1. Fungi:
    a. Are heterotrophic organisms that get their nutrition directly from photosynthesis.
    b. Secrete hydrolytic exoenzymes to breakdown their food.
    c. Are often saprobes that absorb nutrients from living hosts.
    d. Ingest their food before digesting it.
    e. None of the above

2. Parasitic fungi have modified hyphae called _____, which penetrate and absorb nutrients from host tissues.
    a. Haustoria
    b. Mycelia
    c. Asci
    d. Basidia
    e. None of the above

3. In contrast to plants, the cell walls of fungi are composed of _____.
    a. Lignin
    b. Peptidoglycan
    c. Cellulose
    d. Chitin
    e. Pectin

4. Diploid cells are produced during which stage of fungal reproduction?
    a. Plasmogamy
    b. Meiosis
    c. Karyogamy
    d. A & C only
    e. All of the above

5. Which choice below represents the correct order of events in fungal sexual reproduction?
    a. Karyogamy, plasmogamy, germination, meiosis
    b. Plasmogamy, karyogamy, meiosis, germination
    c. Meiosis, plasmogamy, germination, karyogamy
    d. Germination, plasmogamy, karyogamy, meiosis
    e. Plasmogamy, karyogamy, germination, meiosis

6. Basidiomycetes are important decomposers of wood because of their ability to break down _____.
    a. Cellulose
    b. Cambium
    c. Xylem
    d. Phloem
    e. Lignin

7. During asexual reproduction in ascomycetes, the _____ produce _____.
    a. Basidia; basidiospores
    b. Asci; ascospores
    c. Conidiophores; conidia
    d. Ova; flagellated spores
    e. None of the above

8. Chytrids:
    a. Are the most primitive fungi.
    b. Can be found in colonies with hyphae.
    c. Have flagellated spores, called zoospores.
    d. A & C only
    e. All of the above

9. What is the importance of the extended dikaryotic stage in the life cycles of basidiomycetes and ascomycetes?
    a. It allows for the formation of more hyphae.
    b. It allows for the formation of more conidia.
    c. It allows for many genetic recombinations to occur.
    d. It increases the surface area for the production of basidiospores.
    e. All of the above

10. Hyphae with two nuclei per cell are called _____.
    a. Diploid
    b. Dikaryotic
    c. Multicellular
    d. Haploid
    e. None of the above

11. Deuteromycetes:
    a. Are the most ancient fungi.
    b. Are predatory fungi.
    c. Include the fungal components of lichens.
    d. Are fungi with no known sexual reproduction stage.
    e. All of the above

12. Which of the following structural components are common to both fungal and animal cells?
    a. Collagen
    b. Chitin
    c. Cellulose
    d. A & C only
    e. None of the above

13. What is the correct sequential order found in early animal development?
    a. Cleavage, gastrulation, blastulation
    b. Cleavage, blastulation, gastrulation
    c. Blastulation, gastrulation, cleavage
    d. Blastulation, cleavage, gastrulation
    e. None of the above

14. How are sponges different from all other animals?
    a. They are completely sessile.
    b. They have radial symmetry and are suspension feeders.
    c. They are not multicellular.
    d. A & B only.
    e. None of the above

15. Gastrulation results in the formation of the _____.
    a. Mesoderm
    b. Blastocoel
    c. Archenteron
    d. A & C only
    e. All of the above

16. Mesoderm gives rise to the vertebrate _____.
    a. Heart
    b. Lungs
    c. Kidneys
    d. A & C only
    e. All of the above

17. Deuterostome development is characterized by the _____.
    a. Radial cleavage of the eight-cell stage.
    b. Anal development from the blastopore during the gastrula stage.
    c. Folding of the archenteron to form the body cavity during the gastrula stage.
    d. A & C only
    e. All of the above

18. Cephalization is _____.
    a. The formation of a coelom by budding from the archenteron.
    b. The concentration of sensory organs in a head region.
    c. Commonly found in animals with radial symmetry.
    d. The formation of a tail.
    e. None of the above

