1. Which is an example of evolution?
   1) development of the modern horse from earlier horse species
   2) development of muscle tissue from embryonic mesoderm
   3) replacement of a lost claw of a lobster
   4) germination of a 100-year-old spore when moistened

2. Which statement best supports the inference that the ancestors of modern day elephants had no trunks or tusks and were the size of pigs?
   1) Population size tends to remain stable from generation to generation.
   2) Evolutionary change is always rapid and continuous.
   3) Existing life forms have evolved from earlier life forms.
   4) Geographic isolation rarely favors speciation in small populations.

3. The process of structural modification over a long period of time that helps to explain diversity of living things is known as
   1) metamorphosis
   2) succession
   3) migration
   4) evolution

4. The changes in foot structure in a bird population over many generations are shown in the diagram below.

5. Genetic variations are the raw material for evolution. These variations cannot be acted upon by natural selection factors unless they
   1) produce only unfavorable characteristics
   2) produce only favorable characteristics
   3) are found in fossil records of the population
   4) are in the phenotype of the organism

6. Possible explanations for the differences in body structures, body functions, and behavior between various life-forms are included in the
   1) theories of organic evolution
   2) cell theory
   3) fossil records of vertebrates
   4) concept of use and disuse

7. Most species on Earth have changed through time. This change is known as
   1) isolation
   2) geology
   3) ecology
   4) evolution

8. Comparative studies in embryology, biochemistry, and cytology provide information used by modern biologists to examine new concepts about the
   1) function of mouth parts in the grasshopper
   2) function of nephridia in the earthworm
   3) theory of use and disuse
   4) theory of organic evolution

9. A possible explanation for the differences in structure, function, and behavior between chimpanzees and humans is provided by the
   1) heterotroph hypothesis
   2) lock-and-key model
   3) cell theory
   4) theory of evolution

10. Although similar in many respects, two species of organisms exhibit differences that make each well adapted to the environment in which it lives. The process of change that may account for these differences is
    1) evolution
    2) germination
    3) regeneration of lost structures
    4) transmission of homologous structures

11. The term "evolution" is best described as
    1) a process of change in a population through time
    2) a process by which organisms become extinct
    3) the reproductive isolation of members of certain species
    4) the replacement of one community by another

12. Many scientists believe that the earliest cells on Earth were relatively simple, lacking nuclear membranes and other organized cellular structures. Over time, more complex cells developed from these simple cells.

    These statements describe the concept of
    1) inheritance of acquired characteristics
    2) evolution
    3) dominance
    4) use and disuse

13. Which statement represents the major concept of the biological theory of evolution?
    1) A new species moves into a habitat when another species becomes extinct.
    2) Every period of time in Earth's history has its own group of organisms.
    3) Present-day organisms on Earth developed from earlier, distinctly different organisms.
    4) Every location on Earth's surface has its own unique group of organisms.
14. Some behaviors such as mating and caring for young are
   genetically determined in certain species of birds. The presence
   of these behaviors is most likely due to the fact that
   1) birds do not have the ability to learn
   2) individual birds need to learn to survive and reproduce
   3) these behaviors helped birds to survive in the past
   4) within their lifetimes, birds developed these behaviors

15. The theory of biological evolution includes the concept that
   1) species of organisms found on Earth today have adaptations
      not always found in earlier species
   2) fossils are the remains of present-day species and were all
      formed at the same time
   3) individuals may acquire physical characteristics after birth
      and pass these acquired characteristics on to their offspring.
   4) the smallest organisms are always eliminated by the larger
      organisms within the ecosystem

16. Which statement is most closely related to the modern theory of
    evolution?
    1) Characteristics that are acquired during life are passed to
       offspring by sexual reproduction.
    2) Evolution is the result of mutations and recombination, only.
    3) Organisms best adapted to a changed environment are more
       likely to reproduce and pass their genes to offspring.
    4) Asexual reproduction increases the survival of species.

