Biology 260 Quiz
(Lecture Exam One 100 points)

Name:
Class Time:

Fill in your answers on the scantron sheet. Each question is worth 2 points

1. Which one of the following statements about plants is incorrect?

A. Plants are typically photosynthetic organisms.
B. Plants most likely evolved from aquatic algal andestors.
C. Plants have influenced Earth's atmospheric chemistry, climate, and soils.
D. The plant kingdom is monophyletic.
E. All of the above statements about plants are correct.

2. Arrange the following plant phyla in order of evolutionary appearance, from earliest to most recent.

1. lycophytes
2. bryophytes
3. angiosperms
4. gymnosperms

A. 2,3,1,4
B. 1,2,3,4
C. 2,4,1,3
D. 2,1,4,3
E. 3,2,4,1

3. Plant embryos develop by repeated from a single-celled resulting from fertilization.

A. meiosis, zygote
B. meiosis, gamete
C. mitosis, gamete
D. mitosis, zygote
E. mitosis, seed

4. Which one of the following phyla is believed to have the simplest and most ancient leaves?

A. lycophytes
B. angiosperms
C. mosses
D. hornworts
E. bryophytes

5. Which one of the following plants would be classified as nonvascular?
A. hornworts
B. conifers
C. pteridophytes
D. angiosperms
E. lycophytes

6. Which one of the following statements about bryophytes is true?
A. Flowering plants are an example of a bryophyte.
B. Bryophytes are believed to be the most recently evolved type of plant.
C. The diploid generation of bryophytes is unicellular.
D. Bryophytes exhibit the reproductive process referred to as alternation of generations.
E. All of the above statements about bryophytes are correct.

7. True or False: Round or elongate gametangia that produce sperm are most accurately referred to as archegonia.

A. True
B. False

8. The tough material in plant spore cell walls that prevents damage during transport through the air is referred to as , and the protective enclosures for multiple spores are referred to as . .
A. chitin; embryos
B. sporopollenin; sporangia
C. antheridia; archegonia
D. cellulose; gametangia
E. lignin; capsids

9. Which one of the following do lycophytes and pteridophytes have in common? Both lycophytes and pteridophytes are:
A. nonvascular, seedless plants.
B. nonvascular, seed-producing plants.
C. vascular, seed-producing plants.
D. vacular, seedless plants.
E. None of the above accurately describe lycophyes and pteridophytes.

10. Which one of the following is not a gymnosperm?
A. conifers
B. ginkgos
C. mosses
D. gnetophytes
E. cycads

11. True or False: Angiosperms are distinguished from gymnosperms by the presence of flowers, fruits, and endosperm.
A. True
B. False

12. Leaves with branched veins are most accurately referred to as:
A. nonvascular.
B. pteridophylls.
C. lycophylls
D. euphylls
E. pseudophylls.

13. Sporophytes produce spores by ; gametophytes produce gametes by
A. mitosis; meiosis
B. mitosis; mitosis
C. meiosis, mitosis
D. meiosis, meiosis
E. None of the above

14. Arrange the whorls of a flower listed below from innermost to outermost.

1. petals
2. stamens
3. sepals
4. carpels

A. 1,2,3,4
B. 3,2,4,1
C. 2,1,4,3
D. 3,1,2,4,
E. 4,2,1,3

15. A flower which has sepals, and carpels, but lacks stamens, would most accurately be referred to as: .
A. staminate.
B. perfect.
C. complete.
D. carpellate.
E. incomplete.

16. Flowering plant female gametophytes contain an egg cell wedged between two cells most accurately referred to as: .
A. tube cells.
B. antipodal cells.

C. sporangia.
D. integuments.
E. synergids.

17. Which one of the following statements about self-incompatibility (SI) is correct?
A. SI occurs when pollen is genetically too dissimilar from the pistil.
B. If the SI system becomes inactivated, a plant species can become self-pollinating.
C. SI proteins are encoded by a gene locus referred to as the R gene locus.
D. Incompatible pollen is eliminated by creating pores in the cell wall of the pollen grain and letting water escape from the pollen cell.
E. All of the above statements about self-incompatibility (SI) are correct.

18. True or False: When two different sperm cell nuclei fuse with a single egg cell, this process is most accurately referred to as double fertilization.
A. True
B. False

19. The portion of the embryonic stem located below the point of attachment of the cotyledons is most accurately referred to as the: .
A. radicle.
B. coleoptile.
C. coleorhiza.
D. epicotyl.
E. hypocotyl.

20. A young, multicellular diploid sporophyte that develops from a single celled zygote by mitosis is most accurately referred to as a/an:
A. seed.
B. ovule.
C. egg.
D. flower.
E. embryo.

21. Which the following would <u>not</u> be found in a gymnosperm?
A. chloroplasts
B. fruits
C. wood
D. vascular tissue
E. pollen

22. DNA sequences that are used to identify and catalog biodiversity on Earth are most accurately referred to as:
A. restriction fragment length polymorphisms.
B. molecular barcodes
C. transposons
D. fingerprints
E. operons.

