UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Ordinary Level

MARK SCHEME for the May/June 2010 question paper

for the guidance of teachers

2217 GEOGRAPHY

2217/23 Paper 23 (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.

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Section A

1 **(a)** 997866

(b) NE/ENE
3000–3200   [2]

(c) Size of Block – F = small(er), C = large(r)
Density of Building – F = low(er), C = high(er)
Availability of services – F = None/No, C= Many/Yes   [3]

(d) Sugar plantations
Water tanks
Lake/River
Road Access
Labour supply
Flatter land
Market in/via town   [3]

(e) Rivers
Flow to north
Tributary
Lake/Pond
Gently sloping valley
Conical hill...
...with steep slopes
...depression in centre
Lower in east/slopes down to SE
Heights 550–700 m
Max 3 if only 1 of relief/drainage   [4]

(f) **(i)** Sugar plantation
Scattered trees/scrub
Riverine trees
Poultry Farm   [3]

(ii) Road
Bridge
Buildings/mosque/settlement
<u>Cane</u> Tracks
Dam
Water tank   [3]

(g) NW/NNW   [1]

[Total: 20]

2 (a) Decreases to March
        Rapid increase March to end of May/start of June
        Rapid decrease in June and July
        Levels out in August and September
        Decreases to end of year   [3]

   (b) Low precipitation
        Frozen precipitation   [2]

   (c) (i) February   [1]

        (ii) Winter heating
              Winter lighting   [1]

       (iii) Water level falls   [1]

                                                                [Total: 8]

3 (a) 10+ storey building
        City Park
        On-street parking   [3]

   (b) Parkland with grass and trees
        Grass and trees down middle of road
        Trees interspersed with buildings   [2]

   (c) Large buildings
        Tall buildings
        National Museum
        Lots of pedestrians
        Lots of traffic
        High order services/offices and shops (high order)
        Government buildings   [3]

                                                                [Total: 8]

4 (a) (i) Correct plot on graph

    (ii) Kenya

    (iii) Argentina
         Low   [2]

(b) (i) Correct plot for Japan   [1]

    (ii) Sri Lanka primary higher
           Sri Lanka secondary lower
           Sri Lanka tertiary lower   [2]

(c) All live in urban areas   [1]

                                            [Total: 8]

5 (a) (i) Cocoa Beans   [1]

    (ii) Indonesia   [1]

    (iii) Central and South America   [1]

    (iv) 61–62%   [1]

    (v) Harvest may fail
        Harvest/supply may be disrupted by war/natural hazard
        Country may increase the price
        Country may sell crop elsewhere   [2]

(b) (i) Good harvest, large supply   [1]

    (ii) Prices will increase   [1]

                                            [Total: 8]

6 **(a)** **(i)** Apples, Rice, Tea, Tobacco, Wheat

(ii) Rice

(iii) Two of copper, gold, manganese, zinc   [1]

(iv) Forestry   [1]

(b) 600 km   [1]

(c) Towards the south
Mostly on the main island
Along the coast
Very small area in north
Around Tokyo   [3]

[Total: 8]

Section B

7 (a) (i) Introduction gives no context to questionnaire
Q1 is too vague – need town/city/country or is too personal
Qs 2 & 3 are irrelevant to hypotheses
Q4 repeats idea of Q1/answers wont be accurate
Q5 is a closed question and gives no extra information
Q6 is negative
Q7 is personal
Final comment is abrupt/no thanks/informal/impolite/unfriendly
No multiple choice alternatives/tick boxes
Will have to write down full answers/no space to write answers
Difficult to analyse/collate results
No question about activities which people did/key question for hypothesis 1
Illogical order of questions/age question is last
Answers don't need to refer to specific questions in questionnaire

NOT question is unacceptable – must say why
NOT questionnaire is too short   [3 @ 1 = 3]

(ii) Introduction explains who is doing questionnaire & why/friendly
Positive introduction – won't take up much time
Qs 1, 2 & 3 ask for precise/quick responses/choices for people to tick
Qs 4 & 5 are open/positive/ask for opinions
Thanks at the end
Gender information is recorded without questioning
Questions are relevant to hypotheses
Answers are easy to collate/graph
Can credit opposites to **(i)**
Answers don't need to refer to specific questions in questionnaire

NOT clear/easy to understand – must say why   [2 @ 1 =2]

(iii) Simple to organise/clear rationale
Reduces bias in sample/fair test
Respondents cannot influence each other/discuss answers   [2 @ 1 = 2]

(iv) Lots of people to ask/many people park there
In middle of national park so more likely to be used by tourists
Accept negative comment about other locations   [1]

(v) Why: People would be better equipped to answer questions about time spent in park/ activities/what they liked
Waited until people had enjoyed the day's activities

Disadvantage: People are tired at end of a busy day/cannot be bothered to answer questions
People in a rush to set off for home
May not get enough answers and too late to do anything about it
Will only question people in cars/miss out people who don't come by car   [1 + 1 = 2]

(b) (i) Bar graph completion – need dividing line & labels (Yes/No)
Allow tolerance from 72–75 or 22–28

(ii) Pie graph – completion 1 mark (4 or 5 days, longer than 5 days)
Shading/labels in key 1 mark
Allow 1% tolerance

(iii) Insert figures for sightseeing:
5 in 51–65 age group column
11 in total column
Both correct for 1 mark   [1]

(iv) Hypothesis is partially/generally true/Yes/age does influence activities – reserve mark
Physical/lively/active activities are more popular with younger people
Such as cycling/mountain biking/horse riding/running/jogging
Less physical/leisurely/relaxed activities are more popular with older people
Such as sightseeing/driving/visiting historic buildings/shopping/bird watching
Walking is popular with all age groups, doesn't support hypothesis/exception
Some activities are popular only with specific age groups – climbing: 21–50/walking (over 5 km) not with over 65
Credit exception such as 2 people under 20 visit historic buildings

