Test – Lesson 18 – Plants

1. Algae are _____.

A. protists
B. early plants
C. multicellular eukaryotes
D. forms of euglenia

2. Algae reproduce by what two methods?

A. conjugation and meiosis
B. binary fission and mitosis
C. mitosis and meiosis
D. meiosis and transduction

3. Algae developed sexual reproduction in which _____.

A. gametophytes would release their gametes into water to find a compatible mate
B. their sporophytes would form multicellular diploid organisms
C. sporophytes undergo meiosis to form gametes
D. gametophytes undergo meiosis to form sporophytes

4. Male gametes of a plant are found in _____.

A. oogonia
B. sporophytes
C. antheridia
D. rhizoids

5. Stoneworts are a form of green algae that evolved rhizoids as a way to prevent _____.

A. desiccation
B. disease
C. overexposure to sunlight
D. parasites

6. Charales, a form of green algae, adapted to periods of life above the water line by _____.

A. evolving leaves
B. evolving stems
C. evolving roots
D. encasing its gametes in waterproof pouches

7. Living on land had the advantage of _____.

A. more access to carbon dioxide
B. more infrared light
C. more access to glucose
D. more access to oxygen

8. Problems moving plants onto land include all but one of the following:

A. getting their gametes to find each other
B. overexposure to red photons of light
C. getting water to their photosynthetic cells
D. getting glucose from its photosynthetic cells to the rest of the plant

9. Which one is not necessary in a true plant?

A. the presence of chloroplasts
B. cell walls containing cellulose
C. cuticle and guard cells
D. allowing zygotes to develop free of the gametophyte

10. The first true land plants were the bryophytes. Which adaptation did the Bryophytes not evolve?

A. sporopollenin
B. cuticle
C. stomata
D. sporophytes

11. Bryophytes include the mosses. Which statement about mosses is true?

A. The tallest structure of a moss is its gametophyte.
B. Mosses encase their pollen in waterproof jackets of sporopollenin.
C. Gametes inside pollen grains do not have to swim through water to the female gamete.
D. Their male gametes mature inside archegonia and their female gametes inside antheridia.

12. Bryophytes include liverworts, mosses, and hornworts. Which statement about bryophytes is not true?

A. The gametophytes and the sporophytes are both multicellular.
B. Both the sporophyte and the gametophyte are photosynthetic.
C. Bryophytes reproduce by alternating generations.
D. Bryophytes are all embryotes.

13. Which statement about bryophytes is not true?
A. Bryophyte sporophytes extend upward from the gametophytes.
B. Sporophytes are photosynthetic.
C. Bryophyte zygotes remain embedded in archegonia.
D. Gametophytes are dominant over sporophytes.

14. Tracheophytes evolved all of the following over and above the bryophytes except_____.

A. more spores
B. more height
C. xylem and phloem
D. stiffer protein for its stems

15. The tracheophytes – the club mosses, ferns, and horsetails -- were the first plants to develop wood in their stems and increase their height. Which statement is not true? The increased height of tracheophytes _____.

A. allowed the gametes inside their pollen to fertilize female gametes without having to swim through water
B. allowed the pollen to spread over more area
C. forced tracheophytes to evolve pipes to carry water and nutrients up and down the stems
D. allowed lignin to strengthen the xylem and phloem

16. Which statement about xylem and phloem is not true?

A. Xylem carries water up; phloem carries it down.
B. Xylem consists of small vessel members and large tracheids.
C. Tracheids are connected end to end with pores.
D. Vessel members are connected to each other with perforation plates.

17. Which statement about phloem tubes is true?

A. Phloem tubes are smaller but more numerous than xylem tubes.
B. Phloem tube walls are made up of living cells.
C. Phloem tubes have sieve plates along the walls.
D. Phloem tubes provide a route for male gametes to swim to female gametes.

18. Which statement about gymnosperms is not true?

A. Gymnosperms include conifer trees.
B. The gametes inside their pollen do not swim to the female gametes.
C. Every ovum is surrounded by a store of food in its endosperm even if it is not fertilized by a pollen grain.
D. The male and female gametes are positioned close to each other to ensure pollination.

19. Which statement is not true about gymnosperms?

A. Gymnosperms include ginkgo trees, conifers, and cycads.
B. Gymnosperms evolved wood for greater height to spread their pollen.
C. Periods of rainfall allow pollen grains to float to female gametes lying dormant within gymnosperm cones.
D. Gymnosperms are considered non-flowering seed plants.

20. Which statement about wood is true?

A. Wood represents secondary growth of the phloem.
B. Wood is made up of centrally located sapwood surrounded by dark-stained heartwood.
C. Wood is made by the cambium layer.
D. Wood consists of compressed but living heartwood.

21. The main force allowing water molecules to climb hundreds of feet in a tree trunk is _____.

A. capillary action
B. transpiration and hydrogen bonding
C. root pressure
D. lower atmospheric pressure at leaf level

22. Flow of water from the xylem into the phloem occurs as a result of _____.

A. movement of glucose from the leaves into the phloem
B. movement of glucose from the phloem into the companion cells
C. movement of glucose from the leaves into the xylem
D. movement of glucose from the xylem into phloem

23. Companion cells _____.

A. use active transport to transport glucose into leaves
B. use active transport to transport glucose into phloem
C. use active transport to transport glucose into roots
D. use active transport to transport glucose into xylem

24. Water entering the roots reaches the xylem by _____.

A. by symplastic flow through the Casparian strip
B. by apoplastic flow through the Casparian strip
C. by apoplastic flow through plasmodesma
D. by symplastic and apoplastic flow through the Casparian strip

25. Which statement about angiosperms is true?

A. Angiosperms surround a fertilized zygote with a fruit for the zygote to feed on as it grows.
B. Angiosperms allow insects seeking nectar in a flower to brush up against pollen on the stigma and deliver it to the anther.
C. Each pollen grain in an angiosperm sends two nuclei into the ovary of a flower.
D. Angiosperms produce seeds with starchy, edible endosperm around the bran.

26. Which statement about fruits is true?
A. The fruit of a coconut is the white meat inside the hard shell.
B. The fruit of a corn kernel is the yellow part of kernel.
C. The fruit of cereal grains is flattened into a layer inside the seed coat.
D. The purpose of fruit is to protect the seed and aid in its dispersal.

27. Which statement about seeds and fruit is true?

A. The endosperm is part of the seed.
B. The external layer of the endoderm is part of the fruit.
C. The bran is part of the fruit.
D. The hard shell of a peach pit is part of the seed.