CAMBRIDGE INTERNATIONAL EXAMINATIONS

International General Certificate of Secondary Education

MARK SCHEME for the October/November 2

0680 ENVIRONMENTAL MANAGEMENT

0680/41 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.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

1 (a) (i) the country can earn more foreign exchange/eq; living/reduces poverty; creates jobs;

(b) (i) competition for food between pejerrey and native spe species/some native species become extinct; biodiversi chains/webs altered;

(ii) to make samples representative of the fish populatio improve reliability;

(iii) stop them decomposing/rotting; **[1]**

(iv) all plots correct; axes labelled; key completed; **[3]**

(v) pejerrey fish 350 mm (allow correct reading from a graph); and carache fish 132 mm; **[2]**

(vi) longer fish have more mercury; because they keep eating food with mercury; and then store it/do not excrete it; **[2]**

(c) the mercury concentration drops quickly downstream from mining; values very low/only 1 before river meets lake; **[2]**

(d) (i) the frogs are already rare/it would encourage more frog catching/eq; **[1]**

(ii) visit the same number of fish stalls; at the same time of day/when market first opens; visit markets more than once; identify frog species correctly; AVP; **[3]**

(iii) table drawn; six markets can be recorded; suitable headings; **[3]**

(e) (i) A E D C F;; **[2]**

(ii) 4.1; 2.0; **[1]**

(iii) shingle, young frog, number 8; **[1]**

(iv) many young die/are eaten before becoming adults; breeding season just happened/eq; **[1]**

(v) the animals were evenly distributed; no significant difference in numbers on sand or shingle; **[2]**

(vi) use more transect lines; use more quadrats; sample all around the lake; repeat in following years; compare results over the years; **[3]**

(g) (i) prevents extinction; can be studied in detail by scientists; and tourists; can be reintroduced into the wild; **[2]**

(ii) make catching/selling frogs illegal; inform local people about their rarity/eq; **[1]**

[Total: 36]

2 (a) (i) 7;

(ii) likely to select paper into paper again or iron smelted bac

(iii) less possibility of pollution; reusing materials saves resou

(b) (i) newspaper: only a small increase (0.12) when selling o
pay 0.15 to buy it from collectors;

(ii) highest value waste; so exporting is profitable; do not have the industry/eq; to reprocess; **[2]**

(c) infections from hospital waste; cuts and burns get infected; harmful wastes could be poisonous; lungs damaged by fumes from fire; **[2]**

(d) (i) 17; **[1]**

(ii) $8 \times 0.80 = 6.4$; $11 \times 0.15 = 1.65$; **[2]**

(e) (i) keep the city/environment cleaner/less smell/visual pollution; so more tourists want to return/eq; **[1]**

(ii) make money selling the wastes to factories/for export; **[1]**

(iii) less disease/water pollution; **[1]**

(iv) loss of earnings/job/ become unemployed; **[2]**

(v) more clean water needed; to prevent diseases for locals/tourists; sewage treated to stop life in lake dying; pollution irrigation water; and so crops; livestock/crops can feed extra visitors; limit number of tourists; so not too much sport fishing; other specified impact; make trails for birdwatchers so they do not do too much damage; AVP; **[5]**

[Total: 24]