

Final Semester Exam 2010

PreAP Biology

- Are viruses alive?
 - No
- As an organism's environment changes, SEXUAL reproduction improves a species' ability to__evolve__.
- Be able to label identify the levels in a food chain.
 - Such as producer, 1^o consumer (herbivores), 2^o consumers
- Compare and contrast between a eukaryotic and prokaryotic cell.
 - Prokaryotic cells lack membrane organelles and a nucleus, examples are bacteria
 - Eukaryotic cells contain organelles and a nucleus
- Compare and contrast between plant and animal cells.
 - Plant cells have a cell wall, mitochondria, chloroplasts and when they divide develop a sieve plate
 - Animal cells lack chloroplasts and cell wall, and also contain mitochondria
- Contrast between endothermic and ectothermic animals.
 - In ectothermic aka cold-blooded, body temperature is regulated by the environment
 - In endothermic aka warm-blooded, body temperature is constant
- Define a food web.
 - Network of complex interactions among organisms in a community
- Define producer and give an example.
 - A producer is a photosynthetic organism such as algae or plants
- Define symbiosis. List and explain example of symbiotic relationships.
 - Symbiosis is two organism living together
 - Examples are commensalism, predation, mutualism, parasitism
- Describe an annelid?
 - A segmented worm
- Describe the appendages of arthropods?
 - Jointed and extend from the body wall
- Describe the life of a sessile animal.
 - Non-motile
- Example how amphibians breathe during the different stages of their life cycle?
 - Early tadpole has gills to breathe...adult frogs have lungs
- Examples of modern jawless fish?
 - Hagfish and lamprey
- Explain the leaf and root adaptation of prickly-pear cactus to the environment.
 - Leaf is adapted for protection and water storage
 - Roots are shallow and expansive for collecting water
- First vertebrates to evolve were?
 - Fish
- Function of swim bladder?
 - Control buoyancy of fish
- How do mushrooms obtain energy? Are they photosynthetic?
 - Mushrooms are non-photosynthetic and obtain energy by decomposing other organisms
- How do sponges (Porifera) feed?
 - Filter feeders
- How is bacteria treated? Viruses?
 - Bacteria are treated with antibiotics, refrigeration only slows down growth
 - Viruses are prevented with vaccines
- Immigration vs. emigration.
 - Immigration is the movement of organism into an area
 - Emigration is the movement of organisms out of an area
- In angiosperms, reproduction takes place in_____flower_____?
- Is AIDS a viral or bacterial?
 - viral
- Know the rules of scientific naming.
 - Made of Genus and species
 - Genus is capitalized
 - Species is lowercase
 - Underlined or italicized
- Know the shapes of bacteria.
 - Cocci-round
 - Bacilli- rod
 - Sprilla-spiral

26. List abiotic and biotic factors.
 - a. Nonliving are abiotic factors such as water, mineral, rock
 - b. Living are biotic factors such as plants, bacteria, animals
27. List characteristics of mammals.
 - a. Hair, mammary glands, endothermic
28. List main characteristics of ALL birds?
 - a. Outer covering with feathers, endothermic, and two legs....NOT ALL FLY
29. List the biochemical cycles, what do these cycles ensure?
 - a. Water cycle, carbon cycle, nitrogen cycle...these cycles ensure nutrients are efficiently cycled throughout the ecosystem
30. List the kingdoms of eukaryotic organism.
 - a. Protists, Fungi, Plant, and Animal
31. List the types of plant responses, called tropisms.
 - a. Gravitropism-response to gravity
 - b. Phototropism-response to light
32. Lytic vs. lysogenic infection.
 - a. Lytic cycle is when virus is rapidly reproduces inside host cells and spreading
 - b. Lysogenic is the dormant stage of viral life cycle
33. Two body types of Cnidarians.
 - a. Medusa and polyp
34. Warm-blooded animals with hair and mammary glands are in what class?
 - a. The class mammalia
35. What are organisms that obtain nutrients by breaking down dead and decaying plants and animals called?
 - a. decomposers
36. What are small, photosynthetic organisms found near the surface of the ocean are called? Why are they the most important group of organism on our planet?
 - a. Phytoplankton, they are important b/c they supply most of the Earth's oxygen
37. What are the bristlelike structures on some annelids' bodies?
 - a. setae
38. What are the combined portions of Earth in which all living things exist is called?
 - a. biosphere
39. What are the techniques/rules for identifying bacteria?
 - a. Bacteria are classified based on cell wall composition and shape
 - b. Gram + is purple
 - c. Gram – is pink
40. What are the three main groups of mammals?
 - a. Monotremes, marsupials, and placental
41. What do ALL organisms have in common?
 - a. A form of genetic material (DNA or RNA) to pass on their genes to offspring
42. What do bacteriophages infect?
 - a. Viruses that infect bacteria
43. What do similar genes between to organism indicate?
 - a. Similar genes indicate a common ancestor
44. What do the vascular tissues xylem and phloem transport?
 - a. Xylem transports water
 - b. Phloem transports food (sugars)
45. What does a ripened ovary develop into?
 - a. fruit
46. What flower structure produces pollen?
 - a. Anther
47. What is a fruiting body?
 - a. The "mushroom" you see growing above ground
48. What is a multiceller, eukaryote that produces oxygen?
 - a. plants
49. What is a nerve net?
 - a. A primitive nervous system found in Cnidarians made of nerve cells
50. What is a pathogen? List examples.
 - a. An infectious agent such as bacterial or viral
51. What is a tangled mass of hyphae?
 - a. mycelium
52. What is an nematocysts? What are 2 functions of nematocysts?
 - a. The stinging cell of the Cnidarians used for protection and to capture prey
53. What is an organism that feeds only on plants and animals?

