

Biology Concepts: Organ Systems, Genetics, and Evolution

Biology · Answer Key · 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)