No data mark
NOT 'high risk' activities   [4]

(c) (i) 1   Easy to get to
      2   Scenery
      3   Opportunity to do my favourite activity/Peace & quiet   [3 @ 1 = 3]

(ii) Improvements:
New walking routes signposted: visitors will not get lost/easier to explore
More car parks: not waste time looking for a parking space/not have to walk as far/not need to use public transport/safe and secure
NOT more visitors
Better toilet facilities: improved visitor comfort/more hygienic/less distance to facilities
More cafes and refreshment facilities: improved visitor comfort/will not go hungry/rest & drink/relax/don't have to bring own food/don't have to leave park to eat
More cycling horse riding routes: planned route to follow/away from traffic
More information boards: visitors can learn about the area

NOT stop people getting lost
Improved footpath surfaces: easier/safer to walk on/less muddy/cleaner   [2 @ 1 = 2]

(iii) Yes true/most visitors do have a positive opinion – reserve mark
Because; visitors gave examples of activities (Table 3)/opportunity to do favourite activities
Visitors said what they liked (Table 4) – e.g. peace & quiet
Visitors gave positive ideas for improvements (Table 5) / no serious problem/complaint
Most visitors had visited more than once and returned (Table 1)
Many visitors were staying more than one day (Table 2)
1 mark maximum on each Table
Responses only based on one day in one national park/visitors not asked direct question: Do you like/have a positive view of national parks?   [3]

(d) **(i)** Where do you live?/nationality
Where do you come from?
How far have you travelled to get to the national park?
How long have you spent travelling to the park?

(ii) Grouping data/categorise/results table tally chart
Map / type of graph – bar/pie/divided rectangle/pictogram
Type of map – choropleth/dot distribution/flow lines/desire lines
1 mark for each of above ideas if appropriate to question in **(i)**
Accept presentation ideas, even if question in **(i)** is wrong

NOT questionnaire/tick boxes [3]

[Total: 30]

8 **(a)** Don't do fieldwork/check conditions if river is in flood/deep/fast-flowing
Wear strong shoes/wellingtons to protect feet
Don't do fieldwork alone – at least two preferably three people/group
Wear waterproofs to keep warm/protective clothing/light clothes which will dry
Keep a look out for dangerous animals
Don't do fieldwork if river is badly polluted/don't drink water/Veil's disease
Tell someone where you are going/take a mobile phone for emergency
Complete in daylight/before it gets dark
May be slippery rocks/bank

NOT don't run around/push each other in/swim in river [3 @ 1 = 3]

(b) **(i)** Measure section along river
Time floats over measured section
Repeat timing exercise at points 1, 2 and 3 across river
Calculate surface velocity: $\dfrac{\text{distance}}{\text{time}}$ [3]

(ii) Rest rule/ruler on river bed - NOT 'in river'
Ensure rule is upright/vertical
Take reading of water surface on rule/measure part of stick which is wet

May suggest string & weigh & tape measure
Lower string to river bed
Mark / observe water level on string
Measure wet section

NOT repetition of measuring across river
No credit for equipment – must describe its use [3]

(iii) Velocity is greater near the outer bank of the meander/sample point 3
Velocity decreases towards the inner bank/sample point 1
Alternative to above ideas: velocity varies at different points/there are variations in velocity across river/velocity increases from sample
point 1 to point 3 – NOT wording of hypothesis
Velocity is greater where river is deeper/least where river is shallow
Credit 1 mark (not reserve) for two comparative figures from 18, 41, 72 or difference between them
No hypothesis mark [2]

(c) Only measuring surface velocity
Measurements could be affected by external influences such as
– floats get stuck on vegetation
– strong wind may interfere with movement of float
Route taken by floats is unpredictable
Floats all move into main current of river, so not really testing velocity across a meander
Too few sampling points
Only taking one measurement at each sampling point/need to do more
Random positioning of sample points/not equal distances apart

NOT human error weaknesses such as inaccurate timing/distance measurement [3 @ 1 = 3]

(d) **(i)** Put flow meter on the bed of river/into river
Must be held vertically
Stand downstream or to the side of the flowmeter
Propeller must be facing upstream
Propeller spins/moves
Record digital reading/display shows velocity
Take several readings and calculate average

NOT take measurements at different points in river   [3]

(ii) Completion of 20cm per second isoline
Minus 1 mark for each error   [2]

(iii) Shading on diagram the area where velocity is greater than 40cm per second   [1]

(iv) Agree/partly agree with hypothesis – reserve mark
Supporting data – two current measurements: e.g. 40-37-19 cm per second
But where current is strongest there is exception/hypothesis doesn't apply everywhere across meander
Here the greatest velocity is at about 1/3 of depth/just under water surface
Supporting data – two current measurements: e.g. 60-68-70 cm per second
Then velocity does decrease below 1/3 of depth
Allow two marks for comparative figures (not reserve)   [4]

(v) Surface velocity is affected by friction with atmosphere
Velocity near bed/banks of channel reduced by friction with channel
Greatest velocity is where current is strongest/river is deeper/has most energy

NOT 'velocity is greater on outside'   [2]

(e) Similarities:
Greater velocity slightly beneath surface/at surface
Greater velocity where river is deeper
Velocity reduces near bed/banks

Differences:
Velocity faster in middle of channel on a straight section
Velocity decreases more evenly towards bed/banks on straight section

1 mark reserve for similarity/difference   [4]

[Total: 30]