17. Which statement concerning production of offspring is correct?
    1) Production of offspring is necessary for a species to survive,
       but it is not necessary for an individual to survive.
    2) An organism can reproduce without performing any of the
       other life processes.
    3) Production of offspring is necessary for an individual
       organism to survive, while the other life processes are
       important for a species to survive.
    4) Reproduction is a process that requires gametes in all
       species.

18. A species of bird known as Bird of Paradise has been observed
    in the jungles of New Guinea. The males shake their bodies and
    sometimes hang upside down to show off their bright colors and
    long feathers to attract females. Females usually mate with the
    "flashiest" males. These observations support the concept that
    1) unusual courtship behaviors lead to extinction
    2) some organisms are better adapted for asexual reproduction
    3) homeostasis in an organism is influenced by physical
       characteristics
    4) behaviors that lead to reproductive success have evolved

19. Young birds that have been raised in isolation from members
    of their species build nests characteristic of their species. This
    suggests that the nest-building behavior is
    1) genetically inherited from parents
    2) learned by watching members of their species
    3) a disadvantage to the survival of the species
    4) a direct result of the type of food the bird eats

20. The diversity of organisms present on Earth is the result of
    1) ecosystem stability
    2) homeostasis
    3) natural selection
    4) direct harvesting

21. Which factor has the greatest effect on the rate of evolution of
    animals?
    1) environmental changes
    2) use and disuse
    3) asexual reproduction
    4) vegetative propagation

22. In a certain area, DDT-resistant mosquitoes now exist in greater
    numbers than ten years ago. What is the most probable
    explanation for this increase in numbers?
    1) Genetic differences permitted some mosquitoes to survive
       DDT use.
    2) Mosquito eggs were most likely to have been fertilized-
       when exposed to DDT.
    3) DDT acted as a reproductive hormone for previous
       generations of mosquitoes.
    4) DDT serves as a new source of nutrition.

23. Natural selection can best be defined as
    1) survival of the strongest organisms
    2) elimination of the smallest organisms by the largest
       organisms
    3) survival of those organisms genetically best adapted to the
       environment
    4) survival and reproduction of those organisms
       that occupy the largest area in an environment

24. Many modern evolutionists have accepted much of Darwin's
    theory of evolution, but have added genetic information that
    gives a scientific explanation of
    1) overproduction
    2) the struggle for existence
    3) the survival of the fittest
    4) variations

25. Which concept was not included by Darwin in his theory of
    evolution?
    1) overproduction in a population
    2) struggle for existence
    3) genetic basis for variations
    4) survival of the fittest

26. Certain insects resemble the twigs of trees. Based on modern
    evolutionary theory, the most probable explanation for this is that
    1) a single gene mutation caused the resemblance
    2) the insects changed because they ate the wood of the trees
    3) genes were transferred from the trees to the insects
    4) natural selections of many variations had occurred
27. After the Industrial Revolution, dark-colored moths outnumbered light-colored moths in certain regions of England. Within the past 40 years, factories in these regions have added scrubbers and air purifiers to their smokestacks, and the relative number of light-colored moths has increased. The probable reason for this increase is that
1) the allele for light color became dominant over the allele for dark color
2) the environment favored the survival of light-colored moths over dark-colored moths
3) dark-colored moths turned light because they needed to survive
4) overpopulation occurred and most of the light-colored moths died, leaving only dark-colored moths to reproduce.

28. Which concept about variations is included in the modern theory of evolution?
1) Variations occur in animals, but not in plants.
2) Variations are acquired and will appear in the offspring.
3) Variations are the result of overproduction.
4) Variations influence the survival of the individual.

