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

0460/05 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 must be read in conjunction with the question papers and the report on the examination.

* Cambridge will not enter into discussions or correspondence in connection with these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2011 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

1   Mouth = D; source = A; tributary = E; watershed = C;

   (1 mark for each correct answer)

2   Meander = lower; rapids = middle; v shaped valley = upper   [3]

   (1 mark for each correct answer)   [C]

3   1 = a band of soft (less resistant) rock; 2 = a plunge pool; 3 = a band of hard (resistant) rock   [3]

   (1 mark for each correct answer)   [C]

4   Correct sequence = D, B ,A, C   [4]

   (1 mark for each correct answer)   [C]

5   A = deposition, B = erosion   [2]

   (1 mark for each correct answer)   [C]

6   Site 1 = D (110m); site 4 = C (47m)   [2]

   (1 mark for each correct answer)   [C]

7   Bars dragged to correct points:
   Site 5 = 82 metres; site 6 = 60 metres; site 7 = 38 metres   [3]

   (1 mark per correct answer – no tolerance)   [E]

8 A major settlement

(a) lower course

(b) land is flat so easy to build on/farm on; nearer sea so settlement may have developed as a port/holiday resort (NOT water supply)

A reservoir with an HEP scheme

(c) Upper course OR middle course

(d) Upper course reasons: higher land so more rainfall; steep sided valleys to make building of a dam easier; river flowing down steeper gradient giving more energy; less human impact needed.
Middle course reasons: wider river so more water flowing into it. [4]

(1 mark per correct location/reason. Allow a reason mark even if location incorrect) [E]

9 C (measuring tape) and F (ranging poles) [2]

(1 mark per correct answer)
[C]

10 (a) Site 3 = 21 (no tolerance)

(b) Site 5 = 35 (no tolerance) [2]

(1 mark per correct answer) [E]

11 River may be too deep; river may be too fast/have a strong current; river may be too wide; need more than one measurement (one is not enough to get an accurate measurement); the mid-point may not be the deepest point; there may be an obstruction at the mid-point/pole may sink in river bed; it's hard to find the exact mid-point of a river. [2]

(1 mark per correct answer) [E]

12 (a) A (Yes/agree with hypothesis) (1 mark)

(b) Near the source (site 1), the river is narrow and shallow (0.42 m wide and 8 cm deep). However, near the mouth (site 7) the river is wider and deeper (3.69 m wide and 83 cm deep). (3 marks) [4]

(1 mark for a correct statement naming sites or proximity to source/mouth/downstream and judgement of change – wider/deeper etc. But NO mark for repeat of hypothesis; 2 marks for correct use of data – pairs of data needed – no need for units) [E]

13 Description (up to 2 marks): systematic sampling is when samples are taken at regular intervals/equal distances apart. They could pick up every 10th piece of bedload – in order to g samples. Or they could use a quadrat and use the 10th, 20th etc. squares. Or they could use a bedload sampler at each point and measure the first five pieces.

(1 mark for saying regular intervals and 1 mark for description)

Explanation of reliability (1 mark): it is a reliable method as it rules out bias/choosing of sample/is a fair test and it means that the sample is the most representative for the site.   [3]
[Answer does not have to relate to rivers]   [E]

14 (a) Site 3 = 11.5 cm (allow tolerance of 0.1 – so 11.4–11.6);

    (b) Site 5 = 3.7 cm (allow tolerance of 0.1 – so 3.6–3.8)

    (c) Average site 6 = 2.16 cm (allow 2.2)   [3]

         (1 mark per correct answer)   [E]

15 (a) B (No/disagree with hypothesis) (1 mark)

    (b) Near the source (site 1), the bedload is larger (average of 24.4 cm).
         However, near the mouth (site 7) the bedload is smaller (average of 1.02 cm) (3 marks)   [4]

         (1 mark for saying a new hypothesis "As the river gets closer to the sea, the size of the
         material on the river bed decreases". 1 mark for correct statement naming sites/proximity to
         source and mouth/downstream. 1 mark for correct use of paired data – no need for units). [E]

16 (a) Shape: bedload gets rounder/less jagged/less sharp/smoother. (1 mark)
         [NOT smaller/anything to do with size]

    (b) Explanation: because pieces of the bedload hit each other and pieces are broken off –
         attrition; the bedload is dragged rolled along the river bed – traction; the bedload is thrown
         against the banks – corrasion/abrasion; the bedload is picked up by the river and then
         dropped/bounced along the river bed – saltation; the force of the water erodes the bedload –
         hydraulic action (2 marks)   [3]

         (2 marks for naming 2 methods or 2 marks for explaining two – or a combination)
         (NOT solution/corrosion)   [E]

17 (a) 1 = suspension (NOT solution);

(b) Particles are floating/carried along in the river;

(c) 2 = traction;

(d) Particles are dragged/rolled along the river bed;

(e) 3 = saltation;

(f) Particles are picked up by the river and then dropped/bounced along the river bed   [6]

(*1 mark for each method correctly named and each correct description – movement and location needed*)   [E]

18 Possible improvements and explanations for **this** investigation:
- Take the measurements/have investigation sites at uniform intervals – so that better comparisons can be made;
- Complete the investigation at more than one river – so that more valid conclusions can be made;
- Have more than seven survey points – to see the changes in the river more clearly;
- Sample more samples of bedload – so that better comparisons can be made;
- Complete the investigation on more days – to see if the same results are obtained;
- Complete the investigation at different times of the year – to see the impact of different seasons;
- Repeat the investigation – to see if the results are valid;   [6]

(*1 mark per correct improvement and 1 mark per correct explanation*)   [E]
Don't allow "take more measurements"; reference to use of equipment/student error; "different points", "more people"; "more groups"; "measuring velocity" or "more accurate".

[20C 40E]

[Total: 60]