



General Certificate of Education

Environmental Studies 1441

ENVS2 The Physical Environment

Report on the Examination

2010 examination - June series

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General

This proved to be an examination which assessed all ability levels. Almost all questions were attempted by all candidates. Better candidates interpreted questions precisely and supported their answers with examples and detailed descriptive comments.

Question 1

Most candidates gained 3 marks. The releases of methane and oxides of nitrogen were most poorly answered.

Question 2

- (a) Better candidates gave two clear impacts of changed vegetation cover and then explained how this would affect water movements or the quantity of water in named reservoirs. Weaker candidates gave a brief answer and then stated the opposite for the second answer.
- (b) Most candidates correctly gave the volume or mass of water, but few referred to transfer rates.
- (c) While most candidates gave answers that gained marks, few candidates had a clear understanding that water from different sources poses different treatment problems to produce potable water.

Question 3

- (a) Most candidates gave a good answer related to geology, but the importance of topography was not well understood.
- (b) This was generally well answered.
- (c) Most candidates gained 1 or 2 marks, with highest marks given where specific changes in named abiotic factors were supported with examples of named taxa affected.

Question 4

This question was generally poorly answered with many jumbled answers showing that candidates do not have a clear understanding of issues that are easily confused eg infra red/ultraviolet, troposphere/stratosphere, dynamic equilibrium/negative feedback.

Vague terminology is unlikely to gain credit eg saying that ozone blocks, stops or prevents UV reaching the ground.

Question 5

- (a) Only better candidates have a clear understanding of overburden and how it affects mine viability. Most correct answers referred to depth and hardness. Some, incorrectly, thought that overburden is saleable and that its value is an important issue.
- (b) Most candidates knew how the problems caused by mine machinery can be reduced, but few stated how they work. Weaker candidates referred to the general problems caused by mining such as habitat loss.
- (c) Many candidates gained both marks.

Question 6

- (a) Many candidates did not understand that exploiting lower grade ores requires a greater amount of rock to be extracted, leaving more waste and requiring more energy.
- (b) Better answers gave good examples of the new and replaced materials, with a specific use. Copper being replaced by plastics for fibre-optic telecommunication cables was the most common answer.
- (c) This was generally poorly answered. Only better candidates gave specific examples of exploratory techniques with details of what they find or how they work.

Question 7

- (a) This was well answered, with most candidates gaining three or four marks.
- (b) Many candidates found it difficult to give clearly ordered descriptions of how samples should be collected or how the organic matter content can be measured. The selection of an inappropriate temperature was the most common problem.

Question 8

The nitrogen cycle was not well understood. Few candidates gave clear explanations of how deforestation and subsequent farming affect the nitrogen cycle. Very few referred to the change in biomass, nutrient removal, soil aeration or detritivore populations.

The procedure of extracting detritivores from soil was poorly understood. Better answers referred to Tullgren funnels with details of how they work.

Question 9

- (a) Almost all candidates attempted this question, but few stated that the changes in position would allow the speed and direction of the currents to be monitored.
- (b) Few candidates gave clear descriptions of why global climate change is hard to monitor. Most common answers were: the lack of historical data, the complexity of inter-connected systems, the role of natural fluctuations and trends, and the uncertainty of future human activity.
- (c) This was well answered with most candidates gaining marks for changes in abiotic factors. Better answers gave specific impacts on named wildlife taxa. Many candidates gave examples of inter-species impacts caused by the lack of food species, pollinators or seed dispersal species.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the [Results statistics](#) page of the AQA Website.