Essentials of Physical Anthropology 10th edition Jurmain Test Bank

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1. Many people in the United States believe in the Biblical creation. What various kinds of factors may account for the fact that many people do not accept evolution as an explanation for the origins and diversity of life?

   ANSWER: Will vary
   REFERENCES: Opposition to Evolution Today

2. During the voyage of the Beagle Darwin noted the variations in Galapagos finches between beak size and:
   a. body size.
   b. longevity.
   c. diet.
   d. exercise.
   e. altitude.

   ANSWER: c
   REFERENCES: A Brief History of Evolutionary Thought

3. The most critical mechanism of evolutionary change is natural selection.
   a. True
   b. False

   ANSWER: True
   REFERENCES: A Brief History of Evolutionary Thought

4. Many people argue that evolution is "just a theory." Define theory and describe how evolution does or does not fit this definition.

   ANSWER: In science a theory is something that has been tested and has robust support. Evolution provides various cases of support from the peppered moth to current disease challenges.
   REFERENCES: Introduction

5. In explaining the origins of variation within species, Darwin:
   a. had no idea of the true causes.
   b. agreed with Lamarck that it was caused by an animal's inner needs.
   c. used research he carried out while at Cambridge.
   d. argued it was caused by differential use of an animal's body parts.
   e. used Mendel's theory of heredity.

   ANSWER: a
   REFERENCES: Natural Selection

6. There are no well-documented examples of natural selection operating on natural populations.
   a. True
   b. False

   ANSWER: False
   REFERENCES: Natural Selection

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7. In Europe during the Middle Ages, it was most commonly believed that:
   a. all forms were created by God and did not change over time.
   b. life was created slowly, over millions of years.
   c. most species had become extinct over time.
   d. all species had evolved from a common ancestor.
   e. evolution was the result of natural selection acting upon genetic variation.

   ANSWER: a
   REFERENCES: A Brief History of Evolutionary Thought

8. The principle of uniformitarianism:
   a. was the same as the theory of catastrophism.
   b. stated that the geological processes that operated in the past are still occurring in the present.
   c. was a problem for the development of evolutionary theories.
   d. was first proposed by Georges Cuvier.
   e. proposed that the earth was only a few thousand years old.

   ANSWER: b
   REFERENCES: A Brief History of Evolutionary Thought

9. In formulating his theory of natural selection, Darwin did *not*:
   a. appreciate the fact that population size is limited by availability of food.
   b. recognize the importance of biological variation within a population.
   c. wonder if he had enough supportive data.
   d. apply his knowledge of domesticated species to undomesticated ones.
   e. claim that favorable variations would tend to be destroyed, unfavorable ones be preserved.

   ANSWER: e
   REFERENCES: A Brief History of Evolutionary Thought

10. Populations which are prevented from mating and producing fertile offspring are:
   a. not in biological continuity.
   b. considered part of the same taxonomic species.
   c. infertile.
   d. less subject to selective pressures.
   e. reproductively isolated.

   ANSWER: e
   REFERENCES: A Brief History of Evolutionary Thought

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11. Thomas Malthus did *not*:
    a. propose that human population today is not related to the availability of resources.
    b. argue that in nature resource availability remains relatively stable over time.
    c. argue that in nature there is a tendency for animal population to increase in number.
    d. influence the development of Darwin's and Wallace's theories of natural selection.
    e. argue for limits to human population growth.

    ANSWER: a
    REFERENCES: A Brief History of Evolutionary Thought

12. _____ was an 18th century thinker who believed that living forms changed in response to the environment yet still rejected the idea that one species could give rise to another.
    a. John Ray
    b. Alfred Russel Wallace
    c. Georges Cuvier
    d. Erasmus Darwin
    e. Georges-Louis Leclerc de Buffon

    ANSWER: e
    REFERENCES: A Brief History of Evolutionary Thought

13. Fitness, in an evolutionary sense, refers to an individual's:
    a. size.
    b. aggressiveness.
    c. strength.
    d. age at death.
    e. reproductive success.

