

Plant Reproduction

1. Angiosperms use temporary reproductive structures that are not present in any other group of plants. These structures are called
 - A. cones
 - B. carpels
 - C. receptacles
 - D. flowers
 - E. seeds
2. Evolutionarily, floral parts are modified
 - A. stems
 - B. leaves
 - C. roots
 - D. stolons
 - E. suberins
3. Plants that flower only once before they die, normally after two seasons of growth, are called
 - A. annuals
 - B. biennials
 - C. perennials
 - D. monocots
 - E. dicots
4. Which of the following statements about plant tissue culture is false?
 - A. Cultured plant tissues can form roots and shoots.
 - B. Individual cells can give rise to whole plants in tissue cultures.
 - C. Fused protoplasts can be used to form hybrid plants.
 - D. Traits from one plant can be incorporated into another plant.
 - E. In order to fuse protoplasts in tissue culture, they must be from the same species.
5. Ovules are produced in the ovary that is located in the swollen lower portion of the
 - A. anther
 - B. stamen
 - C. filament
 - D. stigma
 - E. pistil

6. Microspore mother cells produce microspores that develop into
 - A. egg cells
 - B. pollen grains
 - C. synergids
 - D. endosperm
 - E. runners
7. Which of the following processes is not involved in determining when a plant will produce flowers?
 - A. protoplast formation
 - B. temperature
 - C. light
 - D. promotive internal signals
 - E. inhibitory internal signals
8. Plants that reproduce asexually produce identical progeny from all of the following except
 - A. portions of roots
 - B. portions of stem
 - C. portions of leaves
 - D. products of embryos
 - E. portions of ovules
9. The formation of an endosperm as well as an embryo in angiosperms is the result of
 - A. alternation of generations
 - B. outcrossing
 - C. determinate growth
 - D. double fertilization
 - E. secondary growth
10. The sequential steps involved in the fertilization of angiosperm flowers include all of the following except
 - A. pollen is transported to a stigma of a flower
 - B. when pollen reaches the stigma of a flower it begins to grow a pollen tube that pierces the style
 - C. the style of the pistil contracts to bring the sperm closer to the embryo sac
 - D. the pollen tube grows until it reaches the ovule in the ovary
 - E. double fertilization produces an embryo and the endosperm

11. The swollen lower portion of the carpels contains
 - A. pollen
 - B. ovules
 - C. petals
 - D. sepals
 - E. stamens

12. Among insect-pollinated angiosperms, the most numerous are those pollinated by
 - A. bees
 - B. butterflies
 - C. fruit flies
 - D. moths
 - E. ants

13. In much of North and South America, if a plant produces bright red flowers with little odor, it is reasonable to assume that it is pollinated by
 - A. bees
 - B. butterflies
 - C. hummingbirds
 - D. moths
 - E. ants

14. Pollination by animals may be dependent on any one of the following factors except the
 - A. amount of nectar
 - B. odor
 - C. color of the flower in visible light
 - D. color of the flower in UV light
 - E. taste of the ovules

15. Self-pollinated angiosperms adapted to a particular uniform habitat are likely to produce large numbers of
 - A. outcrossed individuals
 - B. ill-adapted offspring
 - C. mutations
 - D. infertile offspring
 - E. uniform offspring

16. The egg of an angiosperm is located in the
- A. style
 - B. endosperm
 - C. anther
 - D. embryo sac
 - E. stigma
17. Which of the following statements about the angiosperm embryo sac is false?
- A. It contains eight nuclei.
 - B. It is the gametophyte generation of the plant.
 - C. The nuclei within the embryo sac are diploid.
 - D. The synergids flank the egg cell.
 - E. The embryo sac nuclei are produced by mitosis of a megaspore.
18. Endosperm tissue of angiosperms has which of the following ploidy levels?
- A. n
 - B. $2n$
 - C. $3n$
 - D. $4n$
 - E. $8n$
19. Double fertilization in angiosperms is best described as
- A. one sperm fertilizes the egg, developing into the embryo; the other sperm fertilizes the ovary, which becomes the fruit
 - B. one sperm fertilizes the egg, developing into the embryo; the other sperm fertilizes the polar nuclei, which forms the endosperm
 - C. one sperm fertilizes the egg, developing into the embryo; the other sperm fertilizes the polar nuclei, which forms the seed coat
 - D. one sperm fertilizes the egg, developing into the embryo; the other sperm produces the pollen tube
 - E. one pollen grain fertilizes the stigma; the other sperm fertilizes the egg

20. Pollination is the act of pollen transfer between plant parts. Which statement about pollen and pollination is correct?
- A. Pollination begins when pollen is transferred from the anther to the ovary of a flower.
 - B. Pollination begins when pollen is transferred from the anther to the receptacle of a flower.
 - C. Pollination begins when pollen is transferred from the anther to the stigma of a flower.
 - D. Pollination begins when pollen is transferred from the stigma to the anther of a flower.
 - E. Pollination begins when pollen is transferred from the anther to the pollen tube of a flower.
21. Pollen grains are formed in the anther of the flower. The correct sequence is
- A. Diploid microspore mother cells divide by meiosis to form four haploid microspores. Each microspore develops into a pollen grain by mitosis.
 - B. Haploid microspore mother cells divide by meiosis to form four diploid microspores. Each microspore develops into a pollen grain by mitosis.
 - C. Diploid microspore mother cells divide by mitosis to form four haploid microspores. Each microspore develops into a pollen grain by meiosis.
 - D. Haploid microspore mother cells divide by mitosis to form four diploid microspores. Each microspore develops into a pollen grain by meiosis.
 - E. Diploid megaspore mother cells divide by mitosis to form four diploid megaspores. Each megaspore develops into a pollen grain by meiosis.

Answer Key

No. on Test	Correct Answer
1	D
2	B
3	B
4	E
5	E
6	B
7	A
8	D
9	D
10	C
11	B
12	A
13	C
14	E
15	E
16	D
17	C
18	C
19	B
20	C
21	A