29. Traits that are least beneficial to a species tend to decrease in frequency from generation to generation because these traits usually
1) have a high survival value
2) have a low survival value
3) are inherited by more individuals
4) affect only the older members of the population

30. A trait with low survival value to the members of a population will most likely
1) undergo a series of mutations in succeeding generations
2) cause the reproduction rate in individual organisms to increase
3) decrease in frequency from one generation to the next
4) remain unchanged in frequency through many generations

31. In his studies of birds in the Galapagos Islands, Charles Darwin observed that few bird varieties with similar beak size and shape inhabited a particular area. The limited number of similar varieties was most likely due to
1) competition for the same type of food
2) competition for a specific concentration of oxygen in the atmosphere
3) the presence of an excessive number of autotrophs
4) the presence of a disease that attacks birds with similar beaks

32. Darwin's theory of evolution is based on
1) variation and natural selection
2) use and disuse
3) spontaneous genetic mutations
4) transmission of acquired characteristics

33. In a study of tree snails living on a peninsula, differences were seen in the radula, a tongue-like organ with a circular arrangement of teeth. In each species, the shape of the teeth was modified to allow for the ingestion of different food materials. These differently shaped teeth are an example of
1) transmission of acquired characteristics
2) adaptation to environmental factors
3) overproduction
4) geographic isolation

34. Which factor has most likely caused the rapid increase in the number of pesticide-resistant insect species over the past 30 years?
1) a decrease in food production
2) an increase in competition between plants
3) more widespread use of insecticides
4) greater mating between insect species

35. Of the 500 eggs produced by a certain female frog, only 10% developed into adult frogs. Which part of Darwin's theory does this best illustrate?
1) Favorable variations are not inherited.
2) There is a struggle for existence among organisms.
3) Mutations occur by chance.
4) Mating occurs in a random manner in a species.

36. Organisms with favorable variations reproduce more successfully than organisms with less favorable variations. This statement best describes the concept of
1) overproduction
2) use and disuse
3) inheritance of acquired characteristics
4) survival of the fittest

37. How does natural selection operate to cause change in a population?
1) The members of the population are equally able to survive any environmental change.
2) The members of the population differ so that only some survive when the environment changes.
3) The members of the population do not adapt to environmental changes.
4) All the members of the population adapt to environmental changes.

38. The concept that new varieties of organisms are still evolving is best supported by the
1) increasing need for new antibiotics
2) increasing number of individuals in the human population
3) decreasing number of new fossils discovered in undisturbed rock layers
4) decreasing activity of photosynthetic organisms due to warming of the atmosphere

39. Which concept includes the other three?
1) competition
2) survival of the fittest
3) natural selection
4) overproduction
40. One concept that supports the theory of evolution states that organisms best adapted for survival are the ones that will reproduce and pass traits on to future generations. Adaptations that can be passed on do not include
1) the basic structure of the organism
2) the reflex actions of the organism
3) the manner in which the organism carries out respiration
4) techniques for hunting food taught by the parents of the organism

41. Darwin's studies of finches on the Galapagos Islands suggest that the finches' differences in beak structure were most directly due to
1) acquired characteristics in the parent finches
2) the size of the island where the finches live
3) mating behaviors of the different finch species
4) adaptations of the finches to different environments

42. Even though the environment changes, a population that occupies a given geographic area will most likely continue to be found in this area if the
1) variations in the population decrease over time
2) members of the population decrease in number
3) members of the population exceed the carrying capacity
4) population passes on those genes that result in favorable adaptations

43. According to the theory of natural selection, why are some individuals more likely than others to survive and reproduce?
1) Some individuals pass on to their offspring new characteristics they have acquired during their lifetimes.
2) Some individuals are better adapted to exist in their environment than others are.
3) Some individuals do not pass on to their offspring new characteristics they have acquired during their lifetimes.
4) Some individuals tend to produce fewer offspring than others in the same environment.

44. The information below was printed on a calendar of important events in the field of biology.

1859
Darwin Publishes
On the Origin of Species by Natural Selection

This information is most closely associated with
1) an explanation for the change in types of minerals in an area through ecological succession
2) the reasons for the loss of biodiversity in all habitats on Earth
3) an attempt to explain the structural similarities observed among diverse living organisms
4) the effect of carrying capacity on the size of populations

45. Which statement is not part of the concept of natural selection?
1) Individuals that possess the most favorable variations will have the best chance of reproducing.
2) Variation occurs among individuals in a population.
3) More individuals are produced than will survive.
4) Genes of an individual adapt to a changing environment.