    ANSWER: e
    REFERENCES: Natural Selection

14. _____was the opponent of Jean-Baptiste Lamarck and the proposer of the view that the earth's geological landscape is the result of violent cataclysmic events.
    a. Thomas Malthus
    b. Erasmus Darwin
    c. Alfred Russel Wallace
    d. Charles Lyell
    e. Georges Cuvier

    ANSWER: e
    REFERENCES: A Brief History of Evolutionary Thought

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15. Growing attacks on traditional beliefs occurred simultaneously with growing awareness of biological diversity. _____challenged a notion proposed by Aristotle to account for the movement of the sun and planets.
    a. Darwin
    b. Wallace
    c. Mendel
    d. Copernicus
    e. Linnaeus

    ANSWER: d
    REFERENCES: A Brief History of Evolutionary Thought

16. Darwin argues that:
    a. there is biological variation within all species.
    b. fitness is a measure of how healthy and physically adapted an individual is.
    c. there are fewer selective pressures on well-adapted species.
    d. individuals who have more resources are reproductively successful.
    e. in each generation all offspring survive in the most adapted species.

    ANSWER: a
    REFERENCES: Natural Selection

17. _____first recognized that species were groups of organisms that were distinguished from other such groups by their ability to mate with one another and produce fertile offspring.
    a. Carolus Linnaeus
    b. John Ray
    c. Jean-Baptiste Lamarck
    d. Alfred Russel Wallace
    e. Charles Darwin

    ANSWER: b
    REFERENCES: A Brief History of Evolutionary Thought

18. Natural selection operates on populations, but it is individuals who evolve.
    a. True
    b. False

    ANSWER: True
    REFERENCES: Natural Selection

19. What is natural selection?

    ANSWER: Natural selection is the key evolutionary mechanism – that all species produce offspring faster than the food supply, that there is biological variation within all species, that in each generation more offspring are born than survive, that more favorable traits lead to more fit individuals, that the environment determines which traits are favorable, that traits are inherited and passed on to yield greater reproductive success overall, that accumulations of changes over time may lead to a new species, and that geographical isolation contributes to the formation of a new species through selective pressure.
    REFERENCES: Natural Selection

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20. _____refined the existing system of classifying biological organisms into a binomial system
    a. Georges Cuvier
    b. Jean-Baptiste Lamarck
    c. Carolus Linnaeus
    d. George-Louis Leclerc de Buffon
    e. Erasmus Darwin

    ANSWER: c
    REFERENCES: A Brief History of Evolutionary Thought

21. Which of the following concepts did NOT influence Darwin in developing his theory of evolution?
    a. Species are unchanging types, and individual variation within a species is not important.
    b. Population size increases more rapidly than food supplies.
    c. There is biological variation in all members of a species.
    d. Favorable variations are passed on and accumulate in populations over time.
    e. There is competition among individuals for resources.

    ANSWER: a
    REFERENCES: Natural Selection

22. Natural selection merged with the work of _____ in the 20th century to open up our understanding of evolutionary theory.
    a. Jean-Baptiste Lamarck
    b. Gregor Mendel
    c. Alfred Russel Wallace
    d. Charles Lyell
    e. Erasmus Darwin

    ANSWER: b
    REFERENCES: Constraints on 19th-Century Evolutionary Theory

23. The concept of a theory in science is associated with all of the following except:
    a. it has robust support.
    b. it is a hunch or intuitive idea.
    c. it has been tested.
    d. it has not been disproved.
    e. it has evidentiary support.

    ANSWER: b
    REFERENCES: A Brief History of Evolutionary Thought

24. Outline Lamarck's theory of inheritance of acquired characteristics. According to this theory, what was the environment's role in biological change?

    ANSWER: Under Lamarck's theory an animal's activity patterns would cause change in their physical make-up; those parts used would expand and those not used would decrease.
    REFERENCES: A Brief History of Evolutionary Thought

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25. Evolution is a theory that has considerable support from genetic evidence.
    a. True
    b. False

    ANSWER: True
    REFERENCES: Introduction

26. Regarding the example of the peppered moth, which of the following is *not* true?
    a. The two color patterns resulted from genetic variation in the species.
    b. The dark is more visible on the trees darkened by pollution.
    c. The most common variety of the peppered moth in England, prior to the 19^{th} century, was a mottled gray color.
    d. Natural selection acted upon pre-existing variation in the population.
    e. It has recently come under criticism.

