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**CAMBRIDGE INTERNATIONAL EXAMINATIONS**

**International General Certificate of Secondary Education**

# MARK SCHEME for the October/November 2012 series

## 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 should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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**1 (a)** Check the depth of water / do not work if river is in flood / storm
Check current / velocity of river / don't work if river is fast-flowing / rapids
Work in pairs / groups of three / don't work alone / don't wander off / work under adult supervision
Let people know where you are going / take mobile phone
Wear waterproof clothing / wellingtons / protective clothing / shoes / Sunblock / insect repellent
Look out for dangerous animals / thorny vegetation / mosquitoes
Do not do fieldwork if river is polluted / Weil's disease / water bottle / do not drink river water
Work in daylight / not in dark
Beware of slippery rocks / sharp stones 3 @ 1 [3]

**(b) (i)** Stretch measuring tape / rope across channel from one bank to the other
Measure every 20cm or 0.2m across river
Rest rule / ruler on river bed / floor
Take reading at water surface / wetted length of string or pole
Record measurement in metres / centimetres
1 mark for naming equipment (tape / rope / metre rule / ruler / measuring pole / pebble & string) [5]

**(ii)** Advantage: accuracy of reading / digital reading / quicker / simple to read
Disadvantage: less accurate in low velocity / battery may go flat / expensive / cannot use in shallow water 2 @ 1 [2]

**(iii)** Measure length or specific length along river
Put float in river
Time how long it takes float to travel the distance / use stopwatch to time when it starts and finishes
Repeat test
Do test at different points across river [3]

**(iv)** Average length of time = 110 / 5 = 22 (secs) (29 + 30 + 18 + 25 + 18)
Distance / time = 10(m) / 22 (secs)
Allow time figure calculated above if not 22 (secs)
=0.45 m / sec (must be 2dp) need units
No credit for carry forward of error in time figure [3]

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**(c) (i)** Plot 0.6m deep at 2.0m & complete cross-section line
Shade river channel (1 + 1) [2]

**(ii)** Complete bar graphs – 0.7 in middle, 0.77 on outside 2 @ 1 [2]

**(d) (i)** On straight section average velocity in middle is 0.53 m/sec, compared with either 0.36 & 0.4 at sides **or** highest / biggest / fastest at 0.53 m/sec
Need the highest statistic
On meander average velocity is 0.77 m/sec on outside bend, compared with either 0.7 & 0.66 in middle and inside bend **or** biggest / fastest at 0.77 m/sec
Do not need units
No Hypothesis mark 2 @ 1 [2]

**(ii)** Deeper water in middle of straight cross-section and on outside bend of meander
Stronger current / greater velocity where river is deeper
Because less friction with bed and banks / hitting the sides 2 @ 1 [2]

**(iii)** Results of boys' fieldwork do **not support** either hypothesis / girls' conclusion / boys' results are opposite – 1 mark reserve
If answer is Hypothesis / girls' conclusion is supported = 0
On straight section velocity is greater on left side / 0.77 left & 0.71 middle
On meander velocity is greater on the inside bend (left) / 0.51 inside & 0.46 outside
Boys' results show little variation in velocity across river
Must make reference to straight & meander [3]

**(e)** Repeat experiment on different days / month / season to compare results
Do experiments at more sites along river
Investigate another river
Use flowmeter
Another student checks to make sure measurements are accurate
Ensure that depth measurement is to the bed not an isolated rock on bed 3 @ 1 [3]

**[Total: 30]**

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**2 (a) (i)** Library, cinema, bank, restaurant/cafe/take-away, travel agent, bus station,
No credit for abbreviations 2 @ 1 [2]

**(ii)** Reasons such as:
Good accessibility
Grew up with historic development of town
Large number of customers / large threshold / make more money
Near to similar / complementary services / or e.g.s such as bank for people to get money for shopping / restaurant to eat whilst spending the day shopping 2 @ 1 [2]

**(iii)** Shop owners losing money / forced to close / lack of demand for new shops
Competition from other shopping centres / other shops
High rents / expensive land / expensive to set up business
Move to new shops outside CBD / shopping mall
Decrease in number of customers / recession 2 @ 1 [2]

**(b) (i)**

| | Retail park |
|---|---|
| Shops selling comparison / high order goods | **10** |
| Shops selling convenience / low order goods | **1** |
| Services | **3** |
| Vacant / unoccupied | **0** |
| **Total** | **14** |

4 correct = 2 marks; 2 or 3 correct = 1 mark [2]

**(ii)** Comparison / high order goods usually cost more than convenience / low order goods
People travel further to buy comparison / high order goods than convenience / low order goods 2 @ 1 [2]

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**(iii)** High order: clothes, department store, electrical goods, furniture, home improvement, jewellery, motoring goods, music/games/films, mobile phones, photography, shoes, sports, toys
Low order: baker, butcher, chemist, food/drink, fruit & vegetables, Newsagent 2 @ 1 [2]

**(iv)** Hypothesis is **true** / **correct** / greater variety of shop & services in CBD
- 1 mark reserve
If answer is Hypothesis is not true = 0
Approximately 23 – 26 different types of shop / service in CBD compared to 8 – 10 in retail park
e.g. cinema in CBD but not in retail park (must have example)

1 mark maximum for correct pair of figures from Table 5 as follows:
Total in CBD is 82 compared with 14 in retail park
Comparison / high order shops is 44 compared to 10
Convenience / low order shops is 13 compared to 1
Services is 18 compared to 3 [3]

**(c) (i)** Work in pairs, not alone
Do not block pavement / entrance to shops
Be polite to interviewees / thank them
Accept that some people won't want to answer questions / check if people are willing to talk
Ask a range of people / get a representative sample of age / gender / get a random sample / ask every $10^{th}$ person
Choose a time when there are plenty of people shopping
Explain what survey is about 3 @ 1 [3]

**(ii)** Check that the questions can be understood / test questionnaire / find out if any problems/ check sample size
Opportunity to change questions / alternative answers / make improvements
Gain confidence in asking questions / practice / gain experience 2 @ 1 [2]

**(d) (i)** Completion of pie graph for CBD:
wide range of shops = 51%, value for money = 11%
1 mark for dividing line; 1 mark for shading

If percentages are 'wrong way' round credit correct shading = 1 mark [2]

**(ii)** Completion of bar graph for Retail park
food & drink = 30%: furniture / electrical goods = 26% 2 @ 1 [2]

**(iii)** Hypothesis is **true** / **correct** /shoppers are attracted to shopping centres for different reasons – 1 mark reserve
If answer is Hypothesis is not true = 0
Attracted to CBD by large range of shops
Especially go to CBD to buy clothes / jewellery
Attracted to Retail park by good parking
Go to Retail park to buy food / furniture / electrical goods / home improvement goods [4]

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**(e)** Investigation such as:
Where people travelled from to get to the shopping centres
How often people visited the shopping centres
How people travelled to get to the shopping centres
How long people planned to spend in the two shopping centres
Sphere of influence
Times when people shop
Who shops – gender / age / tourists or locals / social class / different standard of living
How many people go to each shopping centre
Compare prices [2]

**[Total: 30]**

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