

Provide the BEST answer for each multiple-choice question. Each question is worth 4 points. Good luck!

1. What is your name? _____
2. Which of the following do plants compete for?
 - a. nutrients
 - b. sunlight
 - c. water
 - d. all of the above
3. According to your textbook, what tillage system results in the highest number of seeds in the top 0 to 1 cm?
 - a. ridge till
 - b. chisel plow
 - c. no-till
 - d. moldboard plow
4. Winter-annual weeds germinate in the
 - a. spring
 - b. summer
 - c. fall
 - d. winter
5. Regarding C_3 and C_4 photosynthesis, which of the following statements is true?
 - a. C_4 plants do not have the enzyme RUBISCO.
 - b. C_3 plants do not undergo photorespiration.
 - c. The C_4 pathway is over-represented among plants that are troublesome weeds.
 - d. The C_4 pathway is the primary photosynthetic pathway used in dicot plants.
6. A species with separate male and female flowers on the same plant is
 - a. monoecious
 - b. dioecious
7. The first major case of herbicide resistance, common groundsel resistant to triazines, was documented in
 - a. 1954
 - b. 1970
 - c. 1980
 - d. 1984
8. r-selected plants
 - a. have high allocation to reproduction
 - b. are adapted to stable environments
 - c. have fixed population sizes
 - d. have long generation times
9. Biennial annual weeds typically require this to flower
 - a. short days
 - b. hormones
 - c. stratification
 - d. vernalization
10. A plant hormone that promotes seed germination is
 - a. auxin
 - b. phytochrome
 - c. abscisic acid
 - d. gibberellic acid

11. Simple perennials reproduce from
 - a. seeds
 - b. stolons
 - c. rhizomes
 - d. seeds and rhizomes

12. Phytochrome is inter-converted between P_{fr} and P_r by
 - a. plant hormones
 - b. temperature
 - c. abscisic acid
 - d. light

13. The niche theory of plant ecology suggests
 - a. weeds are adapted to unstable environments
 - b. a weed species will contain high genetic diversity
 - c. plant species differentiate themselves to occupy different habitats
 - d. plant species must effectively compete with each other

14. According to the C, S, and R theory, C plants are adapted to environments of
 - a. high stress and low disturbance
 - b. high stress and high disturbance
 - c. low stress and low disturbance
 - d. low stress and high disturbance

15. Plant interference
 - a. is the same as plant competition
 - b. includes only direct plant-plant interactions
 - c. occurs only when plants are sharing the same resources
 - d. includes parasitism and allelopathy

16. Forceful dehiscence refers to
 - a. a mechanism of seed dispersal
 - b. a mechanism of seed dormancy
 - c. a mechanism of resistance evolution
 - d. something that can't be shown on public television

17. According to your textbook, rhizome production is the primary means of spread and survival for
 - a. quackgrass
 - b. multiflora rose
 - c. wild garlic
 - d. Russian thistle

18. The ability of a plant to alter its growth in response to the environment is due to
 - a. developmental plasticity
 - b. genetic diversity
 - c. transposable elements
 - d. phyto-rehabilitation

19. Dodder is
 - a. a stem parasite of alfalfa
 - b. a stem parasite of trees
 - c. a root parasite of vegetable crops
 - d. a root parasite of grass crops

20. Non-synthetic herbicides were first used
 - a. hundreds of years ago
 - b. in the 1850s
 - c. in the 1920s
 - d. in the 1940s

21. If a seed has primary dormancy
 - a. it acquires dormancy after being released from its parent
 - b. it is dormant only because the environmental conditions prevent its germination
 - c. it is also said to have induced dormancy
 - d. it is dormant after release from its parent

22. The discovery and use of ALS-inhibiting herbicides was a significant event in the history of weed science because
 - a. they were the first “selective” herbicides
 - b. they were the first herbicides not to select resistant weed populations
 - c. they were used at very low rates
 - d. they were rapidly degraded in the soil

23. Which of the following is a characteristic of the soil seed bank?
 - a. it can increase much more quickly than it can decrease
 - b. it tends to have a constant size across different habitats
 - c. it is usually dominated by a single species
 - d. it tends to remain constant over time

24. What is the type of plant competition experiment in which the overall plant density is held constant?
 - a. Nelder design
 - b. additive series
 - c. replacement series
 - d. common garden

25. A single waterhemp plant is capable of producing how many seeds?
 - a. 1,000
 - b. 10,000
 - c. 100,000
 - d. > 100,000

26. This invasive weed, described in the article, Alien Invasion, is problematic in rangelands of the northern Great Plains.
 - a. purple loosestrife
 - b. old world climbing fern
 - c. leafy spurge
 - d. kudzu

27. Weeds defined as early successional species defines them from what perspective?
 - a. anthropocentric
 - b. ecological
 - c. biological
 - d. pathological

28. Which of the following would be expected to exhibit the greatest genetic diversity
 - a. a selfed species after its recent introduction to a new continent
 - b. an outcrossed species in its native range
 - c. a species that reproduces predominantly by vegetative propagation
 - d. a species that exhibits limited gene flow

29. Broomrape is
- a stem parasite of alfalfa
 - a stem parasite of trees
 - a root parasite of vegetable crops
 - a root parasite of grass crops
30. An allelochemical
- is a compound produced by a plant that is phytotoxic
 - is a product of primary metabolism
 - is a biocontrol agent formulated to be applied as a herbicide
 - is used by parasitic weeds to extract nutrients from its host
31. The critical weed free period refers to
- the period of time needed for weeds to set seed
 - the period of time when weeds reduce crop quality
 - the period of time when weeds must be controlled to prevent yield loss
 - the period of time from crop emergence to pollination
32. Biotypes are
- genetically distinct individuals of a species
 - species with genetic similarities
 - populations with high development plasticity
 - individuals with somatic polymorphisms
33. Which of the following is NOT an example of genetic diversity in weeds
- different cocklebur biotypes exhibiting different levels of soybean competition
 - different seeds within a cocklebur fruit exhibiting different levels of dormancy
 - erect and prostrate biotypes of annual bluegrass in England bowling greens
 - early and late germinating ecotypes of giant ragweed
34. Allelopathy
- can be demonstrated by growing two plants together and determining if the growth of one is inhibited
 - has been reported for numerous species, but is difficult to document under field conditions
 - is more important than competition in terms of yield loss in agronomic crops
 - has been disproved for most weed species
35. Based on the biological definition of a weed, what percentage of all plants are weeds?
- < 5%
 - 10%
 - 25%
 - 50%
36. A plant that uses resources inefficiently
- is not competitive
 - will compete well under competitive conditions
 - is unlikely to be a weed
 - will create a competitive environment
37. Barnyardgrass that evolved to avoid hand weeding in rice paddies is an example of
- developmental plasticity
 - an agroecotype
 - somatic polymorphism
 - a genetic bottleneck
38. A hemiparasite
- lacks chlorophyll
 - has a broad host range
 - has a narrow host range
 - produces photosynthate, but requires a host for water and nutrients