



26. After fertilization in a typical flowering plant (Division Anthophyta), the female gametophyte
- becomes triploid
  - consists of seven cells and eight nuclei
  - dies
  - forms an integument
  - nourishes the developing embryonic sporophyte
27. Endosporic female gametophytes are found in *all* members of the
- Gnetophyta
  - Hepatophyta
  - Lycophyta
  - Pterophyta
  - Sphenophyta
28. Exosporic female gametophytes provide food to the developing embryonic sporophytes. Where do they get it?
- by ingesting bacteria and other small organisms
  - by parasitizing fungi or from photosynthesis
  - from Panda Express
  - stored food from the large megaspore
  - they steal it from the embryonic sporophyte
29. Fully internal fertilization (sperm cells do not require environmental water) is a feature of all
- eukaryotes
  - green plants
  - land plants
  - seed plants
  - vascular plants
30. Heterosporous plants
- always have bisexual gametophytes
  - always have heterothallic gametophytes
  - always have seeds
  - are always aquatic
  - are always dioecious
31. In most seed plants, pollen tubes begin their growth \_\_\_\_\_, but in Anthophyta, they begin their growth \_\_\_\_\_.
- in the egg cell ... in the sperm cell
  - in the micropyle ... in the anther
  - in the pollen chamber ... on the stigma
  - on the stigma ... in the pollen chamber
  - on the style ... in the nucellus
32. In addition to the large generative cell, most seed plant pollen grains contain several additional small cells called
- antipodal cells
  - microsporocytes
  - prothallial cells
  - protonema
  - tube nuclei
33. In *all* seed plants, the pollen tube
- absorbs nutrients for the developing sperm
  - carries the sperm cells to the egg
  - grows from the stigma down the style to the ovule
  - grows through the micropyle
  - is diploid
34. In Anthophyta, food-conducting cells are called
- hydroids
  - leptoids
  - sieve cells
  - tracheids
  - trumpet cells
35. In Anthophyta, ovules are located inside the
- anther
  - archegonium
  - cone scale
  - megasporangium
  - ovary
36. In bisexual free-living gametophytes (such as those of homosporous Pterophyta), the antheridia and archegonia often develop at different times. The most likely reason for this is to
- allow the sperm cells to turn into new gametophytes by clonal reproduction
  - prevent self-fertilization
  - prevent self-pollination
  - produce more meiospores
  - speed up maturation of the gametophyte
37. In Bryophyta, water-conducting cells are called
- hydroids
  - leptoids
  - sieve cells
  - tracheids
  - trumpet cells
38. In cotyledonous seeds, food is stored
- in the cotyledons
  - in the endosperm
  - in the female gametophyte
  - in the nucellus
  - in the style and stigma
39. In the Psilotophyta, zygotes
- are diploid
  - are the product of meiosis
  - undergo meiosis to form meiospores
  - turn into gametophytes
  - are the same thing as ovules

40. Most land plants are protected from ultraviolet radiation by chemical compounds called
- flavonoids
  - lignins
  - mannitols
  - phycobilins
  - stomata
41. One of the ways to recognize paraphyletic groups such as the Magnoliopsida is that they have no features unique to them. The Liliopsida are monophyletic, though; what is one feature that is found in all Liliopsida and no other flowering plants?
- flower parts in 4 or 5
  - one cotyledon
  - roots
  - siphonostele
  - wood
42. Organisms that are K-selected
- always exceed the carrying capacity of the environment
  - are often weeds
  - produce few offspring and care for them well
  - produce large numbers of low-cost offspring
  - usually live in unstable habitats
43. Seed plants reproduce by seeds. Most other land plants reproduce primarily or exclusively by
- carpospores
  - clonal spores
  - meiospores
  - pollen grains
  - zoospores
44. The basic food storage product of the Cycadophyta is
- floridean starch
  - glycogen
  - laminarin
  - paramylon
  - starch
45. The cell walls of the Kingdom Plantae are mainly cellulose, but there is another important cell wall material found only in the vascular plants:
- chitin
  - laminarin
  - lignin
  - starch
  - tannin
46. The most abundant and ecologically dominant division of seed plants is the
- Anthophyta
  - Coniferophyta
  - Cycadophyta
  - Ginkgophyta
  - Gnetophyta
47. The opening in the integument of an ovule through which the pollen passes is called the
- antipodal cell
  - megapyle
  - microphyll
  - micropyle
  - microspore
48. The single living species of the Ginkgophyta is
- Ginkgo biloba*
  - Ginkgo cerevisiae*
  - Ginkgo oryzae*
  - Ginkgo ramorum*
  - Ginkgoxylon infestans*
49. We know that the Anthophyta are a monophyletic group (they all descend from a common ancestor) because they all have
- endosporic gametophytes
  - flowers
  - non-motile sperm
  - seeds
  - xylem
50. You are taking a lab exam. The next station is a sectioned Ginkgo seed. The card says "What is the name of the haploid structure at the pin?" But the pin is missing. What is the right answer?
- embryo
  - endosperm
  - female gametophyte
  - nucellus
  - sarcotesta