23. Which of the following is does not represent a secondary metabolite?
A. cellulose
B. phenols
C. terpenes
D. alkaloids
E. caffeine

24. Which one of the following statements about cycads is correct?
A. Only one species of cycad survived the K/T event.
B. All cycad stems do not emerge from the ground.
C. Cycads lack flagellate sperm.
D. Cycads lack tracheids in their wood.
E. Symbiotic bacteria living within cycads produce an amino acid that is linked to dementia in some populations.

25. Which one of the following in not an organ in a complete flower?
A. torus
B. carpel
C. sepal
D. petal
E. stamen

26. True or False: In flowers, petals and sepals are collectively known as the peduncle.
A. True
B. False

27. An example of a fruit type known as a an accessory multiple fruit is:
A. an apple
B. grapes
C. pineapple
D. mangoes
E. strawberry

28. The fruit type of a pea plant is called a:
A. drupe
B. nut
C. legume
D. berry
E. samara

29. True or False: Carpels are modified leaves
A. True
B. False

30. True or False: When a plant species specializes its flowers to compensate for a pollinator's limitations, this is most accurately referred to as a pollination syndrome.
A. True
B. False

31. How many sperm cells contribute to the process of reproduction in angiosperms?
A. 1
B. 2
C. 3
D. 4
E. 5

32. The endosperm of an angiosperm seed is typically:
A. haploid (n)
B. diploid (2n)
C. triploid (3n)
D. quadraploid (4n)
E. pentaploid (5n)

33-35. Use the figure to answer the following questions.
In the accompanying figure, the zygote is the structure labeled:

33. The male product of meiosis is the structure in the figure labeled:

A. 5
B. 10
C. 13
D. 18
E. 20

34. Pollination is occurring at the point labeled: . .
A. Process A
B. Process B
C. Process C
D. Process D.

E. None of the above

35. The egg cell is the structure labeled:
A. 1
B. 4
C. 5
D. 17
E. 21

36. Progymnosperms had two features that were not present in the mosses
A. lycophylls and gametangia
B. lycophylls and woody tissue
C. euphylls and woody tissue
D. euphylls and seeds
E. none of the above

37-39. Use the figure to answer the following questions:

37. The life cycle in this figure could represent:
A. a bryophyte
B. a hornwort
C. a moss
D. a fern
E. All of the above

38. The structure in the figure labeled 4 is:
A. haploid.
B. diploid.
C. a zygote.
D. produced by meiosis.
E. None of the above.

39. The structure in the figure labeled 1:
A. is haploid.
B. was produced by mitosis.
C. was produced from a megaspore.
D. is not a product of fertilization.
E. All of the above.

40. Bat-pollinated night-blooming flowers would most likely display which two charcteristics? None of these are correct
A. insects.
B. birds.
C. bats.
D. wind.
E. small rodents.

41. Flowers that are odiferous and blue or UV purple in color would most likely be pollinated by:
A. bees.
B. birds.
C. bats.
D. wind.
E. small rodents.

Use the accompanying figure to answer the following questions.
42. The shape of the bill on the bird in the accompanying figure is most likely the result of:
A. coevolution.
B. pollination.
C. asexual reproduction.
D. pseudocopulation.
E. None of the above.

43. The type of floral attraction that would work on the pollinator in the accompanying figure is :
A. white flowers.
B. purple or blue flowers.
C. a strong sweet scent.
D. a strong carrion-like scent.
E. sweet nectar.

44. From what structure does a simple fruit develop?
A. the style
B. the stamen filament
C. the ovary wall
D. a group of fused sepals
E. the stigma

45. If an ovary contains eight ovules, how many seeds could potentially result if pollen tubes reach all eight ovules?
A. one
B. four
C. eight
D. none of the above
E. sixteen

46. Where do the immature male gametophytes of the flowering plants, otherwise known as pollen grains, develop?
A. in the anthers of a flower.
B. in the carpels of a flower.
C. while being dispersed by wind, water, or animals.
D. within ovules.
E. none of the above.

47. A waxy cuticle is an adaptation that
A. helps to prevent water loss from tracheophytes .
B. helps to prevent water loss from bryophytes.
C. helps to prevent water loss from emryophytes.
D. all of the above.
E. none of the above.

48. An important feature of land plants that originated during the diversification of charophycean algae is
A. the sporic life cycle
B. spores
C. tracheids
D. plasmodesmata
E. phragmoplasts

49. What feature must be present for a plant to produce wood?
A. a type of conducting system in which vascular bundles occur in a ring
B. a vascular cambium
C. none of the above. .

50. What is the correct order of evolution for these critical adaptations?
A. embryos, vascular tissue, wood, seeds , flowers
B. vascular tissue, embryos, wood, flowers, seeds
C. vascular tissue, wood, seeds, embryos, flowers
D. wood, seeds, embryos, flowers, vascular tissues
E. seeds, vascular tissue, wood, embryos, flowers