UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Ordinary Level

MARK SCHEME for the October/November 2011 question paper for the guidance of teachers

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

- Cambridge will not enter into discussions or correspondence in connection with these mark schemes.

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1 (a) (i) Surfaced

(ii) Minor trigonometrical station

(iii) Terminal building [1]

(iv) Ruin [1]

(v) Cliffs
Rocks
Headland / peninsula (not Point) [2]

(vi) Swamp [1]

(vii) Runway
Docks [2]

(b) (i) 073492 [1]

(ii) SW [1]

(c) Beach / sand
Pool
Hotel
Jetty
Tennis Courts
Golf Course [4]

(d) 1950–2050 [1]

(e) River with two tributaries
River source
Flows NE
Valley
Convex slopes
Rises to 550+
Valley drops to 75
Two peaks
Reserve 1 for drainage [4]

[Total: 20]

2 **(a)** Flat
Bare ground
Beside road
Next to garbage area [

(b) Wide
Flat
Straight
Dirt / unpaved
Pylon in road [3]

(c) Limited shelter from rain / sun
Dust from road
Noise from traffic
Lack of privacy
Lack of security
Rubbish is source of disease [3]

[Total: 8]

3 **(a)** Plot on 40% line for primary
Secondary and tertiary also accurate [2]

(b) Sri Lanka more primary / South Korea less primary
Sri Lanka less secondary / South Korea more secondary
Sri Lanka less tertiary / South Korea more tertiary [3]

(c) Decrease in primary industry
Increase in secondary industry
Increase in tertiary industry
Increase in quaternary industry [3]

[Total: 8]

4 **(a)** **(i)** 620 [1]

(ii) 7 [1]

(iii) 0–10 and 60–350
4.0–4.6 and 5.6–6.0 [2]

(iv) No relationship [1]

(b) Converging plates
Lock together
Release causes seismic waves
Shallow focus earthquakes at subduction zone
Deep focus earthquakes further along plate boundary / under other plate [3]

[Total: 8]

5 **(a)** **(i)** Correct rainfall plot
Correct temperature plot [2]

(ii) 4 ºC [1]

(iii) 1880 mm [1]

(iv) Peak temperature is May to September [1]

(b) Drip tip leaves
Thin smooth bark
Shallow buttress roots [3]

[Total: 8]

6 **(a)** **(i)** Correct division
Correct shading [2]

(ii) % residents of Iceland has decreased / % international tourists has increased [1]

(b) **(i)** Correct completion of graph [1]

(ii) Italy and Spain [1]

(c) Geysers
Glaciers
Lava fields
Waterfall
Hot springs
National Park
Shorelines
(Blue) Lagoon
2 attractions = 1 mark [3]

[Total: 8]

Section B

1 (a) (i) Check the depth of water / do not work if river is in flood / storm
Check current / velocity of river / do not work if river is fast-flowing
Work in pairs / groups of three / do not work alone
Let people know where you are going / take mobile phone
Wear waterproof clothing / wellingtons / protective clothing / shoes / sunblock
Look out for dangerous animals
Do not do fieldwork if river is polluted / Weil's disease / water bottle
Work in daylight / not in dark
Beware of slippery rocks / sharp stones 3 @ 1 [3]

(ii) Agree methodology on what measurements to take
Practise fieldwork techniques
Test equipment
Make sure it's worth doing investigation / get to know the river / dangers
2 @ 1 [2]

(b) Width of channel:
Equipment: ranging poles / tape measure
Stretch tape measure across river / lay pole across river (1+1)

Depth of river:
Equipment: ruler / measuring stick / pebble & string
Rest ruler on river bed / take reading at surface / wetted length of string or pole (1+1)
1 mark for equipment & 1 marks for method for both measurements [4]

(c) (i) Completion of cross-section
Plot 0.33 deep at 1.5; 0.2 deep at 2.0
1 mark for both plots, 1 mark for cross-section line
Shade in river channel = 1 mark [3]

(ii) 6.7–6.9 metres = 2 marks
6.6–6.69, 6.91–7.0 metres = 1 mark [2]

(iii) How: slows down flow / speed of river
Why: bed & banks create friction with moving water / rock obstacles in water (1+1) [2]

(iv) All measurements increase downstream from A to B to C
1 mark for use of comparable data (need unit) [2]

	A	B	C
Width (m)	1.3	2.3	6.5
Depth (m)	0.15	0.33	0.51
Wetted perimeter (m)	1.4	2.5	6.8 or measurement from (**ii)**