46. Natural selection and its evolutionary consequences provide a scientific explanation for each of the following except
1) the fossil record
2) protein and DNA similarities between different organisms
3) similar structures among different organisms
4) a stable physical environment

47. The teeth of carnivores are pointed and are good for puncturing and ripping flesh. The teeth of herbivores are flat and are good for grinding and chewing. Which statement best explains these observations?
1) Herbivores have evolved from carnivores.
2) Carnivores have evolved from herbivores.
3) The two types of teeth most likely evolved as a result of natural selection.
4) The two types of teeth most likely evolved as a result of the needs of an organism.
48. Which concept is best illustrated in the flowchart below?

```
Overproduction + limited niches \(\rightarrow\) Struggle for existence + hereditary variation \(\rightarrow\) Survival of the fittest + environmental change \(\rightarrow\) Change of species or new species
```

1) natural selection 2) genetic manipulation 3) dynamic equilibrium 4) material cycle

49. Certain insects resemble the bark of the trees on which they live. Which statement provides a possible biological explanation for this resemblance?

1) The insects needed camouflage so they developed protective coloration.
2) Natural selection played a role in the development of this protective coloration.
3) The lack of mutations resulted in the protective coloration.
4) The trees caused mutations in the insects that resulted in protective coloration.

50. The females of certain species of turtles will sneak into a nest of alligator eggs to lay their own eggs and then leave, never to return. When the baby turtles hatch, they automatically hide from the mother alligator guarding the nest and go to the nearest body of water when it is safe to do so. Which statement best explains the behavior of these baby turtles?

1) More of the turtles’ ancestors who acted in this way survived to reproduce, passing this behavioral trait to their offspring.
2) The baby turtles are genetically identical, so they behave the same way.
3) Turtles are not capable of evolving, so they repeat the same behaviors generation after generation.
4) The baby turtles’ ancestors who learned to behave this way taught the behaviors to their offspring.

51. In an area of Indonesia where the ocean floor is littered with empty coconut shells, a species of octopus has been filmed “walking” on two of its eight tentacles. The remaining six tentacles are wrapped around its body. Scientists suspect that, with its tentacles arranged this way, the octopus resembles a rolling coconut. Local predators, including sharks, seem not to notice the octopus as often when it behaves in this manner. This unique method of locomotion has lasted over many generations due to

1) competition between octopuses and their predators
2) ecological succession in marine habitats
3) the process of natural selection
4) selective breeding of this octopus species

52. Ancestors of the giant panda had rounded paws with five very short toes. Today, the giant panda has a sixth toe, often referred to as a thumb, even though it develops from a wrist bone. This unique thumb is an adaptation that allows the panda to easily hold and eat bamboo shoots. The presence of the giant panda’s thumb is most likely the result of

1) natural selection 3) asexual reproduction
2) selective breeding 4) ecological succession

53. If the same antibiotic is used too many times, it can become less effective against a certain type of bacteria. This observation is best explained by the

1) presence of pathogens in antibiotics
2) production of antibiotics by white blood cells
3) replication of viruses that attack bacteria
4) survival and reproduction of unaffected bacteria

54. In Yellowstone National Park, some species of algae and bacteria can survive and reproduce in hot springs at temperatures near the boiling point of water. The ability to survive and reproduce at these temperatures is an example of

1) aggregate formation 3) artificial selection
2) adaptation 4) reproductive isolation

55. Characteristics of a species that make its members better able to live and reproduce in their environment are known as

1) favorable adaptations 3) abiatic factors
2) homologous structures 4) biotic factors

56. A key concept in the modern theory of evolution explains

1) how new organs arise according to the needs of an organism
2) how variations occur within a species
3) the continued increase in the human population
4) the presence of asexual reproduction within a species
57. The diagram below illustrates the change that occurred in the physical appearance of a rabbit population over a 10-year period.

