

Quarter 2 Exam

1. **The system of binomial nomenclature was developed by:**
 - a) Charles Darwin
 - b) Gregor Mendel
 - c) Carolus Linnaeus
 - d) Louis Pasteur

2. **In binomial nomenclature, the first part of an organism's scientific name represents:**
 - a) Family
 - b) Genus
 - c) Species
 - d) Order

3. **The broadest taxonomic rank is:**
 - a) Kingdom
 - b) Phylum
 - c) Domain
 - d) Order

4. **Viruses are considered non-living because they:**
 - a) Lack DNA
 - b) Cannot reproduce on their own
 - c) Do not contain proteins
 - d) Are too small to be considered alive

5. **Bacteria that can live in extreme environments are classified as:**
 - a) Eubacteria
 - b) Archaea
 - c) Protists
 - d) Fungi

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6. **Which bacterial shape is described as spherical?**
- a) Bacillus
 - b) Spirillum
 - c) Coccus
 - d) Vibrio
7. **Protists are classified as:**
- a) Prokaryotes
 - b) Eukaryotes
 - c) Multicellular organisms
 - d) Viruses
8. **Fungi obtain nutrients by:**
- a) Photosynthesis
 - b) Chemosynthesis
 - c) Absorbing organic material
 - d) Consuming other organisms
9. **Which of the following is a characteristic of gymnosperms?**
- a) They produce flowers
 - b) They have seeds in cones
 - c) They lack vascular tissue
 - d) They reproduce using spores
10. **What is the primary function of xylem?**
- a) Transporting sugars
 - b) Transporting water
 - c) Photosynthesis
 - d) Gas exchange

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11. Animals are classified as:

- a) Autotrophic eukaryotes
- b) Heterotrophic prokaryotes
- c) Heterotrophic eukaryotes
- d) Autotrophic prokaryotes

12. Which phylum do sponges belong to?

- a) Cnidaria
- b) Porifera
- c) Mollusca
- d) Annelida

13. Cnidarians use specialized cells called _____ for defense and capturing prey.

- a) Choanocytes
- b) Nematocysts
- c) Flagella
- d) Cilia

14. Which class of mollusks includes octopuses and squids?

- a) Gastropoda
- b) Bivalvia
- c) Cephalopoda
- d) Polyplacophora

15. What type of symmetry do echinoderms exhibit as adults?

- a) Bilateral
- b) Radial
- c) Asymmetrical
- d) Spiral

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16. Which characteristic is unique to mammals?

- a) Laying eggs
- b) Having a four-chambered heart
- c) Producing milk
- d) Cold-blooded metabolism

17. The earliest life forms on Earth were likely:

- a) Eukaryotic autotrophs
- b) Prokaryotic heterotrophs
- c) Multicellular fungi
- d) Protozoans

18. Fossils provide evidence of:

- a) Past life and evolutionary change
- b) The Earth's core temperature
- c) Chemical composition of water
- d) The genetic code of modern species

19. Charles Darwin developed the theory of evolution based on:

- a) Natural selection
- b) Artificial selection
- c) Mutation theory
- d) Spontaneous generation

20. Speciation occurs when:

- a) A population adapts to its environment
- b) Two populations become reproductively isolated
- c) A species increases in population size
- d) An organism learns new behaviors

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21. The three domains of life are:

- a) Animalia, Plantae, Fungi
- b) Eukarya, Archaea, Bacteria
- c) Protista, Archaea, Bacteria
- d) Monera, Plantae, Animalia

22. The most specific taxonomic level is:

- a) Phylum
- b) Order
- c) Genus
- d) Species

23. A bacteriophage is a:

- a) Bacterium that infects viruses
- b) Virus that infects bacteria
- c) Type of archaea
- d) Eukaryotic microorganism

24. Which bacterial process allows for the exchange of genetic material?

- a) Binary fission
- b) Conjugation
- c) Transcription
- d) Translation

25. Which type of protist moves using cilia?

- a) Amoeba
- b) Paramecium
- c) Euglena
- d) Plasmodium

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26. Yeasts belong to which group of fungi?

