

## Philosophy 2070 Quiz 2 Answer key

1. Provide a brief definition of ecological succession (you can use Odum's definition or your own). (2)

According to Odum,

"Ecological succession may be defined in terms of the following three parameters (1). (i) It is an orderly process of community development that is reasonably directional and, therefore, pre-dictable. (ii) It results from modifica-tion of the physical environment by the community; that is, succession is com-munity-controlled even though the phys-ical environment determines the pattern, the rate of change, and often sets limits as to how far development can go. (iii) It culminates in a stabilized ecosystem in which maximum biomass (or high information content) and symbiotic function between organisms are main-tained per unit of available energy flow.

Students proving their own definitions should mention that succession is an orderly (predictable) series of developmental stages (1 pt) and that it results in a relatively stable end state (1 pt.) .

2. Kricher offers a historical perspective on Eastern forests. Does this perspective support or undermine the claim that these forests were in balance prior to human disturbance? Briefly say why. (3)

For full marks students should make the following three points (not necessarily in these exact words).

1. The historical perspective offered by kricher undermines the view that Northeastern forests were in balance.
2. The balance of nature view is based on a brief snapshot of ecological communities which suggests that they are stable and unchanging.

(either one of the following for a point)

3. Kricher's historical perspective reveals that Northeastern forests have been in a constant state of flux since the last ice age.  
The immigration and emigration of many species over long periods of time suggests that these communities are more like a beach than they are like a party – community membership is determined more by abiotic than biotic factors.

3. Describe one difference between what Naess calls "shallow ecology" and "deep ecology". (2)

Students should receive a mark for getting at least one point from each of the following lists.

Shallow ecology:

- Concerned mainly with the symptoms of environmental problems such as pollution and resource depletion.
- Anthropocentric: views species as valuable only in relation to humans
- Science the preferred method for discovering the nature and value of ecological communities.
- Based on instrumental values of people in Western developed countries.

Deep ecology

- Concerned with the underlying causes of environmental problems – human failure to perceive ecological connections.
- Non-anthropcentric: all species have an equal right to existence.
- Prioritizes first hand experience over science as a means of identifying the nature and value of communities.
- Based on objective intrinsic values that are inherent in nature.

4. Some environmentalists argue that we should conserve certain species because we don't know the value they might potentially hold. According to Sober, what is wrong with this argument from ignorance? (3)

For 2 points students should exhibit an understanding of the basic fallacy. Eg, if one does not know the harm that would come from losing a species, then it is impossible to judge whether to conserve that species.

For a third point students should provide some kind of illustration of this idea. For example:

- Sober notes that the loss of certain species might actually have ecological benefit. If we know nothing about their value, this possibility cannot be ruled out.
- Airplane analogy. Sober claims that the argument from ignorance has the following form: Any airplane has the possibility of crashing. Therefore you should never fly. The problem with such arguments is that they do not mention the probability that the plane will crash. If that probability is extremely low, then it is rational to fly.