![Diagram showing change in rabbit fur colors]

Which condition would explain this change over time?
1) a decrease in the mutation rate of the rabbits with black fur
2) a decrease in the advantage of having white fur
3) an increase in the advantage of having white fur
4) an increase in the chromosome number of the rabbits with black fur

58. When a particular white moth lands on a white birch tree, its color has a high adaptive value. If the birch trees become covered with black soot, the white color of this particular moth in this environment would most likely
1) retain its adaptive value
2) increase in adaptive value
3) change to a more adaptive black color
4) decrease in adaptive value

59. Scientists compared fossil remains of a species that lived 5,000 years ago with members of the same species living today. Scientists concluded that this species had changed very little over the entire time period. Which statement best accounts for this lack of change?
1) The environment changed significantly and those offspring without favorable characteristics died.
2) The environment changed significantly, but the species had no natural enemies for a long period of time.
3) The environment did not change significantly and those offspring expressing new characteristics survived their natural enemies.
4) The environment did not change significantly and those offspring expressing new characteristics did not survive.

60. Which factor is least likely to contribute to an increase in the rate of evolution?
1) presence of genetic variations in a population
2) environmental selection of organisms best adapted to survive
3) chromosomal recombinations
4) a long period of environmental stability

61. The illustration below shows an insect resting on some green leaves.

![Illustration of an insect on green leaves]

The size, shape, and green color of this insect are adaptations that would most likely help the insect to
1) compete successfully with all birds
2) make its own food
3) hide from predators
4) avoid toxic waste materials
62. The graph below shows the percent of variation for a given trait in four different populations of the same species. The populations inhabit similar environments.

<table>
<thead>
<tr>
<th>Population</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of Variation for a Given Trait</td>
<td>0</td>
<td>10</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>40</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In which population will the greatest number of individuals most likely survive if a significant environmental change related to this trait occurs?
1) 1 2) 2 3) 3 4) 4

63. A species in a changing environment would have the best chance of survival as a result of a mutation that has a
1) high adaptive value and occurs in its skin cells
2) low adaptive value and occurs in its skin cells
3) high adaptive value and occurs in its gametes
4) low adaptive value and occurs in its gametes

64. Limited resource contribute to evolutionary change in animals by increasing
1) genetic variation within the population
2) competition between members of the species
3) the carrying capacity for the species
4) the rate of photosynthesis in the population

65. Buffalo grass is a species of plant found on the glazing prairies of Wyoming. It is a tough grass that has silicates (compounds containing oxygen and silicon) that reinforce its leaves. For hundreds of years, this grass has survived in an adverse environment. Which statement best explains the presence of this grass today?
1) There are no variations in this grass species that help it to survive in an adverse environment.
2) Silicates are necessary for photosynthesis.
3) The current species has no mutations.
4) The silicates in the grass have given the species an advantage in its environment.

66. Which group would most likely have the greatest survival success during a long period of environmental changes?
1) a small population of rabbits living in a field of grass
2) a large population of red ants living in a forest
3) an endangered population of polar bears living near an iceberg
4) one species of bird that nests only in sugar maple trees

67. Lamarck proposed that new organs evolved according to the
1) needs of the organism 2) process of natural selection 3) role of mutation 4) sorting out of genes

68. Which statement is most consistent with the theory of evolution as stated by Lamarck?
1) In a litter of puppies, the weakest one died.
2) A cat that lost a toe produced a kitten missing a toe.
3) The mutation rate of a bacterium increased under ultraviolet light.
4) A change in DNA structure produced longer tails in monkeys.

69. A mouse has its tail completely cut off by a mousetrap. Which concept proposes that the offspring produced by this mouse will be born without tails?
1) gene linkage
2) crossing-over between homologous chromosomes
3) survival of the fittest
4) inheritance of acquired characteristics

70. The concept that, due to a need, organisms acquired the ability to move from an aquatic environment onto the land is most closely associated with a theory proposed by
1) Weismann 2) crossing-over between homologous chromosomes
3) survival of the fittest 4) inheritance of acquired characteristics

71. Which statement would most likely have used by Lamarck to explain the development of the long trunk in elephants?
1) Elephants stretched their trunks to reach food supply and this longer trunk was passed on.
2) A mutation occurred and its frequency increased in later generations.
3) Elephants with longer trunks had a higher survival rate and the longer trunk was passed on.
4) Elephants with short trunks were mostly sterile.

