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**General Certificate of Education (A-level)
June 2011**

Environmental Studies   **ENVS4**

(Specification 2440)

Unit 4: Biological Resources and Sustainability

Report on the Examination

General

The paper proved to be open and accessible and elicited a wide range of responses and marks, employing all elements of the mark scheme part.

Underperformance may be explained by insufficient revision resulting in an inability to use appropriate terminology or explain processes and scenarios adequately and poor examination technique. Weaker candidates fail to analyse questions carefully, respond to command words and write to the mark allocation.

It appears that some candidates fail to use past examination papers and mark schemes effectively to appreciate the depth of explanation required and how a logical, sequential explanation should be constructed.

Question 1

Many imprecise or incomplete definitions were seen and often included the terms for which definitions were sought. Reference to previous examination papers would help clarify this for candidates. Though many accurate answers were seen, some candidates confused overpopulation with dense populations, failed to appreciate that monocultures involve crops and thought cross breeding involved different species.

Question 2

(a) (i) This was generally well answered.

(a) (ii) Incorrect answers resulted from candidates overlooking the term, ' . . . as secondary consumers'.

(b) This proved to be a straightforward question for many, however some candidates merely listed limiting factors without explaining how they might be controlled eg 'heat (not temperatures) can be controlled by a greenhouse' . . . but how?

(c) Most candidates correctly stated that marginal land could be utilised by livestock when crops could not, but few explained that they could convert plants, indigestible to humans, into meat for human consumption.

(d) This was very well answered by candidates with first hand experience of primary data collection techniques.

Question 3

(a) (i) A generally well answered question. Some candidates selected the wrong country then struggled to offer a logical explanation.

(a) (ii) This question tested a much discussed topic but few candidates could offer three distinct disadvantages. Some candidates resorted to repetition or over-elaborating one disadvantage, further evidence of poor examination technique.

(b) Many candidates scored at least two marks here. Those that did not simply stated that the farmer would only need one fertiliser or machine without explaining why this could be advantageous. Some implied that having to harvest the entire crop simultaneously was an advantage. 'Economies of scale' was the least commonly seen correct response.

(c)   This question, with eight correct responses available for three marks, was
        accessible and well answered, although some candidates offered vague
        answers such as, 'it would affect the food chain'.

Question 4

(a)   Most candidates scored the first mark point but few went on to make a
        comparative statement about river inflow and evaporation.

(b)   Another accessible question with nine possible answers for four marks that
        many candidates answered well. Those who did not failed to respond to the
        'on the local human population' element of the question or use the
        photograph.

(c)   A straightforward question seen many times before and well answered by
        most candidates.

Question 5

(a)   (i)   Very few candidates answered this straightforward question correctly. Many
                gave vague answers about comparing energy input to output or confused it
                with energy subsidy, which again questions the quality of candidates' revision.

(a)   (ii)   This question elicited all manner of incorrect answers, including those that
                thought salmon farming was (more) energy efficient and those that overlooked
                the word 'farming' and tried to explain why salmon fishing was more energy
                efficient than coastal shell fishing.

(b)   This question was very well answered by most candidates.

(c)   This question, about the assumptions behind the catch-mark-release-
        recapture sampling method, was best answered by candidates who
        contextualised their responses and responded to the mark allocation ie two
        correct answers per mark.

(d)   This question prompted many interesting, topical and species-specific
        answers which, reassuringly, suggests that some candidates are encouraged
        to carry out independent research.

Question 6

(a)   (i)   Many candidates struggled with the concept tested here and resorted to rewording the phrase, '95% confidence limits' in the graph rather than explain why they were needed.

(a)   (ii)   More able candidates noted the phrase, 'in this time period' and correctly observed that temperate regions had suffered widespread habitat destruction prior to 1970 or were currently not experiencing the rapid rates of population growth of tropical regions. Greater ecosystem fragility in the tropics and conservation effort in the temperate world are not phenomena restricted to post 1970s.

(b)   This question has appeared recently and was well answered by candidates with synoptic skills and those who use past examination papers and mark schemes for revision.

(c)   This question also tested synoptic skills and was best answered by candidates who understood that 'reducing their Ecological Footprint' meant living more sustainably. With an exhaustive list of correct responses in the mark scheme, it proved very accessible to many candidates.

Question 7

By now, many centres realise that the essay question, comprising 25% of the paper's total marks, must be carefully prepared. Many candidates prepare likely topics then tailor them to the specific wording of the question on examination day – this is commendable. Weaker candidates fail to analyse the question carefully, do not identify key words, do not draft an essay plan, cross out the plan, lose marks for poor quality of written communication, do not use appropriate scientific terms and cannot offer real examples.

All three essays have appeared before in one guise or another and this again begs the question, why candidates do not make greater use of past examination papers and mark schemes during revision and, indeed, during their two years of study.

(a)   The best answers were balanced in that they included both positive and negative environmental and social impacts, illustrated with appropriate examples. Weaker candidates focused on negative impacts and doomsday scenarios.

(b)   Well answered by many. Weaker candidates offered little more than lists with no scientific explanation of how, for example, forests regulate the water cycle or are a living laboratory.

(c)   This essay elicited the least amount of scientific explanation, many candidates referred to processes such as genetic manipulation and micropropagation or warned of the rise of the 'super bug' but could not explain them adequately.

Mark Ranges and Award of Grades
Grade boundaries and cumulative percentage grades are available on the **Results statistics** page of the AQA Website.

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