

CAMBRIDGE INTERNATIONAL EXAMINATIONS**Cambridge International General Certificate of Secondary Education****MARK SCHEME for the May/June 2015 series****0680 ENVIRONMENTAL MANAGEMENT****0680/43**

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

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- 1 (a) $87 \times 0.25 = 21.75$ million; [1]
- (b) (i) could not transport goods; long travel delay; cost of extra fuel; not many customers; possible power cuts; goods damaged by water; [3]
- (ii) desert climate/very little rain; only one day a month; so only short-term effects; low risk of long-term damage; probably not going to increase much in the future; hot so rapid evaporation; use of figures to support;; [3]
- (c) strong pull factors to urban areas; jobs; better wages; more services/example; less labour needed on farms; [3]
- (d) (i) not an adequate sample/eq.; reason to support this, e.g. only 10 people/one street/district; [2]
- (ii) larger sample so more representative; allows mean to be calculated; [2]
- (iii) one more question about either health/sources of pollution/anything being done to solve the problem; [1]
- (iv) convert to % (yes/no); [1]
- (v) industry/garbage burning; [1]
- (vi) temperature inversion; ref. to dense air; cold air holds pollution near ground; [1]
- (e) city: could restrict traffic – any valid example – or stop industrial production; people: go out less/wear masks; [2]
- (f) (i) N/S is course of river Nile so needed for crops; prevent pollution; need for green spaces; [2]
- (ii) only desert/not a farming area/away from Nile; [1]
- (iii) furthest area shaded for housing and one of small areas near the Nile shaded for farming; key used; [2]
- (g) good spacing between blocks; all built in the same way/to a set standard; AVP; [2]
- (h) descriptions of:
sewage pipes/treatment; green spaces/trees; garbage collections; reliable power; move industry/e.g. out of city; AVP;; [5]

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- 2 (a) (i) both axes labelled; orientation; plots correct;; [4]
- (ii) overall increase/eq./comment on 2008 and/or 2010; [1]
- (iii) imports to help balance poor harvests; top up reserves; cost of imports; cost to GDP; [2]
- (iv) $(4.6 - 1.7) / 1.7 = 2.9 / 1.7 = 170.6\%$; [2]
- (v) to prevent any shortage; need more reserves as population has increased; still same proportion of annual consumption/eq.; [2]
- (b) (i) any three valid points from the data;;; [3]
- (ii) 308, 52; 16 016; [2]
- (iii) Sakha grains must be smaller/weigh less/converse; [1]
- (iv) more protein (= better growth rate/immune system/less disease/eq.); [1]
- (v) to check findings/eq.; [1]
- (vi) to make best use of expensive fertilisers/fuel; maximise yield/prevent pollution; AVP; [2]
- (c) eutrophication; added nitrates/phosphates; algal bloom; death of algae; blocking light to other plants; bacteria increase; respire the oxygen; death of fish; [4]
- (d) improve size/numbers of grain; so no increase in area of fields needed (may not be possible); increase in protein content; nitrogen uptake more efficient; more efficient use of water; ref. to drought resistance; disease resistance; AVP; [3]

AVP = Alternative Valid Point.

[Total: 60]