19. A true coelom _____.
    a. Is a fluid-filled cavity completely lined by mesoderm.
    b. Allows organs to grow and move independently of the outer body wall.
    c. May be used as a skeleton by soft-bodied coelomates.
    d. Provides support for internal organs.
    e. All of the above

20. Which of the following characteristics is found only in animals?
    a. Flagellated sperm
    b. Heterotrophic nutrition
    c. Hox genes
    d. A & C only
    e. All of the above characteristics are exclusive to animals

21. Which of the following is not descriptive of a pseudocoelomate?
    a. Body cavity incompletely lined by mesoderm
    b. True tissues
    c. Triploblastic
    d. Radial symmetry
    e. All of the above characteristics describe a pseudocoelomate

22. What body symmetry and form of locomotion would one expect from an animal that actively moves around?
    a. Radial; swim
    b. Radial; float
    c. Bilateral; swim
    d. Bilateral; float
    e. None of the above

23. Sponges have _____.
    a. No real symmetry
    b. True tissues
    c. Choanocytes
    d. A & C only
    e. All of the above

24. All of the following animals have a gastrovascular cavity for digestion EXCEPT _____.
    a. Sea wasps
    b. Flukes
    c. Ribbon worms
    d. All of the above animals have a gastrovascular cavity
    e. None of the above animals have a gastrovascular cavity

25. Hermaphrodites _____.
    a. Contain male sex organs
    b. Contain female sex organs
    c. Usually cross-fertilize
    d. A & B only
    e. All of the above

26. Which of the following combinations of phylum and characteristics is INCORRECT?
    a. Annelida – segmentation; closed circulatory system; hydrostatic skeleton
    b. Nematoda – alimentary canal; tough cuticle; circular muscles
    c. Rotifera – parthenogenesis; crown of cilia; microscopic animals
    d. Brachiopoda – lophophore; stalked; hinged shells
    e. All of the above are incorrect

27. All of the following animals are coelomates EXCEPT _____.
    a. Brachiopods
    b. Earthworms
    c. Leeches
    d. Tapeworms
    e. Snails

28. Torsion _____.
    a. Results in a U-shaped digestive tract in gastropods
    b. Is characteristic of all molluscs
    c. Is responsible for the spiral growth of bivalve shells
    d. Describes the thrashing movement of nematodes
    e. Results in the molting of insects

29. All of the following structures function in suspension feeding EXCEPT _____.
    a. Snail radulas
    b. Ectoproct lophophores
    c. Sponge choanocytes
    d. Clam gills
    e. All of the above function in suspension feeding

30. Throw out this question

31. Cephalopods are the only molluscs _____.
    a. That reproduce sexually
    b. With segmented bodies
    c. With a closed circulatory system
    d. A & C only
    e. All of the above

32. A major characteristic of all arthropods is _____.
    a. A cephalothorax
    b. Book lungs
    c. Complete metamorphosis
    d. All of the above are characteristic of all arthropods
    e. None of the above are characteristic of all arthropods

33. The proglottids of a tapeworm contain an elaborate _____ system.
    a. Sensory
    b. Circulatory
    c. Digestive
    d. Attachment
    e. Reproductive

34. Some digestion in sponges takes place in the _____.

a. Amoebocytes
b. Spongocoel
c. Osculum
d. A & C only
e. All of the above

35. Which of the following animals are most closely related to spiders?
a. Scorpions
b. Pill bugs
c. Millipedes
d. Mosquitoes
e. Grasshoppers

36. Which of the following animals have lophophores?
a. Ectoprocts
b. Brachiopods
c. Cephalopods
d. A & B only
e. All of the above

37. Pharyngeal slits appear to have functioned first as _____.
a. Mouth openings
b. Gill slits for respiration
c. Components of the jaw
d. Portions of the inner ear
e. Suspension-feeding devices

38. Which of the following is not a derived characteristic of craniates?
a. A mineralized endoskeleton
b. Cranium or skull
c. Cephalization with sensory organs
d. Heart with at least two chambers
e. All of the above are characteristics of craniates

