UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Ordinary Level

MARK SCHEME for the May/June 2011 question paper

for the guidance of teachers

2217 GEOGRAPHY

2217/21 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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Section A

1 **(a)** **(i)** Railway

   (ii) Wide Tarred [1]

   (iii) 1568 (metres) [1]

   (iv) Dip tank [1]

   (v) Bridge [1]

   (vi) 2 [1]

(b) 780878/9 [1]

(c) **(i)** 1800 – 2100 [1]

   (ii) 11.28 [1]

   (iii) 159 – 187 [1]

(d) **(i)** Completion of cross-section with line going down [1]

   (ii) Road at 27 – 31mm from left axis
   River at 45 – 48mm from left axis [2]

(e) Near water supply / rivers
On flatter land
On lower land
Near buildings / African village / kraal / huts 2

(f) **(i)** Flows west to east
Tributaries
Meanders
Rapids
Gentle gradient [3]

   (ii) Section across bridge
Completion of either route to edge of the area [2]

[Total: 20]

2 **(a)** **(i)** Correct completion of pyramid

  (ii) 4

  (iii) Kenya [1]

 (b) Kenya has more young dependents
 Kenya has more young workers under 24
 USA has more of working age
 USA has more 25+
 USA has more old dependents [2]

 (c) Germany – Stage 5 - Very low birth rate / very low young pop. / decreasing pop.
 Kenya – Stage 2 or 3 – High(er) birth rate / high young pop. / rapidly increasing pop.
 USA – Stage 4 – Low birth rate / similar size pop. in each group / low pop. increase [3]

 [Total: 8]

3 **(a)** Tent / shelter
 Lines of stones
 Paths / tracks / compacted ground
 Noticeboard
 No undergrowth [2]

 (b) **(i)** Dry season [1]

  (ii) Few leaves / bare trees
  Brown leaves
  Dry ground / soil
  No undergrowth [2]

 (c) **(i)** Correct plot on graph [1]

  (ii) July
  September [2]

 [Total: 8]

4 **(a)** Coastal / near / in sea
 Mainland Italy, towards west, in central area
 One on Sicily
 Between Sicily and Italy
 Between Sicily and Tunisia
 One off coast at / near Naples
 Three near Naples
 Two north of Rome [4]

(b) **(i)** Vulcini

(ii) Volcano and Pantelleria

(c) **(i)** For Vesuvius / Etna – on land / near city [1]

(ii) For Stromboli – in sea [1]

[Total: 8]

5 **(a)** **(i)** Correct completion of pie chart [2]

(ii) 71% [1]

(b) Vietnam has more residential use
Australia has more industrial use
Australia has more transport use [3]

(c) Vietnam has high rainfall (to fill reservoirs) / Australia has lack of rain
Vietnam has valleys to contain reservoirs / } Australia has flat landscape
Vietnam has hills to give head of water / } Australia has flat landscape [2]

[Total: 8]

6 **(a)** **(i)** <u>Physical factors</u>
Flat land by river
River for transport
River valley routeway
Access to sea
Harbour / estuary for port
<u>Human / Economic factors</u>
Labour from housing areas
Market in housing areas
Office facility in CBD
Dock for export / import
Motorway / main road for transport
(Reserve 1 for each section) [4]

(ii) HEP
Oil [1]

(b) Fishing
Forestry [1]

(c) **(i)** Completion of pictograph with 4 whole cars [1]

(ii) 150 000 cars [1]

[Total: 8]

Section B

7 (a) (i) Dangers such as:
Skin irritation
Swallowing polluted / poisonous water
Water gets in eyes
Rats in the water
Infection in open wound
Fumes
Chemicals in water
Disease / bacteria / filth in water
Broken glass / physical objects
Algae
Precautions such as:
Gloves / waterproof clothing / protective clothing
Masks
Goggles
Wellingtons / waders / boots
Don't drink water
Wash hands when completed work

Must be dangers of pollution not just river   [2 + 2]   [4]

(ii) Smell
Foam / debris / material in river
Discolouration / colour
Dead fish / animals
Sample water / test pH
Contact government body / local authority responsible for river   [2 @ 1]   [2]

(b) (i) Most visible pollutants in the river nearest to the factory / visible pollutant decreases downstream – accept distances or sites
Ammonia level high after / near factory / ammonia level decreases further downstream – accept distances or sites
Oxygen level drops / low after / near factory / oxygen level rises further downstream – accept distances or sites   [2]

(ii) Ammonia / pollution is high as waste water from factory goes into river
Ammonia / pollution decreases downstream as it mixes with water /dissolves
River current helps to disperse / spread pollution
More water / tributaries dilute pollution   [2]

(c) (i) To move the animals into water / disturb animals / to find / to catch / collect animals   [1]

