

**CAMBRIDGE INTERNATIONAL EXAMINATIONS**

Cambridge International General Certificate of Secondary Education

**MARK SCHEME for the October/November 2015 series**

**0680 ENVIRONMENTAL MANAGEMENT**

**0680/42**

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

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- 1 (a) (i) provides protein; vitamins; named vitamins A/D etc.; omega oils; energy; [2]
- (ii) weak immune systems; can easily kill;  
allow other serious infections /eq.; stop growth /eq.; [2]
- (iii) famine; food shortages; under-nourished mothers;  
so not enough for growing baby /eq.;  
mother smokes; premature birth; [2]
- (iv) low calorie diet /energy intake; malnutrition; lack of protein;  
deficiency diseases; [1]
- (v) 2.49/2.50 20.08/20.03/20.0 normal  
2.72 18.01/18.0 underweight
- Any two correct for one mark.*  
*Any three correct for two marks.*  
*All correct for three marks.* [3]
- (vi) 20% is a significant figure /eq.;  
obesity / overweight is quite rare /eq.; [2]
- (b) (i) only one family /village; [1]
- (ii) weighs every egg; [1]
- (iii) 489; 48.9; *Allow ECF from first answer.* [2]
- (iv) find total number of families and select every fifth one etc. / other valid method;  
*Accept randomly.* [1]
- (v) repeat (for more weeks); other times of year; more families; more villages; more districts; [2]
- (c) yes as they will never run out of food; no need to buy food; good use of food waste;  
AVP, e.g. only some food needed from environment; [2]
- (d) (i) 315 000;; *Allow one mark for correct working / 585 000 alone.* [2]
- (ii) chickens do not live long /eq.; stop laying eggs; need extra food / find their own food;  
which might not be available / too expensive; ref. to data to show mortality rate; [2]
- (e) (i) males breed with local hens; pass on genes for more egg laying /eq.; [2]
- (ii) villagers do not keep hens in pens /eq.; this takes time; and money; eggs laid  
anywhere / in unknown locations; [1]
- (iii) local hens are a genetic resource / CEP may reduce genetic variation; may lose disease  
resistance /eq.; may lose being adapted to climate; AVP, e.g. more eggs eaten by  
predators; [2]

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- 2 (a) makes local maize cheaper to buy; so farmers confident they will get a good price/profit/eq.; keeps demand for local maize high/eq.; [2]
- (b) (i) 6.66/6.67/6.7; 0; [2]
- (ii) temperature; humidity; water supply; size/mass of cob; variety of maize; drying time; same source of leaf powder; etc. [2]
- (c) (i) weevils could have died anyway; may have had no effect/eq.; to compare; act as a control; [1]
- (ii) up to two marks for axes labelled;; up to two marks for plots;; [4]
- (iii) rapid increase in death in first 12 hours, then slower increase; [2]
- (iv) similar shape to other line and above 3.0 g; [1]
- (d) (i) 4 correct positions for two marks. Three correct for one mark. [2]
- (ii) random; [1]
- (iii) 35.4/35.42(%); Allow one mark for correct working. [2]
- (iv) powder blown off; washed off; leaves protect cob; [1]
- (v) powder could kill other species of insect/beneficial insects; reduce pollination; not possible to produce powder in large quantities; expensive to produce; AVP; [2]
- (e) (i) use of a control treatment; measured mass of powder; equal quantities used; count live/dead weevils; count every 7 days/eq.; AVP; [5]
- (ii) table drawn for six weeks; headings relating to the expected method;;  
Allow ECF for headings. [3]

AVP = Alternative Valid Point.

[Total: 60]