    ANSWER: b
    REFERENCES: Natural Selection

27. Present and discuss the fundamentals of evolutionary change produced by natural selection.

    ANSWER: Will vary
    REFERENCES: Natural Selection

28. What is the belief that species do not change but are the same as when they were first created?
    a. Uniformitarianism
    b. Catastrophism
    c. Natural selection
    d. Fixity of species
    e. The Great Chain of Being

    ANSWER: d
    REFERENCES: A Brief History of Evolutionary Thought

29. In the example of the peppered moth and changing camouflage colors, which one is best considered the *selective agent*?
    a. Trees
    b. Peppered moths
    c. Birds
    d. Grey moths
    e. Coal dust

    ANSWER: c
    REFERENCES: Natural Selection

30. Define what Darwin meant by the concept of fitness.

    ANSWER: It is a measure of the relative reproductive success of individuals.
    REFERENCES: Natural Selection

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31. What is the term for the theory stating that characteristics acquired during the lifetime of an individual could be passed on to that individual's offspring?
    a. Use-disuse theory
    b. Fixity of species
    c. Natural selection
    d. Catastrophism
    e. Uniformitarianism

    ANSWER: a
    REFERENCES: A Brief History of Evolutionary Thought

32. Which concept, proposed by Charles Lyell, had a profound effect on 19th-century scientific thought?
    a. Natural selection
    b. The immense age of the earth
    c. The role of catastrophic events in producing geological phenomena
    d. Recent origins for earth
    e. The inheritance of acquired characteristics

    ANSWER: b
    REFERENCES: A Brief History of Evolutionary Thought

33. Who coined the term "biology"?
    a. Charles Lyell
    b. Jean-Baptiste Lamarck
    c. Georges Cuvier
    d. Charles Darwin
    e. Thomas Malthus

    ANSWER: b
    REFERENCES: A Brief History of Evolutionary Thought

34. We credit Erasmus Darwin with significantly influencing Charles Darwin's evolutionary thinking.
    a. True
    b. False

    ANSWER: False
    REFERENCES: A Brief History of Evolutionary Thought

35. Charles Darwin:
    a. received no formal education.
    b. began to doubt the fixity of species during a voyage around the world in the 1830s.
    c. grew up in modest circumstances.
    d. was a physician who studied natural history as a hobby.
    e. spent two years in Africa where he developed the theory of natural selection.

    ANSWER: b
    REFERENCES: A Brief History of Evolutionary Thought

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36. Charles Darwin acknowledged the importance of selective pressure when formulating his theory of natural selection.
    a. True
    b. False

    ANSWER: True
    REFERENCES: A Brief History of Evolutionary Thought

37. _____wrote the highly praised *Principles of Geology* in which was emphasized the principle of uniformitarianism.
    a. Charles Darwin
    b. Alfred Russel Wallace
    c. Charles Lyell
    d. Jean-Baptiste Lamarck
    e. Thomas Malthus

    ANSWER: c
    REFERENCES: A Brief History of Evolutionary Thought

38. What is the "theory of evolution" based on what you have learned in this chapter?

    ANSWER: Will vary
    REFERENCES: A Brief History of Evolutionary Thought

39. Carolus Linnaeus:
    a. developed theories of natural selection.
    b. was a supporter of Charles Darwin.
    c. was a proponent of evolutionary change.
    d. established a binomial system of classification for plants and animals.
    e. opposed all notions of fixity of species.