39. Which of the following is incorrectly paired with its gas exchange mechanism?
a. Amphibians – skin and lungs
b. Reptiles – lungs
c. Bony fishes – swim bladder
d. A & C only
e. None of the above are incorrectly paired

40. Which of the following is in the lobe-fin clade?
a. Lampreys
b. Hagfishes
c. Ray-finned fishes
d. Sharks
e. None of the above

41. Which of these represents the earliest lineage of vertebrates?
a. Sharks
b. Hagfishes
c. Lampreys
d. Lancelets
e. None of the above

42. Oviparity is a reproductive strategy that _____.

a. Protects the embryo inside the mother
b. Is necessary for flying vertebrates
c. Is used by both reptiles and some sharks
d. A & C only
e. All of the above

43. Amniotes were the first animals to _____.
a. Have eggs with hard outer shells
b. Have a neck that separates the head from the shoulders
c. Use their ribcages to ventilate their lungs
d. A & C only
e. All of the above

44. Sharks maintain their buoyancy by _____.
a. Storing excess oil in their livers
b. Inflating their swim bladders
c. Increasing uric acid concentrations in their tissues, which makes them hypertonic to their surroundings
d. A & C only
e. All of the above

45. The Devonian period is known as the _____.
a. Age of Gnathostomes
b. Age of Fishes
c. Age of Amphibians
d. Age of Reptiles
e. None of the above

46. Annelids
a. Include leeches, earthworms, and polychaete worms
b. Have characteristically long bodies with both internal and external segmentation
c. Have a mouth that is separate from the anus
d. All of the above
e. A and C only

47. Animals such as _____ and the simplest to have _____
a. Flatworms, body cavity
b. Jellies complete digestive tract
c. Snails, body cavity
d. Sponges, bilateral symmetry
e. Roundworms, complete digestive tract

48. An unidentified species of animal displays the following characteristics: bilateral symmetry, a complete digestive system, an open circulatory system, distinct body segmentation, and it molts when it grows. To which one of the following animal phyla does this species most likely, belong.
a. Annelida
b. Arthropoda
c. Nematoda
d. Platyhelminthes
e. Cnidaria

49. The water vascular system of a sea star functions
a. Vision
b. Digestion
c. Movement of the feet
d. Pumping water for swimming movements
e. C and D

50. Which one of the following chordate characteristics contributes most to the formation of your ears?
a. Pharyngeal slits or clefts
b. Notochord

c. Dorsal, hollow nerve chord
d. Muscular, post anal tail
e. None of the above

51. Which of the following is not a correct match
a. Mammalia, kangaroo
b. Osteichthyes, perch
c. Aves, canary
d. Chondrichthyes, great white shark
e. Gnathostomata, hagfish

52. Which of the following can be found in craniates but not lancelets or tunicates?
a. Two clusters of Hox genes
b. Neural crest
c. Duplications of genes that produce signaling molecules and transcription factors
d. All of the above
e. None of the above

53. A lamprey, a shark, a lizard, and a rabbit share all the following characteristics **except** _____
a. Post anal tail
b. Hinged haws
c. Vertebrae
d. Dorsal, hollow nerve chord
e. Pharyngeal clefts in embryo

54. The first vertebrates to live on land were
a. Chondrichthyans
b. Mammals
c. Amphibians
d. Reptiles
e. Agnathans

55. The adaptation that freed vertebrates from water for reproduction and allowed them to radiate into diverse terrestrial environments was the _____
a. Placenta
b. Bony Appendage
c. Amniotic Egg
d. Lateral swim line
e. Operculum

56. Primates are distinguished from other mammals by
a. Fur, claws, small litters,
b. Opposable thumbs, nails, and good depth perception
c. Stereoscopic vision, mammary glands, single births
d. Long tails used for balance, stereoscopic vision, opposable thumbs

57. What was the earliest hominid to have an enlarged brain (relative to body size)?
a. Ardipithecus
b. Homo habilis
c. Homo erectus
d. Australopithecus
e. Homo neanderthalensis