(d) (i) Pebble size: measure long axis / length of pebble
Roundness: estimates roundness of pebble by comparing with chart (

(ii) Plots on Fig. 4 (Size: 9; Roundness: 3.5) 2 @ 1 [

(iii) Hypothesis 2 is correct – there is a relationship between size & roundness of pebbles – reserve
As pebble size decreases roundness score increases or vice versa /
it is a negative correlation (relationship) [2]

(iv) Water becomes more powerful
More attrition / erosion / pebbles crash into each other
Pebbles crash into bed and banks / abrasion
Smaller / rounder pebbles are moved further downstream because they are easier to transport
Longer duration of transport so more attrition / erosion takes place [2]

(e) Repeat measurements to check accuracy
Repeat during different day / month / season to compare results
Sample more pebbles at each site
Different sampling techniques rather than random
More students use Roundness Scoring chart and compare results
More sites along river
More depth points across river
Investigation on another river
Investigate volume or weight 4 @ 1 [4]

[Total: 30]

2 (a) (i) Where / which roads to do the survey
Location of survey points / safe place / away from traffic lights
Measure distance from town centre
Which day / when to do the survey
What time(s) to do the survey
How long to record / count
How many surveys to do in one day
How to organise themselves – e.g. one student on each side of the road / number of students in each group / assigning students to sites
What equipment they would need – stopwatch, counters, clipboard, paper for recording
Synchronise timing
Classification of traffic / what is traffic
How to count and record / tally method
Prepare tally chart 4 @ 1 [4]

(ii) Easy / quick method to do
Allows accurate totalling after 2 @ 1 [2]

(b) (i) Cambridge (Road)

(ii) Two bars drawn on Fig. 5, shading not required
Site 6: 100 vehicles (1 cm)
Site 8: 320 vehicles (3.2 cm) 2 @ 1 [2]

(iii) Hypothesis 1 is incorrect / false / partially true – reserve
No clear pattern on the four roads
Two roads show less traffic further away from centre / Queens Rd. / Robertson Dr.
Two roads show more traffic further away from centre / Wellington Dr. / Cambridge Rd.
But difference in amount of traffic variation is small on all roads
Amount of traffic varies between roads not distance from centre
Credit paired data for same road to 1 mark max – reserve [4]

(c) (i) Less data to work with so easier to use
Both sites along each road have similar results
Take too long to do all 8 sites [1]

(ii) Flow lines drawn on map – mark width of arrow base
Towards town centre: 90 vehicles (0.9 cm)
Away from town centre: 45 vehicles (0.45 cm) 2 @ 1 mark [2]

(iii) Queens Road
Robertson Drive
Wellington Drive
Must have road / drive [1]

(iv) Hypothesis 2 is correct / the amount of traffic going towards and going away from the town centre will change – reserve
More traffic / wider arrows going towards centre at 08.00 / morning
More traffic / wider arrows going away from centre at 17.00 / evening
Each road has the same pattern of movement
Credit paired data for am & pm for any 1 road to 1 mark max – reserve [4]

(d) Surveys done more frequently during the day
More survey points to give greater coverage / survey more roads
Surveys done on different days
Comparison with survey done on a non-work day such as weekend
More students / groups doing survey to minimise tallying errors / to check results
Use counters / stopwatch
Classification of types of traffic 3 @ 1 [3]

(e) There will be more traffic / many cars / lots of cars / many people
Why: in summer / one part of the year / weekend / evening / morning / holiday time / hotter / sunny
Activity on beach
Accept reverse reasoning if answer is 'less traffic / less people' [2]

(f) (i) Hypothesis such as:
Traffic-free zone has improved the town centre
Traffic-free zone causes problems for shop owners
Traffic-free zone attracts more shoppers to the town centre
There is less congestion in the town centre now there is traffic – free zone
The town centre is less polluted
It's safer to shop in the town centre [1]

(ii) Questions such as:
How often do you shop in the town centre?
Do you think a traffic-free zone is a good idea?
What is one advantage of the traffic-free zone for you?
What is one disadvantage of the traffic-free zone for you?
Questions must be relevant to hypothesis in **f ((i)**
If no hypothesis / inappropriate hypothesis in **f ((i)** credit to 2 marks max for questions which are broadly relevant to an investigation on a traffic-free zone 3 @ 1 [3]

[Total: 30]