    ANSWER: d
    REFERENCES: A Brief History of Evolutionary Thought

40. Charles Darwin recognized the importance of beak variation in finches while visiting the Galápagos Islands.
    a. True
    b. False

    ANSWER: False
    REFERENCES: A Brief History of Evolutionary Thought

41. Creationism is considered a science because it has testable hypotheses.
    a. True
    b. False

    ANSWER: False
    REFERENCES: Opposition to Evolution Today

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42. Which is the best example of natural selection?
    a. The medium ground finch of the Galápagos
    b. Mendel's project with peas and beans
    c. The recent *decrease* in resistant strains of disease-causing microorganisms
    d. The recent *increase* in resistant strains of disease-causing microorganisms
    e. The peppered moth

    ANSWER: d
    REFERENCES: Natural Selection

43. What is meant by biological continuity?

    ANSWER: It is when expressions of a phenomenon continuously grade into one another so that there are no discrete categories of difference.
    REFERENCES: Opposition to Evolution Today

44. Alfred Russel Wallace is best known for:
    a. finding numerous important fossils during the 19^{th} century.
    b. the principle of uniformitarianism.
    c. being the co-discoverer of natural selection.
    d. finding numerous important fossils during the 18^{th} century.
    e. identifying changes in the coloration of a species moth.

    ANSWER: c
    REFERENCES: A Brief History of Evolutionary Thought

45. Charles Darwin was not the only one to conceive of natural selection. Who also published an article suggesting current species were descended from other species?
    a. Georges-Louis Leclerc de Buffon
    b. Erasmus Darwin
    c. John Scopes
    d. Alfred Russel Wallace
    e. Jean Baptiste Lamarck

    ANSWER: d
    REFERENCES: A Brief History of Evolutionary Thought

46. Charles Lyell, author of *Principles of Geology*, is considered the founder of modern geology.
    a. True
    b. False

    ANSWER: True
    REFERENCES: A Brief History of Evolutionary Thought

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47. The fact that individuals who possess favorable traits are more likely to survive and reproduce than those who possess less favorable traits is the basis for which theory?
    a. Uniformitarianism
    b. Catastrophism
    c. Natural selection
    d. The inheritance of acquired characteristics
    e. The fixity of species

    ANSWER: c
    REFERENCES: Natural Selection

48. Explain why and how Charles Lyell's principle of uniformitarianism and Thomas Malthus' argument on population growth and resource availability were important to Charles Darwin and Alfred Russel Wallace as they developed their theories of biological evolution.

    ANSWER: Will vary
    REFERENCES: A Brief History of Evolutionary Thought

49. Compare and contrast catastrophism and uniformitarianism.

    ANSWER: Both are theories to explain change, but both explain it in different ways. Catastrophism argues that the earth's geological landscape is the result of violent cataclysmic events. As these events occurred, some forms of life became extinct and later repopulated by migrating species from other areas. Uniformitarianism argues that the earth's features are the result of long-term processes, leaving the earth as a product of deep geological time.
    REFERENCES: A Brief History of Evolutionary Thought

50. What is the view that the extinction and the subsequent appearance of more modern forms could be explained by a series of disasters and creations?
    a. Catastrophism
    b. Use-disuse theory
    c. Natural selection
    d. Descent with modification
    e. Uniformitarianism

    ANSWER: a
    REFERENCES: A Brief History of Evolutionary Thought

51. Who was the first to actually attempt to explain the mechanism by which species change?
    a. Charles Darwin
    b. Erasmus Darwin
    c. Jean-Baptiste Lamarck
    d. Carolus Linnaeus
    e. Charles Lyell

    ANSWER: c
    REFERENCES: A Brief History of Evolutionary Thought

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52. Several events combined to alter Western Europeans' ideas about the earth by the 18th century. These did *not* include:
    a. the circumnavigation of the globe.
    b. the discovery of the New World.
    c. the invention of the microscope.
    d. a less than rigid feudal class system.
    e. the notion of a sun-centered universe.

    ANSWER: d
    REFERENCES: A Brief History of Evolutionary Thought

53. The theory of the inheritance of acquired characteristics has recently displaced natural selection as mainstream science's most accepted theory of evolutionary change.
    a. True
    b. False

    ANSWER: False
    REFERENCES: A Brief History of Evolutionary Thought

54. Which is the most common reason that about half of Americans do not believe in evolution?
    a. The mechanisms of evolution are complex and do not lend themselves to simple explanations.
    b. Most Americans are religiously fundamentalist and do not believe in science.
    c. Most have not read or studied science in school.
    d. Most people do not want clear-cut answers.
    e. Most people possess extensive familiarity with the principles of genetics and know that evolution could not occur.

    ANSWER: a
    REFERENCES: Opposition to Evolution Today

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