General Certificate of Education

Environmental Studies   1441

ENVS2   The Physical Environment

Report on the Examination

2011 examination - January series

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General

This proved to be an accessible paper with the vast majority of candidates attempting all questions. All question components were answered correctly by some candidates. Different components discriminated well between candidates of different abilities.

In general, most candidates appeared to have been well prepared for the examination with a noticeable improvement in the use of technical terminology and examples. However, many candidates failed to gain marks by giving vague answers without using appropriate terminology. The failure to understand the specific instructions of questions also caused candidates to fail to gain marks.

Question 1

Many candidates gained full marks, but some had a poor understanding of the processes involved in the hydrological cycle or the proportions of water held in different reservoirs.

Question 2

(a)   A surprisingly large number of candidates performed very poorly in the question sections that involved calculations. It was clear that these candidates could not interpret the data and identify the temperatures used in analysing water and organic matter content, or the idea of heating to constant mass.

(b)   A minority of candidates gave clear answers to show how soil samples should be stored without the loss or gain of moisture.

(c)   Many candidates gave good answers with landscaping to reduce slope angle, drainage and terracing being the most common answers. Some candidates referred to specific examples, especially coal spoil slips such as at Aberfan.

Question 3

(a)   This question was very well answered by candidates that seemed to have practical experience of the technique. If ENVS2 is taught before ENVS1 then it is important to teach the techniques that relate to both units at the first opportunity.

(b)   Most candidates gave good answers, but many failed to gain marks by giving vague answers, eg 'water' instead of 'distilled water' or 'indicator' instead of 'universal indicator'.

(c)   Many candidates gave the correct answer, but others were clearly guessing as they gave answers that were implausible.

Question 4

(a)   A pleasing number of candidates gave two correct alternative methods of sterilising water.

(b)   Many candidates gave good answers, especially where details were given of why the methods were more important for river water.

(c)   (i)   Few candidates understood how reservoirs can prevent both extremes: both high and low water flow.

(c)   (ii)   Only better answers gave specific details of how factors would be changed. Weaker answers just referred to the factors, eg temperature/turbidity would be changed, but without saying what the changes would be.

Question 5

Many candidates continue to confuse global climate change and ozone depletion.

(a)   The majority of candidates gave good answers, including processes and how seasonal fluctuations would occur. A surprisingly large number of candidates gave incorrect descriptions of how photosynthesis affects carbon dioxide concentrations.

(b)   (i) &(ii) These were generally well answered, although few gave specific descriptions in (i) related to the absorption of infrared energy.

(c)   Feedback mechanisms and the differences between negative and positive feedback mechanisms are not well understood. Some candidates gave partially good answers but failed to relate the processes back to the original event. Poorer answers related positive and negative to good and bad.

Question 6

(a)   Many candidates referred to an overall negative correlation, but surprisingly few referred to trend fluctuations or changes in the rate of decline.

(b)   Although many candidates understood that SD relates to the degree of the spread of values, few could give accurate descriptions.

(c)   This was generally well answered, but many gave details of the reactions involved in the natural equilibrium of the different forms of oxygen in the stratosphere, rather than the reactions involved in ozone depletion.

(d)   Better answers gave specific details, eg of named alternative materials or processes.

Question 7

(a) & (b)   These were generally well answered.

(c)   Most candidates gave answers related to reverse osmosis, with a smaller number describing distillation.

(d)   Many good answers were given, relating to how the volume of treated water can be reduced, including how alternative untreated sources can be used for particular uses. Some candidates described how some sources would require less treatment which, although accurate, was not asked for in the question.

Question 8

(a)   Many candidates did not understand precisely what soil fertility is, or confused structure and texture.

(b)   Well prepared candidates gave precise, sequential descriptions of the techniques. Poorer candidates gave vague answers related to 'the sieves sort out particle size' or 'the different particles separate at different rates' without stating which particles would settle where.

(c)   Many candidates clearly had experience of using triangular graphs for soil texture.

(d)   Many candidates could give the properties that would be affected by texture, but fewer could describe why the property would be affected. A large minority confused texture and structure.

Question 9

(a)   Very few candidates could draw an adequately accurate line to show the exploitable area, despite a recent question showing how the line would be drawn - the line had to go through any 25 point, and between points above and below 25.

(b)   Many candidates gave good descriptions of the factors that could prevent the exploitation of rich ore deposits. Weaker answers gave vague descriptions of overburden without explaining exactly what the problem was.

(c)   This was frequently well answered with many candidates gaining full marks for content. The use of specific technical terminology related to processes and examples was more evident than in previous examination series.

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