Biology Concepts: Organ Systems, Genetics, and Evolution

Biology · Practice Test · 24 Questions

1. What is an organ system?

A) A single organ performing a function
B) A group of organs working together for specific functions
C) A type of cell in the body
D) A system for nutrient absorption

2. Which organ system is responsible for transporting oxygen, nutrients, hormones, and wastes?

A) Respiratory System
B) Digestive System
C) Circulatory System
D) Nervous System

3. Where does gas exchange occur in the respiratory system?

A) Trachea
B) Lungs
C) Bronchi
D) Alveoli

4. What is the main function of the digestive system?

A) Gas exchange
B) Breaking down food and absorbing nutrients
C) Filtering blood
D) Coordinating body activities

5. Which organ filters blood and produces urine in the excretory system?

A) Liver
B) Stomach
C) Kidneys
D) Large intestine

6. What is homeostasis?

A) The process of breaking down food
B) The ability to maintain stable internal conditions
C) The transport of oxygen
D) The control of body activities

7. Which part of the brain is responsible for thinking and voluntary actions?

A) Cerebellum
B) Medulla oblongata
C) Cerebrum
D) Brainstem

8. What is the function of phloem in plants?

A) Transport water and minerals
B) Transport food (sugars)
C) Anchor the plant
D) Absorb sunlight

9. Photosynthesis is the process plants use to produce food using:

A) Oxygen
B) Carbon dioxide
C) Sunlight
D) Water vapor

10. What is chlorophyll?

A) A small opening in leaves
B) The green pigment that captures light energy
C) A plant hormone that promotes growth
D) The process of water loss from leaves

11. Transpiration is the loss of what from plant leaves?

A) Carbon dioxide
B) Sugars
C) Water vapor
D) Minerals

12. Who is considered the Father of Genetics?

A) Charles Darwin
B) Gregor Mendel
C) Carolus Linnaeus
D) James Watson

13. What is a gene?

A) An observable characteristic
B) A different form of a gene
C) A unit of heredity
D) A type of cell division

14. The genetic makeup of an organism (e.g., AA, Aa, aa) is called its:

A) Phenotype
B) Allele
C) Genotype
D) Mutation

15. Observable characteristics of an organism, like eye color, are called:

A) Genotype
B) Phenotype
C) Dominant trait
D) Recessive trait

16. A dominant allele is expressed:

A) Only when two copies are present
B) Even if only one copy is present
C) Only in males
D) Only in females

17. An organism with two different alleles for a trait (e.g., Aa) is:

A) Homozygous
B) Heterozygous
C) Recessive
D) Dominant

18. According to Mendel's Law of Segregation, alleles separate during:

A) Fertilization
B) Mutation
C) Gamete formation
D) Cell division

19. What do Punnett squares predict?

A) The origin of species
B) Possible offspring from genetic crosses
C) The process of natural selection
D) The structure of DNA

20. In humans, what are the sex chromosomes for a female?

A) XY
B) XX
C) XO
D) YY

21. A change in the DNA sequence is called a:

A) Replication
B) Transcription
C) Translation
D) Mutation

22. What does DNA stand for?

A) Deoxyribose Nucleic Acid
B) Deoxyribonucleic Acid
C) Dextrorotatory Nucleic Acid
D) Dinitrogen Adenine

23. DNA is made of subunits called:

A) Amino acids
B) Nucleotides
C) Sugars
D) Bases

24. In DNA base pairing, Adenine (A) pairs with:

A) Cytosine (C)
B) Guanine (G)
C) Thymine (T)
D) Uracil (U)