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

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UNIVERSITY *of* CAMBRIDGE
International Examinations

Section A

1 **(a)** **(i)** Railway [1]

(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]

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2 **(a)** **(i)** Correct completion of pyramid [1]

     (ii) 4 [1]

     (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 [1]

   (ii) Volcano and Pantelleria [1]

(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]

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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 [2]

(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 [2]

(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 [2]

(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]