Vertebrate Zoology Test #1

1. The change in populations over time is called _____.
    A. Evolution
    B. Genetic Drift
    C. Punctuated equilibrium
    D. Natural Selection

2. A priest who served as a naturalist on the *H.M.S.* Beagle. Formed Theory of Evolution by Natural Selection
    A. Thomas Malthus
    B. Alfred Russell Wallace
    C. Charles Darwin
    D. Jean Baptiste Lamarck

3. A group of small islands near the equator, about 1 000 km off the west coast of South America. Observations of the island fauna lead to the Theory of Evolution by Natural Selection
    A. Fiji Islands
    B. Falkland Islands
    C. Galapagos Islands
    D. Aleutian Islands

4. An English Economist who said that the human population will grow faster than its food supply. This will result in a struggle to survive
    A. Thomas Malthus
    B. Alfred Russell Wallace
    C. Charles Darwin
    D. Jean Baptiste Lamarck

5. A body structure in a present day organism that no longer serves its original purpose
    A. Vestigial organ
    B. The human appendix is an example
    C. Internal organ
    D. All of the above
    E. Only A & B

6. A British naturalist who proposed a similar theory of evolution but did not get much credit for his work.
    A. Thomas Malthus
    B. Alfred Russell Wallace
    C. Charles Darwin
    D. Jean Baptiste Lamarck

7. A change in allele (gene) frequency due to chance events
    A. Genetic Equilibrium
    B. Genetic Drift
    C. Gene Pool
    D. Allelic Frequency

8. Phylogeny is
    A. A family tree
    B. Life's history depicted as a branching tree
    C. Geneaology
    D. A diagram that does not show evolutionary relationships

9. A mechanism for change in populations where an organism with a favorable phenotype survives, reproduces, and passes the favorable phenotype to the next generation. Organisms without the favorable phenotype are less likely to survive and reproduce
    A. Directional Selection
    B. Natural Selection
    C. Disruptive Selection
    D. Structural Adaptation

10. A population in which the frequency of alleles remains the same over generations
    A. Genetic Equilibrium
    B. Genetic Drift
    C. Gene Pool
    D. Allelic Frequency

11. A type of structural adaptation that enables a species to blend with their surroundings
    A. Industrial Melanism
    B. Camouflage
    C. Mimicry
    D. All of the above
    E. None of the above

12. A type of structural adaptation that enables one species to resemble another species
    A. Mimicry
    B. Camouflage
    C. Industrial melanism
    D. All of the above
    E. None of the above

13. A remnant of past life uncovered from the lithosphere is
    A. Always evidence of extinction
    B. A fossil
    C. Phylogeny
    D. None of the above

14. All the alleles of a populations genes
    A. Gene Pool
    B. Allelic Frequency
    C. Genetic Equilibrium

15. Body parts that do not have a common evolutionary origin but are similar in function
    A. Analogous structures
    B. Homologous structures
    C. Vestigial structures

16. Evidence of Evolution
    A. Fossil
    B. Anatomical
    C. Embryological (Ontogenetic)
    D. Biochemical
    E. All of the above

17. A pattern of natural selection that favors average individuals
    A. Natural Selection
    B. Directional Selection
    C. Stabilizing Selection
    D. Disruptive Selection

18. A pattern of natural selection that favors both extremes
    A. Natural Selection
    B. Directional Selection
    C. Stabilizing Selection
    D. Disruptive Selection

19. A pattern of natural selection that favors one extreme variation of a trait
    A. Natural Selection
    B. Directional Selection
    C. Stabilizing Selection
    D. Disruptive Selection

20. Speciation that occurs when a physical barrier divides a population is due to:
    A. Geographic Isolation
    B. Reproductive Isolation
    C. Genetic Equilibrium
    D. Adaptive Radiation

21. Speciation that occurs when formerly interbreeding organisms can no longer mate and produce fertile offspring (Could be physiological or behavioral (Brown and Rainbow Trout breed in different seasons)
    A. Geographic Isolation
    B. Reproductive Isolation
    C. Genetic Equilibrium
    D. Adaptive Radiation

22. Structural features with a common evolutionary origin (e.g. arm bones of a human, whale, & bat)
    A. Phylogenetic Structures
    B. Homologous Structures
    C. Analogous Structures
    D. Ontogenetic Structures