72. In 1889, August Weismann, a German biologist, conducted an experiment attempting to produce mice without tails. He cut the tails off adult mice and then permitted them to mate. All offspring had long tails. He repeated the experiment many times, always with the same results. This experiment helped to disprove the concept of
1) overproduction in a species
2) inheritance of acquired characteristics
3) survival of the fittest
4) struggle for existence

73. Based on modern evolutionary theory, the development of a new species would most likely be associated with
1) a constant environment 2) stable gene pools
3) geographic isolation 4) a lack of mutations
74. Over a long period of time the organisms on an island changed so that they could no longer interbreed with the organisms on a neighboring island. This inability to interbreed is known as
1) hybridization 3) artificial selection
2) reproductive isolation 4) survival of the fittest

75. Two squirrel populations are prevented from mating only because they live on opposite sides of the Colorado River. This situation is an example of
1) reproductive isolation 3) adaptive radiation
2) geographic isolation 4) natural selection

76. The American toad breeds earlier in the spring than the Fowler's toad does. Therefore, they do not interbreed, even though they often live in the same habitat. Which conclusion can best be drawn from this information?
1) The two species do not interbreed because of geographic isolation.
2) The two species do not interbreed because of a form of reproductive isolation.
3) Adaptive mutations occurred more often during the evolution of the American toad.
4) Fowler's toad has a higher rate of survival than the American toad does.

77. The species of finches that Darwin found on the Galapagos Islands displayed different structural and behavioral adaptations. These adaptations differed among the species according to the birds' varying habitats. Such adaptations most likely evolved as a result of
1) use and disuse
2) transmission of acquired characteristics
3) reproductive isolation
4) geographic isolation

78. A group of organisms became reproductively isolated from its original population due to geographic separation. This group would most likely be
1) unable to successfully interbreed with its original population
2) genetically identical to its original population
3) unable to live in the same habitat with its original population
4) able to reproduce with its original population, only

79. Members of a population may become separated from the original population by a newly formed mountain range. This occurrence is an example of
1) geographic isolation 3) natural selection
2) reproductive isolation 4) struggle for existence

80. Modern evolutionary theory has modified the theory of natural selection by
1) considering survival of the fittest to be invalid
2) showing that competition does not exist within species
3) including a genetic basis for change and variation
4) accepting the theory of use and disuse

81. A factor that tends to cause species to change is a
1) stable environment 3) recombination of genes
2) lack of migration 4) decrease of mutations

82. As a result of sexual reproduction, the rate of evolutionary change in the plant and animal kingdoms has been greatly increased because
1) the offspring show more diversity than in asexual reproduction
2) characteristics change less frequently than in asexual reproduction
3) environmental changes never affect organisms produced by asexual reproduction
4) two parents have fewer offspring than one parent

83. A gene mutation has adaptive value if it
1) enables an organism to survive an environmental change
2) results in the production of an unhealthy organism
3) leads to the extinction of a species
4) produces sterility in male members of a species

84. Which process would have the least influence on the rate of evolutionary change?
1) sexual reproduction 3) meiosis
2) mutation 4) asexual reproduction

85. If a species of bear in Russia and the brown bear in the United States have a common ancestor, the differences between these two species most likely resulted from
1) mutations and genetic recombination
2) mutations and asexual reproduction
3) the inheritance of acquired traits
4) the development of structures for climbing trees

86. Since variations between offspring are important in the process of natural selection, evolution would be expected to occur more rapidly in species that reproduce by the process of
1) budding 3) sexual reproduction
2) asexual reproduction 4) sporation

87. Which process is primarily responsible for maintaining variation in a population?
1) sexual reproduction 3) spore formation
2) binary fission 4) vegetative propagation

88. A weakness in Darwin's original theory of evolution was that
1) the genetic basis for variation was not explained
2) overproduction never occurs in nature
3) competition occurs in animals but not in plants
4) natural selection does not occur in domestic animals

