

CAMBRIDGE INTERNATIONAL EXAMINATIONS**Cambridge International General Certificate of Secondary Education****MARK SCHEME for the March 2015 series****0680 ENVIRONMENTAL MANAGEMENT****0680/42**Paper 4 (Alternative to Coursework),
maximum raw mark 60

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- 1 (a) flooding; destruction of homes; schools/hospitals; transport links; farmland/crops; livestock; businesses/e.q.; other infrastructure, e.g. power lines/telecommunications; no drinking water/sanitation; spread of disease/named disease; injury/death; AVP; [3]
- (b) (i) births not registered/e.q., e.g. ID card; population varies; high rate of immigration; changing/unknown/high birth/death rates; mobile population/migrant workers; difficult to carry out accurate census; AVP; [3]
- (ii) $21/164; = 12.8(\%)$; [2]
- (iii) November – March; in other months too humid to dry; too wet; too many wet days; comment on temperature, e.g. hot enough for drying; [3]
- Max. two marks for reasons.*
- (iv) 84; [1]
- (v) poor pay; only way to make enough bricks/e.q.; to meet demand; make enough profit for owner; good use of fuel/e.q.; [2]
- (c) (i) 67, 762, 3.3, 14 020
- Any two for one mark. All for two marks.* [2]
- (ii) B; D; B; [3]
- (iii) 4761; 4545; [2]
- (iv) D most efficient use of coal; A least efficient use of coal; use of quoted figures to support answer; or calculated difference; not much difference in efficiency/B and E equal efficiency; C less efficient than D or more efficient than A;
- Allow C is less efficient than B and E/order of efficiency is D, B+E, C, A; ECF from part (iii).* [3]
- (d) (i) sulfur dioxide/ NO_x ; ref. to acid rain in correct context; effects of acid rain on environment, e.g. suppression of crop growth;
- carbon dioxide; ref. to greenhouse effect/global warming in correct context; effect of global warming;
- soot/carbon particles reduce photosynthesis; [3]
- (ii) named river(s); two rivers/rivers join; regular/annual flooding; keeps supply of silt/mud/clay; at a rate more than or equal to extraction; ref. to delta; [2]
- (e) (i) $10 \times 50 = 500$; [1]
- (ii) 2000; (allow ECF from part (i)) [1]

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(iii) some bricks break/poor shape/lost in transit/e.q./may need more for job/prevent delays/matching bricks; [1]

(f) keeps people employed; uses local materials/e.q.; cost of imports; keeps cost of development down; brick production can be taxed; brick factories lose sales/AVP; [3]

2 (a) (i) heaviest rainfall; (in only) 12 wet days; ref. to 2/3 months heavy rainfall before/e.q.; so ground saturated/e.q.; rivers already full of water; [2]

(ii) table drawn; headings (cm/am/pm or 24 hr); data filled in correctly;
(34 30 25 17 10)
(39 28 20 11 6) [3]

(iii) house one – blocked drains/lower lying land/closer to full river; house 1 surrounded by concrete/paving; house 2 surrounded by soil; [1]

(iv) bar graph; (both axes labelled) y cm; x district; all plots correct; [4]

(v) there is no pattern to results/e.q., e.g. varies between districts; comment on range of results (i.e. difference of 36 cm); [1]

(b) (i) P or R; [1]

(ii) pumping adds oxygen; so animals/fish stay alive; so food web (food chain) is maintained; further detail of food chain, e.g. ref. to producers and consumers; bacteria cannot use up all the oxygen; eutrophication not possible; AVP, e.g. all organisms respire; [4]

(c) (i) residents in built houses; shanty towns; city engineers; politicians; lawyers; two different age groups qualified; two more age groups; males/females; any valid group; [2]

(ii) to make comparisons/provides unbiased results/valid results; [1]

(d) strategies – reasonable investments such as more drainage; better rubbish collection; more law enforcement, e.g. planning development; plant more trees; population control; AVP;

for each explanation of how it could help; further detail; [6]

AVP = Alternative Valid Point.

[Total: 60]