- a. Omnivore
54. What is an organism that feeds only on plants?
a. Herbivore
55. What is an organism's niche?
a. Range of physical and biological conditions an organism needs to survive
56. What is the "reserve copy" of genes in paramecium?
a. micronuclei
57. What is the branch of biology dealing with interactions among organisms?
a. ecology
58. What is the early stage of plant embryo?
a. germination
59. What is the function of a plant stem?
a. Transport water and food between roots and leaves
60. What is the function of the scolex?
a. Hook-like mouth part of tapeworm used to attach to the lining of intestines
61. What is the greenhouse effect? Can we survive without it? Is it natural?
a. The greenhouse effect is a natural phenomenon that maintain the Earth's temperature...We would die without this effect
62. What is the long flexible supporting rod found in chordates?
a. Notocord
63. What is the main function of feathers?
a. To provide lifting force and balance for flight
64. What is the main role of bacteria in the environment?
a. To break down and cycle nutrients in the soil
65. What is the outer protein covering of a virus called? What does this protein coat protect?
a. Capsid is the outer covering protecting the DNA or RNA
66. What is the significance of *Penicillium*?
a. *Penicillium* is the fungus used to make penicillin, an effective antibiotic
67. What is the symmetry of an animal with equal left and right sides?
a. bilateral
68. What is the term for each step in the transfer of energy and matter within a food web?
a. Trophic level
69. What is the ultimate, but not only, source of energy in most ecosystems?
a. sunlight
70. What material contains the instructions to make new copies of viruses?
a. Double or single stranded DNA or RNA
71. What percent of energy can be passed from one trophic level to the next?
a. 10%, the remainder 90% is lost as heat
72. What process is carried-out by plants? What is required? Without gas exchange, what would plants be unable to generate?
a. Photosynthesis is a process that requires carbon dioxide, and w/o gas exchange the plant is unable to generate sugars
73. What process is carried-out by yeast? What gas is not required? What gas is generated?
a. Fermentation, a process that does not require oxygen, and generates carbon dioxide
74. What structure anchors a plant?
a. The roots
75. What structure carries-out photosynthesis?
a. chloroplast
76. What structure in plant exchanges gases with the atmosphere? What does it look like? Where is it found on the leaf?
a. Stomata on the underside of the plant leaf exchanges gases
b. They look like two beans
77. What substances allow plants and algae to obtain energy from the sun?
a. Chlorophyll and accessory pigments
78. What type of root is a carrot?
a. taproot
79. Where are arthropods found?
a. Air, land, water, inside hosts...EVERYWHERE
80. Which are the 3 groups of protists? How does each obtain energy?
a. Plant-like are photosynthetic, animal-like are consumers, and fungus-like are decomposers
81. Which group of chordates has a backbone?
a. Vertebrates
82. Why do arthropods molt?
a. Molting is a process that allows Arthropods to grow