89. Variations within a species are most likely the result of
1) mutations and sexual reproduction
2) synopsis and disjunction
3) mitosis and asexual reproduction
4) overpopulation and recombination
90. One way that the modern theory of evolution differs from the theory of evolution proposed by Charles Darwin is that the modern theory
1) includes the concept of use and disuse
2) does not include the concept of overproduction
3) identifies mutations as one explanation for variations
4) does not consider the effects of genetic change

91. A large population of houseflies was sprayed with a newly developed, fast-acting insecticide. The appearance of some houseflies that are resistant to this insecticide supports the concept that
1) species traits tend to remain constant
2) biocides cause mutations
3) variation exists within a species
4) the environment does not change

92. Exposure to cosmic rays, x-rays, ultraviolet rays, and radiation from radioactive substances may promote
1) the production of similar organisms
2) diversity among organisms
3) an increase in population size
4) a change from sexual to asexual reproduction

93. The diagram below represents a process involved in reproduction in some organisms.

![Diagram of gene inheritance]

This process is considered a mechanism of evolution because
1) mitosis produces new combinations of inheritable traits
2) it increases the chances of DNA alterations in the parent
3) it is a source of variation in the offspring produced
4) meiosis prevents recombination of lethal mutations

94. Similarity in the skeletal structures of whales, bats, and humans leads to the conclusion that they
1) originated in the same environment
2) belong to the same order of mammals
3) descended from a common ancestor
4) have the same chromosome number

95. Which term describes appendages that may have different functions, but are similar in structure and are assumed to have the same evolutionary origin?
1) fossils
2) homologous
3) homologous
4) mutations

96. Plasma membranes, ribosomes, and mitochondria are similar in different organisms such as the oak tree and grasshopper. This similarity provides evidence of
1) organic evolution
2) body cell mutations
3) use and disuse
4) recombinant DNA

97. The diagrams below represent the forelimbs of three different organisms.

![Diagram of human, bird, and whale forelimbs]

These structures are classified as homologous because they
1) demonstrate the law of use and disuse
2) are identical in function
3) represent acquired characteristics
4) are similar in structure and origin
98. The diagram below illustrates a proposed evolutionary path of certain organisms, based on the theory of evolution.

Which statement could best be inferred from the information in this diagram?
1) Evolution does not involve gradual change.  
2) Evolutionary changes can result in extinction.  
3) Evolution begins with plants.  
4) Evolution produces organisms that all fill the same niche.

99. According to some scientists, patterns of evolution can be illustrated by the diagrams below.

Which statement best explains the patterns seen in these diagrams?
1) The organisms at the end of each branch can be found in the environment today.  
2) The organisms that are living today have all evolved at the same rate and have undergone the same kinds of changes.  
3) Evolution involves changes that give rise to a variety of organisms, some of which continue to change through time while others die out.  
4) These patterns cannot be used to illustrate the evolution of extinct organisms.

100. Which population of organisms would be in greatest danger of becoming extinct?
1) A population of organisms having few variations living in a stable environment.  
2) A population of organisms having few variations living in an unstable environment.  
3) A population of organisms having many variations living in a stable environment.  
4) A population of organisms having many variations living in an unstable environment.
|   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | 25  | 26  | 27  | 28  | 29  | 30  | 31  | 32  | 33  | 34  | 35  | 36  | 37  | 38  | 39  | 40  | 41  | 42  | 43  | 44  | 45  | 46  | 47  | 48  | 49  | 50  | 51  | 52  | 53  | 54  | 55  | 56  | 57  | 58  | 59  | 60  | 61  | 62  | 63  | 64  | 65  | 66  | 67  | 68  | 69  | 70  | 71  | 72  | 73  | 74  | 75  | 76  | 77  | 78  | 79  | 80  | 81  | 82  | 83  | 84  | 85  | 86  | 87  | 88  | 89  | 90  | 91  | 92  | 93  | 94  | 95  | 96  | 97  | 98  | 99  | 100 |