Example Questions for Final – EEB 100

1. A predator consuming prey would occur at the organizational level of the
   A) community.
   B) biome.
   C) population.
   D) ecosystem.

2. Ecology is the same as environmentalism.
   A) True
   B) False

3. Calculate the estimated population size, N, given a study that initially marked 100 animals
   and subsequently captured 50, of which 25 were marked.
   A) 25
   B) 100
   C) 50
   D) 200

4. The age of a tree is best approximated by
   A) estimating tree height.
   B) counting tree growth rings.
   C) measuring the diameter of a trunk at breast height (dbh).
   D) counting the number of leaves.

5. Which of the following is an example of migration?
   A) frogs leaving a pond after metamorphosis
   B) hawks finding a new territory after maturing
   C) seeds dispersing from a tree
   D) humpback whales traveling up and down the coast of western United States

6. The distribution of species is rarely determined by minimum and maximum temperature
   tolerances.
   A) True
   B) False

7. Fecundity in a population is usually fixed and does not vary among age classes.
   A) True
   B) False

8. Reproductive success of an organism is best measured by its
   A) fecundity.
   B) ability to attract a mate.
   C) number of offspring that survive to reproduce.
   D) life span.
9. A trade-off for having many offspring would be
   A) **that they would likely be small in size.**
   B) that they would likely be large in size.
   C) that they would require a large amount of parental care.
   D) that they would have high survivorship.

10. According to the latest data, the global human population is predicted to
    A) continue to increase exponentially for the next 50 years.
    B) remain stable at the current population size
    C) increase at a steady rate for the next 100 years.
    D) **None of the above.**

11. Density-independent population regulation
    A) **is usually random.**
    B) primarily affects large populations.
    C) may involve disease transmission among individuals of the population.
    D) results from competition among individuals for available resources.

12. You see two squirrels fighting over a food resource. This most likely represents
    A) lack of resources.
    B) carrying capacity.
    C) **intraspecific competition.**
    D) interspecific competition.

13. Among mammals, the home range is usually larger for
    A) carnivorous species than for herbivorous species of the same body size.
    B) females than males of the same species.
    C) immatures than for adults of the same species.
    D) smaller species than for larger species.

14. The rate of competitive interactions among individuals increases as population density
    increases.
    A) **True**
    B) False

15. The length of a butterfly tongue perfectly matches the nectar tube of a flower it pollinates.
    This is an example of
    A) competition.
    B) amensalism.
    C) phenotypic plasticity.
    D) **coevolution.**

16. Predation always has a negative effect on the individual prey.
    A) **True**
    B) False
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17. Most interspecific interactions are exclusive, involving only two species.
   A) True
   B) False

18. Species having wide geographic distributions generally encounter a broader range of physical environmental conditions than species whose distribution is more restricted.
   A) true
   B) false

19. When an ecologist compares the diversity of different communities by counting the number of species within each community, the measure of diversity being used is called
   A) species evenness.
   B) species diversity.
   C) species richness.
   D) relative abundance.

20. Communities with low evenness will have rank-abundance curves
   A) that are very steep.
   B) that are 1:1.
   C) that are very shallow.
   D) that are flat.

21. Which of the following has the highest species richness? A community with
   A) 34 species of high evenness.
   B) 36 species with very low evenness.
   C) 35 species of high evenness.
   D) 33 species of low evenness.

22. A species that has massive effects on an ecosystem but in proportion to its abundance is a
   A) keystone species.
   B) basal species.
   C) dominant species.
   D) top predator.

23. The species at the top of a food web
   A) do not prey on other species and are not subject to predation.
   B) do not prey on other species and are subject to predation.
   C) prey on other species and are not subject to predation.
   D) prey on other species and are subject to predation.

24. Among the array of species that make up a community, not all are equally abundant.
   A) true
   B) false
25. The removal of a keystone species from a community typically results in an increase of diversity.
A) true
B) false

26. Species composition does not usually differ much within a local area, such as between a hilltop and a stream bottomland.
A) true
B) false

27. Changes in community composition and structure over time are called
A) succession.
B) stratification.
C) zonation.
D) characterization.

28. Communities vary in composition over space but usually not in composition over time.
A) true
B) false

29. Although community composition changes during succession, diversity rarely changes.
A) true
B) false

30. Diversity often decreases during the later stages of succession.
A) true
B) false

31. Succession usually involves only autotrophic species such as plants.
A) true
B) false

32. During plant succession, animals can quickly lose their habitat by vegetation change.
A) true
B) false

33. Which of the following statements is true?
A) Large patches of habitat usually contain fewer species than small patches.
B) Large animals usually have larger home ranges than smaller animals.
C) Carnivore home ranges are usually smaller than herbivore home ranges.
D) Small species are usually limited to small habitat patches.
34. Large habitat patches typically contain more individuals and species than smaller habitat patches.
   A) true  
   B) false

35. Patch size is generally more important for plant populations than for animal populations.
   A) true  
   B) false

36. The theory of island biogeography predicts that large islands have more species than smaller islands.
   A) true  
   B) false

37. Compare two environments at 45° N latitude: environment A's altitude is 50 meters and environment B's altitude is 3000 meters. Which environment will support the greater level of species richness for mammals and birds?
   A) Environment A will have the greater level of species richness.  
   B) Environment B will have the greater level of species richness.  
   C) Environments A and B will have the same species richness.

38. The 1.4 million species identified are equally distributed across the Earth's surface.
   A) true  
   B) false

39. The species richness of terrestrial plants and animals generally increases with elevation.
   A) true  
   B) false

40. The current warming trend on the Earth is due solely to natural fluctuations.
   A) true  
   B) false

41. Change in temperature has been the greatest in the tropics.
   A) true  
   B) false

42. According to the Congdon article we read in class, and lecture discussions, what is the best conservation plan for turtles?
   A) Limit hunting to only very large turtles.  
   B) Limit hunting to only male turtles.  
   C) Randomize hunting between all age structures.  
   D) Stop all hunting of adult turtles.