1. What does abiogenesis refer to?  
   A. Evolution of complex organisms  
   B. Origin of life from non-living materials  
   C. Formation of fossils  
   D. Natural selection
2. Which of the following gases was NOT present in the early Earth's reducing atmosphere?  
   A. Methane (CH₄)  
   B. Ammonia (NH₃)  
   C. Oxygen (O₂)  
   D. Water vapor (H₂O)
3. What was the objective of the Miller-Urey experiment?  
   A. To create life in a laboratory  
   B. To test the chemical evolution hypothesis  
   C. To study fossil formation  
   D. To analyze the geological time scale
4. Which characteristic of Archaeopteryx indicates it was a transitional fossil?  
   A. Feathers  
   B. Homodont teeth  
   C. Scaly skin  
   D. Both A and B
5. What is a homologous organ?  
   A. Organs with different structures but similar functions  
   B. Organs with similar structures but different functions  
   C. Vestigial organs in an organism  
   D. None of the above
6. Who proposed the primordial soup theory?  
   A. Lamarck and Darwin  
   B. Miller and Urey  
   C. Oparin and Haldane  
   D. Weismann and Fox
7. What is the primary function of ribozymes in the RNA world hypothesis?  
   A. Genetic information storage  
   B. Catalysis of biochemical reactions  
   C. Both A and B  
   D. Energy production
8. Which of the following steps is the first in the Oparin-Haldane theory?  
   A. Polymerization  
   B. Formation of monomers  
   C. Self-replication  
   D. Coacervate formation
9. The Miller-Urey experiment demonstrated the formation of:  
   A. Fossils  
   B. Complex organic molecules  
   C. Coacervates  
   D. Ribozymes
10. Fossils can form in all the following ways EXCEPT:  
    A. Lack of oxygen supply during decay  
    B. Preservation of traces of organisms  
    C. Complete combustion of organic material  
    D. Replacement by minerals
11. Which of the following pairs is an example of homologous organs?  
    A. Wings of a bat and a butterfly  
    B. Flippers of penguins and dolphins  
    C. Forelimbs of humans and whales  
    D. Eyes of octopus and mammals
12. What are coacervates?  
    A. Ancient fossils found in sedimentary rocks  
    B. Primitive cell-like droplets  
    C. First self-replicating RNA molecules  
    D. Vestigial organs
13. Which of the following was a condition of early Earth that supported abiogenesis?  
    A. Presence of free oxygen  
    B. Intense UV radiation  
    C. Advanced cellular structures  
    D. Existence of fossilized remains
14. What does the geological time scale NOT help us understand?  
    A. Evolution of life forms  
    B. The origin of ribozymes  
    C. Mass extinctions  
    D. Continental drift
15. In the peppered moth case, what caused the change in population of the two moth variants during the industrial revolution?  
    A. Mutation  
    B. Change in predation patterns  
    C. Change in tree bark color  
    D. Competition between moth species
16. Darwin’s natural selection theory differs from Hugo de Vries’ mutation theory because:  
    A. Darwin focused on gradual changes, while de Vries emphasized sudden changes  
    B. Darwin rejected the concept of mutations  
    C. De Vries’ theory was not heritable  
    D. Darwin believed mutations were the sole driving force
17. What does "ontogeny recapitulates phylogeny" mean?  
    A. Development of an individual mirrors the evolutionary history of its species  
    B. Evolution occurs through sudden mutations  
    C. Embryonic stages show random variation  
    D. Evolutionary history repeats itself
18.  What is one limitation of mutation theory?  
    A. Most mutations are beneficial  
    B. Mutations cannot occur in DNA  
    C. Most mutations are harmful or neutral  
    D. Mutations do not impact evolution
19.  Which feature of the RNA world hypothesis makes it significant in understanding the origin of life?  
    A. RNA is more stable than DNA  
    B. RNA can store genetic information and catalyze reactions  
    C. RNA forms spontaneously in water  
    D. RNA has no role in modern biological processes
20.  Which of the following is NOT a feature of Archaeopteryx?  
    A. Feathers for gliding or weak flight  
    B. Fused skull bones like modern birds  
    C. Complete absence of reptilian characteristics  
    D. Long bony tail and claws

Answer :

1. B. Origin of life from non-living materials
2. C. Oxygen (O₂)
3. B To test the chemical evolution hypothesis
4. D. Both A and B
5. B. Organs with similar structures but different functions
6. C. Oparin and Haldane
7. C. Both A and B
8. B. Formation of monomers
9. B. Complex organic molecules
10. C. Complete combustion of organic material
11. C. Forelimbs of humans and whales
12. B. Primitive cell-like droplets
13. B. Intense UV radiation
14. B. The origin of ribozymes
15. C. Change in tree bark color
16. A. Darwin focused on gradual changes, while de Vries emphasized sudden changes
17. A. Development of an individual mirrors the evolutionary history of its species
18. C. Most mutations are harmful or neutral
19. B. RNA can store genetic information and catalyze reactions
20. C. Complete absence of reptilian characteristics