OCR AS/A-level Year 1 Biology A exam practice answers

**12 Biodiversity**

**1 (a)** Biodiversity is the variety of life on Earth.

Species richness is the number of species in a habitat.

Species evenness is how equally each species in a habitat is represented. [3]

**(b)** Habitat diversity is the range of different habitats found in an area. If there are many different habitats in one area, more species can live in that area.

Species diversity is the number of different species found in one area and the evenness of their numbers. The more species there are, the more diverse the area and the more stable the ecosystem is likely to be.

Genetic diversity is a measure of the variation within one species. If there is greater variation, the species is more likely to be able to survive environmental changes. [6]

**(c) (i)** *D* = 1 – (0.0196 + 0.7056 + 0.0004)

*D* = 1 – 0.7256

*D* = 0.2744 [2]

**(ii)** Field A has a greater diversity. There are more species in field A — five species compared to three in field B. The species are more evenly represented in field A. Field A is likely to be more stable and would be better to conserve. [4]

**2 (a)** There is a small gene pool. The genetic variation within the species is too low. The species is unable to evolve by selection of characteristics more suited to its changing conditions. [3]

**(b) (i)** Create reserves, prevent poaching, reduce encroachment on habitat, attempt to recreate habitat by careful ecological management. [3]

**(ii)** Keep breeding populations elsewhere and increase numbers of gorillas, then reintroduce them to the wild. Wildlife parks act as a source of income to help local conservation activities. [3]

**3** They are able to keep large numbers of seeds and carry out research on germination and growing conditions. [2]

**4 (a)** The Convention on International Trade in Endangered Species. [1]

**(b) (i)** Reduce trade in endangered species. Reduce poaching by ensuring that products cannot be exported and sold. Ensure that trade does not reduce the chances of the species surviving. [2]

**(ii)** Border checks to prevent exports. Destruction of products from endangered species so that trade is not encouraged by increasing demand for products. [2]

**(c)** The Countryside Stewardship Scheme aims to enhance the natural beauty and diversity, preserve natural landscapes and improve access to countryside. [3]