

Advanced Botany Concepts

Botany · Practice Test · 20 Questions

1. Which specialized plant tissue is responsible for the transport of sucrose from the leaves to other parts of the plant?

- A) Xylem
- B) Phloem
- C) Cambium
- D) Parenchyma

2. In the alternation of generations, what is the diploid stage of a moss plant called?

- A) Gametophyte
- B) Prothallus
- C) Sporophyte
- D) Archegonium

3. Which plant hormone is primarily responsible for the ripening of fruit and the dropping of leaves?

- A) Ethylene
- B) Gibberellin
- C) Cytokinin
- D) Auxin

4. What is the term for the waxy, waterproof layer on the surface of a leaf that reduces water loss?

- A) Stomata
- B) Cuticle
- C) Mesophyll
- D) Epidermis

5. Which chemical compound is the primary byproduct released during the light-dependent reactions of photosynthesis?

- A) Carbon dioxide
- B) Glucose
- C) Oxygen
- D) Adenosine triphosphate

6. In which part of the flower does the process of double fertilization occur?

- A) Stigma
- B) Anther
- C) Ovary
- D) Filament

7. Which type of plant lacks true vascular tissue and reproduces via spores?

- A) Angiosperm
- B) Gymnosperm
- C) Bryophyte
- D) Pteridophyte

8. What is the primary function of the root cap in a plant's root system?

- A) Absorption of water
- B) Storage of starch
- C) Protection of the apical meristem
- D) Photosynthesis

9. Which process involves the movement of water vapor out of a plant's leaves through the stomata?

- A) Transpiration
- B) Respiration
- C) Guttation
- D) Translocation

10. What are the specific openings on the underside of a leaf that allow for gas exchange?

- A) Lenticels
- B) Stomata
- C) Trichomes
- D) Guard cells

11. Which class of plants is characterized by having seeds that are not enclosed within an ovary or fruit?

- A) Angiosperms
- B) Gymnosperms
- C) Bryophytes
- D) Monocots

12. Which pigment is primarily responsible for absorbing blue and red light for photosynthesis?

- A) Carotenoid
- B) Anthocyanin
- C) Chlorophyll
- D) Xanthophyll

13. What is the function of the endosperm in a seed?

- A) Protecting the embryo
- B) Providing nutrients to the developing embryo
- C) Facilitating seed dispersal
- D) Regulating water intake

14. Which soil horizon contains the highest concentration of organic matter and is commonly known as topsoil?

- A) O horizon
- B) A horizon
- C) B horizon
- D) C horizon

15. In plant cell division, what structure forms across the middle of the cell to eventually become the cell wall?

- A) Cleavage furrow
- B) Cell plate
- C) Centrosome
- D) Spindle fiber

16. Which group of plants is known for having parallel leaf venation and floral parts in multiples of three?

- A) Dicots
- B) Monocots
- C) Gymnosperms
- D) Pteridophytes

17. What is the term for a plant that completes its life cycle within a single growing season?

- A) Perennial
- B) Biennial
- C) Annual
- D) Deciduous

18. Which plant tissue is responsible for secondary growth, increasing the diameter of woody stems?

- A) Apical meristem
- B) Vascular cambium
- C) Ground tissue
- D) Dermal tissue

19. Which mineral element is a central component of the chlorophyll molecule?

- A) Magnesium
- B) Iron
- C) Calcium
- D) Potassium

20. What is the specialized root structure in parasitic plants that penetrates the host tissue to extract nutrients?

- A) Rhizome
- B) Tuber
- C) Haustorium
- D) Stolon