Scholarship

2011 Assessment Report

Biology

COMMENTARY

In 2011, candidates made a good attempt to answer questions but often did not address all aspects of the questions. Candidates often focussed on only a part of the question and applied all their knowledge to that part. However, some candidates successfully used resource materials, which was evident in their responses.

Successful candidates were able to display a sound understanding of biological concepts in unfamiliar contexts. However, among many candidates, poor understanding of the important aspect of ecological knowledge was apparent.

Some scripts were very difficult to read or words were illegible. In such instances, candidates placed themselves at risk of not having all the evidence or responses acknowledged.

SCHOLARSHIP WITH OUTSTANDING PERFORMANCE

Candidates who were awarded Scholarship with Outstanding Performance typically:

- wrote well-constructed, coherent, and concise responses but also with flair that showed their unique interpretation of the information presented
- showed both good depth and breadth of understanding, addressing all bullet points/aspects of each question
- were able to link the resource material clearly to relevant biological concepts that were not immediately apparent
- wrote their responses with a clear and logical reasoning, addressing each point separately before proceeding to the next
- used appropriate technical terms which were well-defined and then elaborated upon in the context of the situation given in the question
- planned their answers carefully
- elaborated accurately and fully on biological concepts such as interbreeding, coevolution, convergent evolution, and resistance
- used correct biological terms in the right context linked to the question
- answered all three questions comprehensively, using appropriate ecological and evolutionary concepts.

SCHOLARSHIP

Candidates who were awarded Scholarship but not Scholarship with Outstanding Performance typically:

- used appropriate technical and biological terms and were able to fully explain the ideas or concepts
- lacked either the breadth or depth of knowledge in their response to one or more questions
- presented information that appeared to be pre-written and not specifically related to the question
- included some irrelevant information which detracted from the coherence and logic of their response
- addressed only part of the question e.g. only one bullet point
- did not fully elaborate on the materials used from the provided resources
- confused or contradicted some of their ideas

- made inaccurate assumptions or expressed some biological ideas poorly
- demonstrated good knowledge of only some of the concepts necessary to answer the three questions
- demonstrated a clear understanding of fundamental ecological and evolutionary concepts.

OTHER CANDIDATES

Candidates who were not awarded Scholarship or Scholarship with Outstanding Performance typically:

- did not elaborate/explain/make links or justify points made
- did not plan their responses
- wrote a lot of irrelevant information
- dumped all the information they knew on the topic without addressing the question
- did not apply relevant knowledge of biology to the given situation
- did not answer all three questions
- restated material supplied in the resources without analysing it
- confused aspects of human evolution
- demonstrated a poor understanding of ecological concepts
- did not use biological terms accurately
- lacked depth and breadth in their responses.

OTHER COMMENTS

Question One

- Some candidates did not understand what managed and natural ecosystems were and/or the differences between them.
- Many candidates used the term ‘crops’ indiscriminately when they meant ‘plants’ in natural ecosystems.
- Many candidates did not realise that bees are managed by humans extensively so are subject to artificial selection rather than natural selection.
- Many candidates demonstrated a poor knowledge of the accumulation of toxins, such as insecticides, in food chains.
- Some candidates talked about financial aspects of ecosystems, which has nothing to do with ‘ecological’ aspects asked for; many candidates got sidetracked into discussing genetic diversity and evolution, which was not applicable in this instance.
- Many candidates overlooked the resource material supplied at the start above the photograph so failed to consider the genetic aspect of CCD.
- Many candidates did not link ribosome breakdown to disruption of protein synthesis
- Some candidates displayed poor knowledge of biological clocks and/or navigation in stating that trucking about the country meant the bees got lost and so disrupted that they died.
- Many candidates did not know what was meant by the instruction to ‘analyse’ so did not state the likely impact of CCD e.g. has a ‘large impact’ in managed ecosystems, which was then justified.

Question Two

- Many candidates demonstrated a poor knowledge of the concept of herbivory – the idea that caterpillars eating plants is parasitism.
- Some candidates were unfamiliar with ‘mimicry’.
- Many candidates were unable to distinguish between convergent and parallel evolution.

Question Three

- Many candidates were unable to use relevant evolutionary concepts e.g. divergence, natural selection/selection pressures.
- Some candidates gave inaccurate responses such as agriculture/domestication was the reason for extinction of Neanderthals. These processes came long after Neanderthals became extinct.
- Some candidates gave large amounts of description of the lifestyle of both *Homo* species which were irrelevant to the question.
- Most candidates stated that *H. neanderthalensis* and *H. sapiens* evolved from *H. erectus*.
- Most candidates stated that the multi-regional and Out of Africa theories relate to the dispersal of *H. sapiens* and not their evolution.