = 1300 which is below congestion level
 e.g. at 08.00 at site 6 traffic = 590 which is above congestion level [4]
- (d) Increase in traffic/cars/vans/lorries
 Increase/cause congestion (2 @ 1) [2]
- (e) Widen roads/more lanes/more roads/better roads
 By-pass/ring road/underpass/flyover/bridge/tunnel/elevated road
 Park and ride
 Bus lanes/bike lanes
 Car sharing
 More public transport or example
 Parking restrictions/more parking spaces
 One way streets
 Restrict traffic to certain days/license plate policy
 Congestion charge (3@1) [3]

[Total: 30]

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- 8 (a) Don't do fieldwork if river is in flood/strong current
 Check depth/don't go in deep water
 Wear shoes/wellingtons
 Don't do fieldwork alone – at least two preferably three people per group
 Wear waterproofs/warm clothing/appropriate clothing/gloves/hats
 Keep a look out for dangerous animals/mosquito spray
 Don't do fieldwork if river is badly polluted
 Tell someone where you are going/take a mobile phone
 Beware of slippery rocks
 Wear sunblock (2 @ 1) [2]
- (b) (i) Ranging poles/poles
 Tape measure/metre rule
 Float/orange/dog biscuit/a floating object
 Stopwatch/watch/clock (3 @ 1) [3]
- (ii) Average length of time = 56.4 (secs)
 Distance / Time = 10 (m) / 56.4 (secs) or calculated figure
 = 0.18 m / sec / 0.177 [3]
- (iii) Measurements taken at different times/different flow conditions
 Floats got stuck/obstacles blocking floats
 Student error/timing error/measuring error
 Measurements taken at different points across river/inside or outside
 Use of different types of float (2 @ 1) [2]
- (iv) Two vertical surveying poles
Distance apart/at least 5 m apart
 Line up clinometer between same points on the poles
 Measuring angle [3]
- (v) Hypothesis is incorrect – 1 mark reserve
 Steeper gradient = lower velocity/gentler gradient = higher velocity
 Use of paired data from 2 sites – to 1 mark max
 e.g. at site 1 gradient = 8 degrees & velocity = 0.29, at site 2 gradient = 6 degrees
 & velocity = 0.43 [3]

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- (c) (i) Tape/rope & tape Pole (2 @ 1) [2]
- (ii) Completion of cross-section 2.5 m = 0.30 m = 1 mark
Completion of line = 1 mark [2]
- (iii) Completion of scatter graph 3.5 m – 0.29 m/s
Don't need point 1 [1]
- (iv) Hypothesis 2 is correct/partially correct – 1 mark reserve
Anomaly at site 2 or 3
Use of paired data from 2 sites – to 1 mark max
e.g. site 1 w.p. = 3.5 & velocity = 0.29 & at site 5 w.p. = 12.1 and velocity = 0.47
Credit data to show anomaly [3]
- (v) Too deep to reach the bed/cannot reach river bed
Tape may not be long enough
Current may move tape/pull tape downstream/lift it from bed
Dangerous because too deep/fast flowing (2 @ 1) [2]

- (d) Impact
e.g. People pollute the river with waste water from a factory
People throw household rubbish into the river – 1 mark reserve

Investigation

Decide how many sites to investigate and where
Devise a data collection sheet to record results of visual survey
Test acidity of water/use pH paper
Test clarity/colour of water see if can see through water
Survey water life, using a species indicator (Biotic Index)
Measure water temperature
Sampling technique
Sites before & after pollutant
Compare results at different sites
Survey types of litter
Survey people about change

Other possible investigations into human impact on flow:

Bank strengthening reduces bank erosion
Weir or dam construction decreases flow
Channel straightening or dredging increases velocity [4]

[Total: 30]