(ii) Net should be downstream (if upstream allow correct explanation)
So that animals float into net/ flow with water / water flows towards net   [2]

(iii) To get a Biotic Index score for each animal / to see how polluted water is / tell them about quality of water   [1]

(iv) To find the part of the bed where most animals live
To get an average Biotic score for the site
To make the test results more reliable / fair / accurate average / more results to compare   [1]

(d) (i) 36/6 for 1 mark
Answer = 6 for second mark

(ii) Plot points on Fig. 3
Site 4 plot must use the answer from part **(i)**   [2 @ 1]   [2]

(iii) Highest average Biotic Index (B.I.) score is at site 1 / before factory
Lowest average / decreases B.I. score is at site 2 / at waste pipe
From site 2 to site 5 B.I. score increases
By site 5 B.I. is still lower than site 1
2 pieces of data from graph = 1 max   [3]

(iv) In unpolluted water: stonefly / mayfly / caddis fly are found (any 1)
In most polluted water: leech / rat-tailed maggot / bloodworm are found (any 1)
High biotic score where water not polluted / low biotic score where polluted [2 @ 1]   [2]

(e) Rubbish / litter
Washing clothes
People washing themselves
Disposal of dead bodies
Nitrates / fertilisers / pesticides
Farm animals drinking water
Sewage / human waste
Cooling water from power stations / hot water from power stations
Oil from boats / refineries
Acid rain   [2 @ 1]   [2]

(f) Hypothesis (1 reserve) such as:
Velocity / discharge varies downstream / across a meander
Cross-section varies downstream
Bedload varies downstream
Investigation involving floats, timing, measured distance, flowmeter
Measuring poles, clinometer, quadrat, roundness index
Credit recording data in field
Credit analysis to test hypothesis – e.g. best-fit line, correlation analysis
1 mark for hypothesis, 3 marks for fieldwork techniques   [4]

[Total: 30]

8 (a) (i) Students only want to ask tourists / questionnaire is for tourists
             Most people they approach will not be tourists
             Not waste people's time
             If include non-tourists results will be unreliable / wrong info

        (ii) Explain difference between physical and human attractions
              More specific information than just asking people to name attractions
              Easier to classify results
              To see which type of attraction is more popular
              Both types of attraction / wider choice of attractions to attract tourists   [2]

       (iii) Most / highest number tourists come from Asia
              Least / lowest number of tourists from Africa
              More from Asia than S America (or other 2 areas)
              Tourism is international / tourists come from around the world
              1 mark for data if interpreted e.g. 1/3 from Asia   [2]

       (iv) Completion of bar graphs   [2 @ 1]   [2]

        (v) Divided bar graph / pie graph / pictograph
             1 mark for appropriate graph
             1 mark for drawing, 1 mark for labelling   [3]

       (vi) Disagree with students
             Hypothesis was true / agree with hypothesis / physical attractions brought more
             visitors
             Overall 38 say physical compared with 32 say human
             Results are close / similar
             170 visits to physical attractions & 140 visits to human attractions
             Popular physical attractions – mountains, waterfall, elephant camp
             Credit anomaly such as night bazaar was very popular human attraction
             Credit use of paired figures for individual attractions   [4]

    (b) (i) One idea for selecting interviewees, e.g. every tenth person walking past / regular
              intervals / one person per minute   [1]

        (ii) Yes: data is more manageable
              Prioritising their ideas
              Stops them listing everything
              To see if more than one positive / negative
              Hard to choose just one idea / wider choice
              More data
              No: May have views about more than two impacts
              Too much data
              Information not required in hypothesis   [2]

(c) (i) 1st choice: 16 x 2 =32
2nd choice: 10 x 1 = 10
Total score = 42

(ii) Plot result of calculation in part **(i)** on Fig. 7B [1]

(iii) True / hypothesis is correct / tourism has positive effect
53 thought tourism was a positive influence & 8 thought it was negative / 53/61 thought it was positive
Over 80% (87) thought it was positive / less than 20% (13) thought it was negative / 7 times as many thought it was positive than negative
Main positive impact of tourism is jobs and income
27 out of 61 gave it as first choice [4]

(iv) Local people can see more taxis / tuk-tuks
Most affected by these / affected daily
Traffic congestion slows them down travelling / stops them getting to work on time
Air pollution makes it difficult to breath
Air pollution from planes / trains bringing tourists [2]

(d) Do a traffic survey on main streets at different times of day and night
E.g. tally, 10 min period of time, 3 times per day, both sides of road in pairs
Compile a questionnaire / interview to ask drivers/pedestrians/local officials
Ask questions such as: Where is traffic congestion worst?
Is your journey to work/school delayed? [3]

[Total: 30]