EEB 2208 (Introduction to Conservation Biology)

Homework 1: Lectures 1-3

Before starting this homework please read the documents titled "Homework overview" and "Exam format information" on the eebedia site (listed in the "Important course documents" section).

Homework checklist

- Answer every question or you will get no points
- Submit your responses before midnight on the day they are due or you will get no points
- Submit your answers via huskyct, following the instructions in the "Homework overview" document.
- Use this format for your responses (A = true, B = false):

    1. B
    2. A
    3. A
    .
    .
    36.
    a) An ecosystem engineer is ….
    b) …..

    37. Conservation biology is similar to medicine because ….

Homework 1

For the following sets of questions identify which answers are correct and which are false.
Each item is worth 1 point.

Which of the following things have been suggested as reasons why conservation is important? (5 points)

1. People like nature.
2. Biodiversity is a source of building materials.
3. Human health can benefit from biological diversity.
4. Ecosystems provide important services to humans.
5. If too many species go extinct there might be an ecological catastrophe.

Using data collected from vets, researchers have studied the mortality rate of cats that have fallen from buildings to see whether the height of the fall influences the chance that the cat will die. Surprisingly, they found that cats that fall from floors 1-5 were more likely to die than those that fell from higher up (floors 6-32). Why was this? (5 points)

6. Falling from high up gives the cats time to position themselves so that they land safely.
7. The data are biased.
8. A mean is being compared to a median.
9. Fewer cats fall from high floors than low floors.
10. Vets don't see most of the cats that fall from higher floors.

Which of the following disciplines play an important role in conservation biology? (5 points)

11. Genetics.
12. Political science.
13. Geography.
14. Economics.
15. Environmental activism.

Which of the following could be considered keystone species? (5 points)

16. Wolves.
17. Beavers.
18. Oak trees.
19. Humans.
20. Krill.

Which of the following is a component of biological diversity? (5 points)

21. Interactions among species.
22. Abiotic factors, such as temperature.
23. Species richness.
24. DNA differences among humans.
25. Species evenness.

The following statement compares dolphin survival in captivity versus the wild: "Calculations taken from the study showed that on average the expected life span of a bottle-nosed dolphin in captivity could be as little as 14 years, while in the wild the dolphin could live twenty to twenty-nine years." What can you accurately conclude from this statement?

26. Keeping dolphins in captivity harms them.
27. Dolphins live longer in the wild than in captivity.
28. Captive breeding is unlikely to be a good strategy for dolphin conservation.
29. The mean life span of a captive dolphin is 14 years.
30. The median life span of a wild dolphin is 20-29 years.

Which of the following statements is true about this course? (5 points)

31. Extra credit assignments are available upon request.
32. There are no office hours.
33. Responses to the discussion papers can be submitted via email.
34. You can miss up to three discussion papers without providing a reason.
35. During exams I will happily answer any questions you have about how to interpret questions.

PART 2:

36. Define the following terms, and give an example of each (6 points).

a) Ecosystem engineers
b) Spurious correlation
c) Beta-diversity

37. Describe three ways in which conservation biology is similar to medicine (3 points).

38. Define the word "average" as completely as possible (3 points).

39. What is Paul Ehrlich's "rivet-popping" analogy and how does it relate to conservation biology? (3 points)