

Botany. Biol 1411. Hw. Chapter 5

Multiple choice and True (A) or False (B)

1. Specialized roots that permit plants growing in water to facilitate gas exchange are called
  - A) velamen roots.
  - B) water-storage roots.
  - C) buttress roots.
  - D) pneumatophores.
  - E) prop roots.
  
2. Roots that have fungi symbiotically associated with them are called
  - A) mycorrhizae.
  - B) root nodules.
  - C) haustoria.
  - D) propagative roots.
  - E) taproots.
  
3. Which of the following is a specialized root?
  - A) rhizome
  - B) sweet potato
  - C) corm
  - D) tuber
  - E) bulb
  
4. Cells of the apical meristem
  - A) have large vacuoles.
  - B) divide at a fairly steady rate.
  - C) have little to do with the root cap.
  - D) are generally cuboidal in shape.
  - E) have no nuclei.
  
5. The tissue adjacent to the endodermis toward the center of a root is the
  - A) cortex.
  - B) pith.
  - C) pericycle.
  - D) xylem.
  - E) phloem.

6. Parts of the pericycle and parenchyma between the arms of xylem and patches of phloem in young roots of many dicots and conifers become
- A) cork cambium.
  - B) endodermis.
  - C) cortex.
  - D) vascular cambium.
  - E) Casparian strips.
7. Cells of an endodermis that do not have Casparian strips are
- A) sieve-tube elements.
  - B) tracheids.
  - C) fibers.
  - D) collenchyma.
  - E) passage cells.
8. The tissue in which a cork cambium first develops in woody dicot roots is the
- A) pericycle.
  - B) endodermis.
  - C) primary xylem.
  - D) primary phloem.
  - E) cortex.
9. Buds that develop on roots are referred to as
- A) axillary.
  - B) terminal.
  - C) intrusive.
  - D) adventitious.
  - E) pseudobuds.
10. Which of the following spices or flavorings is obtained from roots?
- A) sarsaparilla
  - B) angelica
  - C) licorice
  - D) saffron
  - E) all of these answers are correct.

11. Root hairs are found in the region of the root called the
- A) root cap.
  - B) apical meristem.
  - C) region of elongation.
  - D) region of maturation.
  - E) endodermis.
12. Which of the following is a root with a specialized function?
- A) rhizome
  - B) sweet potato
  - C) corm
  - D) tuber
  - E) onion
13. This can be found as part of the embryo.
- A) root hairs
  - B) fibrous roots
  - C) radicle
  - D) adventitious roots
  - E) primary root
14. Directly inside the endodermis toward the center of a root is the
- A) cortex.
  - B) pericycle.
  - C) pith.
  - D) xylem.
  - E) epidermis
15. Roots differ from stems in
- A) the absence of nodes and internodes.
  - B) never producing leaves.
  - C) having a special covering called the root cap.
  - D) having a pericycle that initiates lateral roots.
  - E) all the above are correct
16. Root hairs
- A) are specialized epidermal cells.
  - B) are covered with a waxy cuticle.
  - C) increase the surface area for absorption of water.
  - D) live only one day.
  - E) both [a and c] are correct

17. Mycorrhizae are roots that are associated with
- A) bacteria.
  - B) algae.
  - C) fungi.
  - D) mycorrhizobium.
  - E) nematodes.
18. A root system may function in which of the following?
- A) anchorage and storage
  - B) growth
  - C) absorption and conduction
  - D) production of new roots
  - E) all of the above are correct.
19. Pith tissue is absent in dicot roots.
20. Soil parent material extends down to bedrock.
21. Soils in low wet areas tend to contain hardly any organic matter.
22. Clay particles have negative electric charges.
23. A colloid is a mixture of water and particles that are smaller than average molecules in size.
24. Liming is used to counteract soil acidity.
25. Branch roots arise from buds in a fashion similar to that of stem branches.