UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the May/June 2011 question paper for the guidance of teachers

0460 GEOGRAPHY

0460/41

Paper 4 (Alternative to Coursework), maximum raw mark 60

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.

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|----------|------|---|---|--------------------|--------------|-----|
| <u> </u> | | | | 0460 | | |
| 1 (a) | (i) | Skin Swa Wate Rats Infect Fum Cher Dise Brok Alga Prect Glov Masi Gogg Well Don' | micals in water ease / bacteria / filth in water sen glass / physical objects se cautions such as: ees / waterproof clothing / protective clothing ks | | | |
| | | Must | t be dangers of pollution not just river | | [2 + 2] | [4] |
| (| (ii) | Disc Dead Sam | ell m / debris / material in river olouration / colour d fish / animals iple water / test pH tact government body / local authority responsible fo | or river | [2 @ 1] | [2] |
| (b) | (i) | decr Amn down Oxyg | t visible pollutants in the river nearest to the eases downstream – accept distances or sites nonia level high after / near factory / ammoninstream – accept distances or sites gen level drops / low after / near factory / onstream – accept distances or sites | a level decreas | es further | [2] |
| (| (ii) | Amn Rive | nonia / pollution is high as waste water from factory nonia / pollution decreases downstream as it mixes or current helps to disperse / spread pollution to water / tributaries dilute pollution | _ | olves | [2] |
| (c) | (i) | To r anim | move the animals into water / disturb animals / nals | to find / to catcl | n / collect | [1] |
| (| (ii) | | should be downstream (if upstream allow correct ex hat animals float into net/ flow with water / water flow | . , | | [2] |
| (| iii) | | get a Biotic Index score for each animal / to see in about quality of water | how polluted wat | er is / tell | [1] |
| (| iv) | To g | nd the part of the bed where most animals live let an average Biotic score for the site make the test results more reliable / fair / accurate pare | e average / more | results to | [1] |

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|---------------------------------|---|---|----------|---------|-----|--|--|
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| (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 pie | eces of data from graph = 1 max | | | [3] | | |
| (iv | v) 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] | | | | | | |
| W P D N F S C | (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] | | | | | | |
| V C B Ir M C | 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 | | | | | | |
| | | | | | | | |
| | | | | [Total: | 30] | | |

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|--------|-----------------|---|--|---|--|--|----------------|-----|
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| 2 | (a) (i) (ii) | Most peop Not waste If include i Explain di | ole they appro- people's time non-tourists re | esults will be u | tourists nreliable / wro nd human att | ong info | | [2] |
| | | Easier to o | classify results nich type of att | raction is more | e popular | to attract tourists | | [2] |
| | (iii) | Least / low More from Tourism is | vest number o Asia than S A international | ourists come f f tourists from America (or oth / tourists come reted e.g. 1/3 f | Africa ner 2 areas) e from around | d the world | | [2] |
| | (iv) | Completio | n of bar graph | ıs | | | [2 @ 1] | [2] |
| | (v) | 1 mark for | appropriate g | graph / pictogr raph ark for labellin | • | | | [3] |
| | (vi) | Hypothesi visitors Overall 38 Results ar 170 visits Popular pl Credit and | s say physical re close / simil to physical att hysical attracti omaly such as | compared with ar ractions & 140 ons – mounta | n 32 say hum) visits to hum ins, waterfall, was very pop | nan attractions elephant camp ular human attractio | • | [4] |
| | (b) (i) | | for selecting i one person p | | e.g. every ten | th person walking p | oast / regular | [1] |
| | (ii) | Prioritising Stops ther To see if r Hard to ch More data No: May h Too much | noose just one lave views abo data | | hoice two impacts | | | [2] |

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|--|---------------------------------------|--|--------------------|-------------|--|--|--|
| () () | 2 nd c | hoice: 16 x 2 =32 hoice: 10 x 1 = 10 I score = 42 | | [2] | | | |
| (ii) | Plot | result of calculation in part (i) on Fig. 7B | | [1] | | | |
| | 53 tl thou Over nega Mair | hypothesis is correct / tourism has positive effect hought tourism was a positive influence & 8 thought it was positive r 80% (87) thought it was positive / less than ative / 7 times as many thought it was positive than a positive impact of tourism is jobs and income ut of 61 gave it as first choice | 20% (13) thoug | | | | |
| (iv) | Loca Mos Traff Air p | al people can see more taxis / tut-tuts t affected by these / affected daily ic congestion slows them down travelling / stops the collution makes it difficult to breath collution from planes / trains bringing tourists | em getting to worl | | | | |
| (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] | | | |

Syllabus

Paper

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