

CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

MARK SCHEME for the May/June 2014 series

0460 GEOGRAPHY

0460/05

Paper 5 (Computer Based 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.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2014 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

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- 1 (a) **B** (deposition) – leaving behind of beach material by waves
- (b) **D** (transportation) – carrying of beach material along the coast
- (c) **C** (swash) – the movement of the waves up the beach
- (d) **C** (hydraulic action) – the wearing away of a cliff face by the power of waves [4]

1 mark for each correct answer

- 2 **Beach** (answer B) Landform A
Bar (answer A) Landform B

1 mark for each correct answer [2]

- 3 We are looking for 3 correct comments about long shore drift and a reference to a spit and a bar:
- The waves/swash move the beach material up the beach at an angle (1) due to the prevailing wind direction (1).
 - The waves/backwash return back down the beach, perpendicular/at right angles to the beach (1) due to gravity (1).
 - The beach material moves in a zigzag pattern/up and down the beach/process is repeated (1).
 - When the direction of the coastline changes (1) longshore drift carries beach material/shingle/pebbles out into the sea, leaving/depositing a line/finger of beach material/shingle/pebbles – called a spit (1).
 - If there is a bay (1) the spit may grow across the bay, forming a bar (1). [5]

(1 mark for each point made but 1 reserve for spit and 1 reserve for bar).

- 4 Human features – 2 needed from:
Castle; lighthouse; car park; long distance path/path; roads; groynes;
settlement/buildings/houses; ferry (boat) route; quay.

Physical features – 2 needed from:

Spit; beach; lake/pond/lagoon; mudflats/saltmarsh; coast; sea; river/river mouth; [2]
4 correct = 2 marks, 2/3 correct features = 1 mark

- 5 (a) 2.5 km (B)

(b) 92 m (C)

1 mark for each correct answer [2]

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- 6 D) 327653
B) South west
- 1 mark for each correct answer [2]
- 7 Reasons could include:
- Because it is frequently covered by high tide/flooded/too wet/too muddy
 - To protect/not disturb the (wading) birds/wildlife habitats/protected land
 - The footpaths would be washed away/destroyed/covered
 - Danger from quicksand/sinking into mud (danger must be qualified) [2]
- (1 mark for each correct answer)
- 8 (a) The beach material is:
Rounded; smooth; various/mixed sizes; from different rock types/geology; irregular shaped.
- (1 mark for each correct answer – **max 2**)
- (b) There is no sand because:
- It could be trapped by groynes;
 - It could have been eroded by the waves/washed off the beach/transported away/moved by longshore drift;
 - The geology may not produce sand (e.g. limestone)
- (1 mark for a correct reason) [3] (2 + 1)
- 9 (a) Systematic sampling (answer C) [1]
- (b) The students would:
- place/put/throw the quadrat on the ground in the area that needs to be studied (1)
 - observe/look at/study the beach material
 - count/estimate the different types of beach material in each of the 25 squares (1)
 - multiply the answer by 4 to get a percentage
 - record the different types of beach material in each square
- (1 mark for a correct explanation) [4] (1 + 3)
- 10 28% small pebbles (answer B)
32% large pebbles (answer C)
- (1 mark for each correct answer) [2]

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11 Reasons for difficulties include:

- It is subjective/people have different opinion about size;
- It isn't reliable to estimate the size of the material;
- They didn't use a ruler/callipers/tape measure/measuring stick to measure the sample
- The students don't know/are not told/not given the accepted sizes of beach materials
- There are other materials on the beach (e.g. litter/seaweed)

(any 2 problems, 1 mark for each correct answer)

Suggestions to make results more reliable include:

- Get students to work in pairs/groups/get more than one student to complete the work;
- Use callipers and a ruler/a ruler/a measuring stick/a pebbleometer to measure the material;
- Give the students the accepted sizes of beach materials.

(any 2 improvements, 1 mark for each correct answer)

(2 + 2) [4]

12 51, 35, 14

[2]

(Site 10 has 51% shingle, 35% small pebbles and 14% large pebbles).

3 correct = 2 marks

1 correct = 1 mark

13 (a) No (Answer B)

[1]

(b) We are looking for:

- 1 mark for a correct comment re change in % of shingle/small pebbles
e.g. The amount of shingle (the smallest material) increased towards the eastern end of the spit.
15% at site 1/X but increased to maximum of 51% at site 10/Y.
OR The amount of small pebbles increased towards the eastern end of the spit
22% at Site 1/X to 35% at site 10/Y.
- 1 mark for a correct comment re change in % of large pebbles
e.g. The amount of large pebbles (the largest material) decreased towards the eastern end of the spit
63% at site 1/X and 14% at site 10/Y.
- 1 mark for paired (correct data). Data must back up "no" answer (see above). [3]

(Ignore any reference to anomalies)

14 (a) 15 minutes (Answer B) (1)

[1]

(b) 15 minutes is the most suitable time because:

- It is long enough for some visitors to be counted/reliable representation/1 minute wouldn't be long enough to count/get any visitors
- It's not too long that they would get bored
- It's not too long that they would lose count. [2]

(1 mark for each correct reason)

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- (c) Improvements to reliability:
- Use a clicker/electronic counter
 - Use a tally chart
 - Use a stop watch
 - Work in pairs/groups to count visitors
 - Do the counting at each site simultaneously/the same time/same time of day. [2]

(1 mark for each improvement)

- 15 (a) Title: Results of visitor survey/Visitor survey results/number of visitors/visitor survey [1]

(b) Location A4 bar = 31

(c) Location A5 bar = 35 [2]

- 16 • 1 mark for recognising that the number of visitors does decrease *overall* (and 1 mark for data to support this – site A1/western end of the spit/Point X with 57 down to location A5/eastern end/point Y with 35)
- 1 mark for recognising that the number of visitors decreases to location A3 (and 1 mark for data to support this – site A1/western end of the spit/Point X with 57 down to location A3 with 27)
- 1 mark for recognising that the number of visitors then increases from location A3 up to location A/eastern end/point Y (and 1 mark for data to support this – location A3 with 27 up to location A5 with 35). [4]

(Data must be paired)

- 17 The variations could be to do with:
- (Highest by car park/A1/point X) – as many only walk a short way from the car park/everyone starts there
 - (Lowest at centre/A3) - as many people turn back/no attraction there
 - (Increase at eastern end/A5/point Y) as visitors arrive via ferry/boats/yachts to the quay
 - (Increase at eastern end/A5/point Y) as visitors are attracted to the castle/quay/ferry [4]

(1 mark for each valid reason given)

- 18 Relevant questions could include:
- a. Where have you travelled from today/where do you live? (location)
 - b. How far have you travelled/how long did it take you to get here? (distance/time)
 - c. How often do you come here? (frequency)
 - d. Why do you come here?/What attractions do you come here for?
 - e. How long do you spend here? (duration)
 - f. How did you travel here? (method of transport)
 - g. What is your age range?
 - h. How do you rate the area (out of 10)? [3]

1 mark for each relevant question written. It must be a question (but it doesn't have to have a question mark).

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19 Beach profile investigation.

- 1 mark for correct use of **ranging poles** – put ranging poles at points A and B/across transect/at start and end of transect
- 1 mark for correct use of **tape measure** – measure the beach from A–B/measure each change in slope/section of transect
- 1 mark for correct use of **clinometer** – measure the angle at each change in slope/section of transect
- 1 mark for **recording** results
- 1 mark for **repeating** at different transects

[3]