23. The evolution of a new species occurs when members of similar populations no longer interbreed to produce fertile offspring within their natural environment
    A. Speciation
    B. Convergent Evolution
    C. Divergent Evolution
    D. A & B
    E. A & C

24. When an ancestral species evolves into an array of species to fit a number of diverse habitats
    A. Founders effect
    B. Bottleneck effect
    C. Adaptive Radiation
    D. All of the above
    E. None of the above

25. The most recent individual from which all organisms in the group are directly descended is called the:
    A. Most recent common ancestor
    B. Shared ancestry
    C. Phylogeny
    D. Cladistics

26. The scientist who proposed the idea of "use and disuse" where body parts which are used become larger and those not used become smaller. He also proposed the idea that traits acquired during an organisms lifetime could be passed on to their offspring.
    A. Georges Cuvier
    B. Charles Darwin
    C. Jean Baptiste Lamarck
    D. Alfred Russell Wallace

27. An ancestor shared by two or more lineages
    A. Common ancestor
    B. Most recent common ansestor
    C. Phylogeny
    D. Cladistics

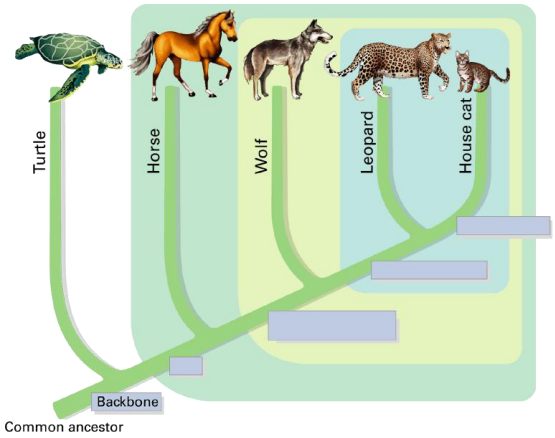
28. Evolution occurs in ____.
    A. Individuals
    B. Populations

29. Coloration of animals that allows them to blend in with their environments from above and below
    A. Cryptic coloration
    B. Counter-shading
    C. Camouflage
    D. Mimicry

30. These "patterns" on certain animals bodies make them appear much larger
    A. Nose spots
    B. Ear spots
    C. Eye spots

31. Living organisms are not constant in form or function, nor are they perpetually cycling but always changing is which of the following evolutionary theories
    A. Common descent
    B. Multiplication of species
    C. Gradualism
    D. Perpetual change

32. What is a derived trait?
    A. One that appears for the 1st time
    B. One that is repeated in many organisms
    C. One that has become extinct
    D. None of the above



33. Which of the organisms in the diagram is evolutionarily the "oldest"
    A. Turtle
    B. Horse
    C. Leopard
    D. House cat

34. What is the derived trait in the diagram that separates wolves, leopards, and house cats from horses and turtles?
    A. Purring
    B. Retractable claws
    C. Being a carnivore
    D. Hair

35. A continuous line of descent is called
    A. Lineage
    B. Clade
    C. Family tree
    D. Phylogeny
    E. None of the above

39. What is speciation?
    A. The extinction of a species
    B. The creation of a species
    C. The hybridization of two species
    D. None of the above

40. The breaking of a branch into two lineages on a phylogenetic tree represents

A. The mutation of the common ancestor
B. The birth of offspring
C. An extinction of a species
D. A speciation event
E. None of the above

41. The creation of a new species due to original populations being physically separated is called
A. Sympatric speciation
B. Allopatric speciation
C. Patric speciation
D. None of the above

42. Which of the following are reproductive barriers?
A. Habitat
B. Temporal
C. Behavioral
D. All of the above
E. Only A & B

43. A group of similar organisms that can mate to produce fertile, viable offspring is called
A. An organism
B. A species
C. A population
D. A community

44. Patterns on animals that confuse predators by making it difficult to single out one individual:
A. Cryptic coloration
B. Camouflage
C. Mimicry
D. Disruptive coloration
E. Counter-shading

45. What did T-Rex probably taste like based on phylogenetic comparison to extant species
A. Fish
B. Venison
C. Chicken
D. Beef

Essay Question

Discuss the significance of the diagram and its meaning.