

BOT 125 - Plant Morphology

Summer 2002, Midterm

1. Read these directions before you begin.
2. Write your name on your Scantron sheet and make sure it is on the 8½×11 exam guide (tests without names will not be graded).
3. Write the number of your lab section on the Scantron sheet in the box marked "Hour" (sect. 1 = MW 8-11 [Katie], sect. 2 = TTh 8-11 [Sean]). Scantrons without lab sections will have one point deducted from the total.
4. Check this test to make sure it has all pages, 1 –3.
5. Mark all answers on the Scantron sheet. There is only one correct answer to each question.
6. When you are finished, turn in both the Scantron and the 8½×11 exam guide on the front table. Please keep this sheet.

For each of the next ten questions, tell whether the cell, structure, or organism is:

- a. Haploid
- b. Diploid
- c. Triploid
- d. Dikaryotic
- e. The ploidy level cannot be determined from the information given

1. Ascoma
2. Basidium
3. Egg
4. Gametophyte
5. Meiocyte
6. Meiospore
7. Meiospore
8. Mycelium
9. Zoospore
10. Zygote

For each of the next ten questions, tell which phylum the cell or structure is associated with:

- a. Ascomycota
- b. Myxomycota
- c. Bacillariophyta
- d. Phaeophyta
- e. Rhodophyta

11. Ascogonium
12. Auxospore
13. Chitin cell wall
14. Cystocarp
15. Laminarin
16. No cell wall
17. Parenchyma
18. Plasmodium
19. Silica cell wall
20. Tetraspore

21. _____ is a Class and _____ is a Phylum.
 - a. Alismataceae ... Zygomycota
 - b. Brassicaceae ... Magnoliales
 - c. Chrysophyceae ... Heterobasidiomycetes
 - d. Magnoliopsida ... Zygomycota
 - e. *Penicillium* ... *Phytophthora*
22. _____ is currently the primary source of citric acid used in food and industry.
 - a. *Agaricus brunnescens*
 - b. *Aspergillus niger*
 - c. *Penicillium notatum*
 - d. *Phytophthora infestans*
 - e. *Saccharomyces cerevisiae*
23. _____ produce _____ by _____.
 - a. Gametophytes ... gametes ... mitosis
 - b. Gametophytes ... meiospores ... meiosis
 - c. Sporophytes ... gametes ... mitosis
 - d. Sporophytes ... meiocytes ... syngamy
 - e. Sporophytes ... meiospores ... mitosis
24. "Red" chloroplasts
 - a. contain carotenoids and xanthophylls
 - b. contain phycobilins
 - c. have chlorophylls a, b, c, d, and e
 - d. include β-carotene as an accessory pigment
 - e. lack chlorophyll
25. A monophyletic group
 - a. consists of a common ancestor and all its descendants
 - b. consists of a common ancestor and some, but not all, of its descendants
 - c. excludes its common ancestor
 - d. is an artificial group, invented by humans
 - e. is *not* the same thing as a clade
26. A multicellular diploid organism has cellulose in its cell walls and brown plastids. It is most likely a member of the phylum
 - a. Bacillariophyta
 - b. Euglenophyta
 - c. Oomycota
 - d. Phaeophyta
 - e. Rhodophyta

27. A similarity between the Rhodophyta and Phaeophyta is that virtually all members of both groups
- are unicellular
 - have free-living meiospore-producing sporophytes
 - have green plastids
 - have silica cell walls
 - have two flagella
28. A single filament of a mycelium is called a
- coenocyte
 - diploblast
 - hypha
 - myconema
 - stramenopile
29. All eukaryotes have
- cell walls
 - chloroplasts
 - flagella
 - mitochondria
 - nuclei
30. Biologists estimate the amount of evolutionary kinship between any two organisms by looking at
- how primitive or advanced they are
 - the homologies they share
 - their fossils
 - their place in the classification in the book
 - their place on a cladogram
31. Diatomaceous earth, formed of the fossil cell walls of _____, is used as a(n) _____, an insecticide, and a filtering agent.
- Rhodophyta ... detergent
 - Bacillariophyta ... food additive
 - Bacillariophyta ... abrasive
 - Rhodophyta ... building material
 - Dinophyta ... fish poison
32. Flagellated cells are never found in the
- Bacillariophyta
 - Dinophyta
 - Euglenophyta
 - Phaeophyta
 - Rhodophyta
33. Food is stored in Rhodophyta in the form of
- floridean starch
 - glycogen
 - laminarin
 - mannitol
 - paramylon
34. Members of the division _____ lack a cell wall.
- Ascomycota
 - Bacillariophyta
 - Dinophyta
 - Myxomycota
 - Phaeophyta
35. Parenchyma consists of
- dikaryotic mycelium
 - flat sheets of cells, one cell thick
 - masses of clonal sporangia
 - three-dimensional tissue made of compacted filaments
 - three-dimensional tissue that results from cells dividing in three dimensions
36. *Penicillium* produces antibiotics that kill bacteria. This is so that
- people will extract antibiotics from it to fight infections.
 - it can easily contaminate petri dishes by destroying the organisms that already live there.
 - it can more easily grow on oranges, which are prokaryotic like bacteria.
 - it will kill bacteria that would otherwise compete for its food.
 - it will reproduce clonally.
37. Sexual reproduction *always* includes
- eggs and sperm
 - meiosis and syngamy
 - mitosis and ontogeny
 - ontogeny and phylogeny
 - wine and candles
38. The _____ are primarily terrestrial.
- Basidiomycota
 - Dinophyta
 - Euglenophyta
 - Oomycota
 - Phaeophyta
39. The Fungi Imperfecti consist of
- fungi in which clonal reproduction never occurs
 - mostly Ascomycota
 - mostly Basidiomycota
 - mostly Oomycota
 - mostly Zygomycota
40. The Oomycota were once placed in the kingdom Fungi. They are different from fungi because
- their life cycle is haploid dominant
 - they are never parasitic
 - they are septate
 - they have heterokont flagella
 - they have chitin cell walls

41. The theory that the microtubule system, _____, and _____ of eukaryotic cells were derived from free-living prokaryotes is called the _____ theory.
- chloroplasts ... mitochondria ... endosymbiosis
 - endoplasmic reticulum ... chromosomes ... endosymbiosis
 - nuclei ... mitochondria ... ectoparasitic
 - chloroplasts ... nuclei ... organellar insertion
 - cell walls ... plasma membranes ... relativity
42. We can distinguish homology from homoplasy because
- all homologies tell parts of the same story
 - all homologies look alike
 - all homoplasies tell parts of the same story
 - all homoplasies look alike
 - homoplasy exists independent of human perception
43. When you are eating *Agaricus brunnescens*, the common pizza mushroom, you are eating
- a basidioma
 - diploid mycelium
 - haploid mycelium
 - parenchyma
 - zygospores
44. You are taking a lab exam. The card says “What is the ploidy level of this gametophyte of *Ricciocarpus* of the Hepatophyta?” You were certain that Hepatophyta weren’t supposed to be on the exam. In fact, Dr. Clark never even lectured about them. But you have to put down an answer anyway. The correct answer is
- dikaryotic
 - diploid
 - gamete
 - haploid
 - meiospore
45. Zoospores
- always lack flagella
 - always have flagella
 - are always diploid
 - are always haploid
 - are always clonal