- a) Basidiomycota
- b) Zygomycota
- c) Ascomycota
- d) Chytridiomycota

27. What structure in plants transports sugars?

- a) Xylem
- b) Phloem
- c) Stomata
- d) Roots

28. Ferns reproduce using:

- a) Seeds
- b) Spores
- c) Flowers
- d) Cones

29. Animals that have a backbone are called:

- a) Invertebrates
- b) Chordates
- c) Vertebrates
- d) Arthropods

30. Which group has a gastrovascular cavity?

- a) Sponges
- b) Cnidarians
- c) Mollusks
- d) Arthropods

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31. Which arthropod group has six legs?

- a) Arachnids
- b) Crustaceans
- c) Insects
- d) Myriapods

32. Echinoderms move using:

- a) Tentacles
- b) Tube feet
- c) Cilia
- d) Flagella

33. Mammals that lay eggs are called:

- a) Marsupials
- b) Placental mammals
- c) Monotremes
- d) Rodents

34. Primates are characterized by:

- a) Hooves and tails
- b) Large brains and grasping hands
- c) Scales and fins
- d) Exoskeletons

35. The Miller-Urey experiment simulated:

- a) Modern ecosystems
- b) Early Earth's conditions
- c) The Big Bang
- d) Evolution of primates

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36. The first life forms on Earth were likely:

- a) Multicellular eukaryotes
- b) Single-celled prokaryotes
- c) Land plants
- d) Vertebrates

37. Homologous structures indicate:

- a) Different ancestry
- b) Common ancestry
- c) No evolutionary relationship
- d) Parallel evolution

38. The ability of an organism to survive and reproduce is known as:

- a) Adaptation
- b) Fitness
- c) Evolution
- d) Mutation

39. Genetic drift affects:

- a) Large populations
- b) Small populations
- c) Entire ecosystems
- d) Non-living organisms

40. A structure that has no apparent function in modern organisms but was useful in an ancestor is called a:

- a) Homologous structure
- b) Analogous structure
- c) Vestigial structure
- d) Functional adaptation

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41. A species is defined as:

- a) A group of organisms that live in the same habitat
- b) A population of organisms that can interbreed and produce fertile offspring
- c) A collection of different genotypes
- d) A group of individuals with identical DNA

42. Geographic isolation can lead to:

- a) Artificial selection
- b) Speciation
- c) Genetic drift
- d) Mutation

43. The Hardy-Weinberg principle describes a population that is:

- a) Evolving
- b) In genetic equilibrium
- c) Adapting to its environment
- d) Mutating rapidly

44. Natural selection acts directly on:

- a) Genotypes
- b) Phenotypes
- c) DNA sequences
- d) Mutations

45. A population in Hardy-Weinberg equilibrium must have:

- a) Mutations occurring
- b) No gene flow
- c) Natural selection acting
- d) Small population size

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46. Which type of selection favors individuals at one extreme of a trait?

- a) Stabilizing selection
- b) Disruptive selection
- c) Directional selection
- d) Random selection

47. When two unrelated species evolve similar traits due to similar environments, it is called:

- a) Divergent evolution
- b) Convergent evolution
- c) Coevolution
- d) Genetic drift

48. Which mechanism of evolution reduces genetic variation by chance, especially in small populations?

- a) Gene flow
- b) Mutation
- c) Genetic drift
- d) Natural selection

49. What is the term for the rapid evolution of many species from a single common ancestor?

- a) Adaptive radiation
- b) Gradualism
- c) Punctuated equilibrium
- d) Artificial selection

50. The fossil record shows long periods of stability interrupted by short, rapid changes. This supports the theory of:

- a) Gradualism
- b) Catastrophism
- c) Punctuated equilibrium
- d) Uniformitarianism

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Advanced Biology

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Answer sheet

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