Science 1206 Unit1 - Ecology
Final Exam 04

1. What do you call the interactions of all living organisms with the non-living factors in a given area?

a. Photosynthesis
b. An environment
c. Abiotic factors
d. An ecosystem

Answer: _____

2. What are the physical or non-living factors of the environment are called?

a. Biotic
b. Abiotic
c. Interactive
d. Biodiversity

Answer: _____

3. Which act represents a sustainable ecosystem?

a. Declaring an area as a National Park in which hunting, fishing and logging is totally banned.
b. Increasing levels of hunting, fishing and logging to meet the needs of increasing populations.
c. Managing resources to meet the needs of present generations while at the same time taking into account the needs of future generations
d. Take all the resources we need to meet the needs of current population and make a few dollars.

Answer: _____

4. Which of the following is a biotic factor?

a. Feeding relationships
b. Water
c. Light
d. Temperature

Answer: _____

5. Which natural resource is non-renewable?

a. Fish
b. Forests
c. Oil
d. All of the above

Answer: _____

6. What are organisms that manufacture their own food by using energy provided by sunlight?

a. Autotrophs
b. Herbivores
c. Omnivores
d. Carnivores

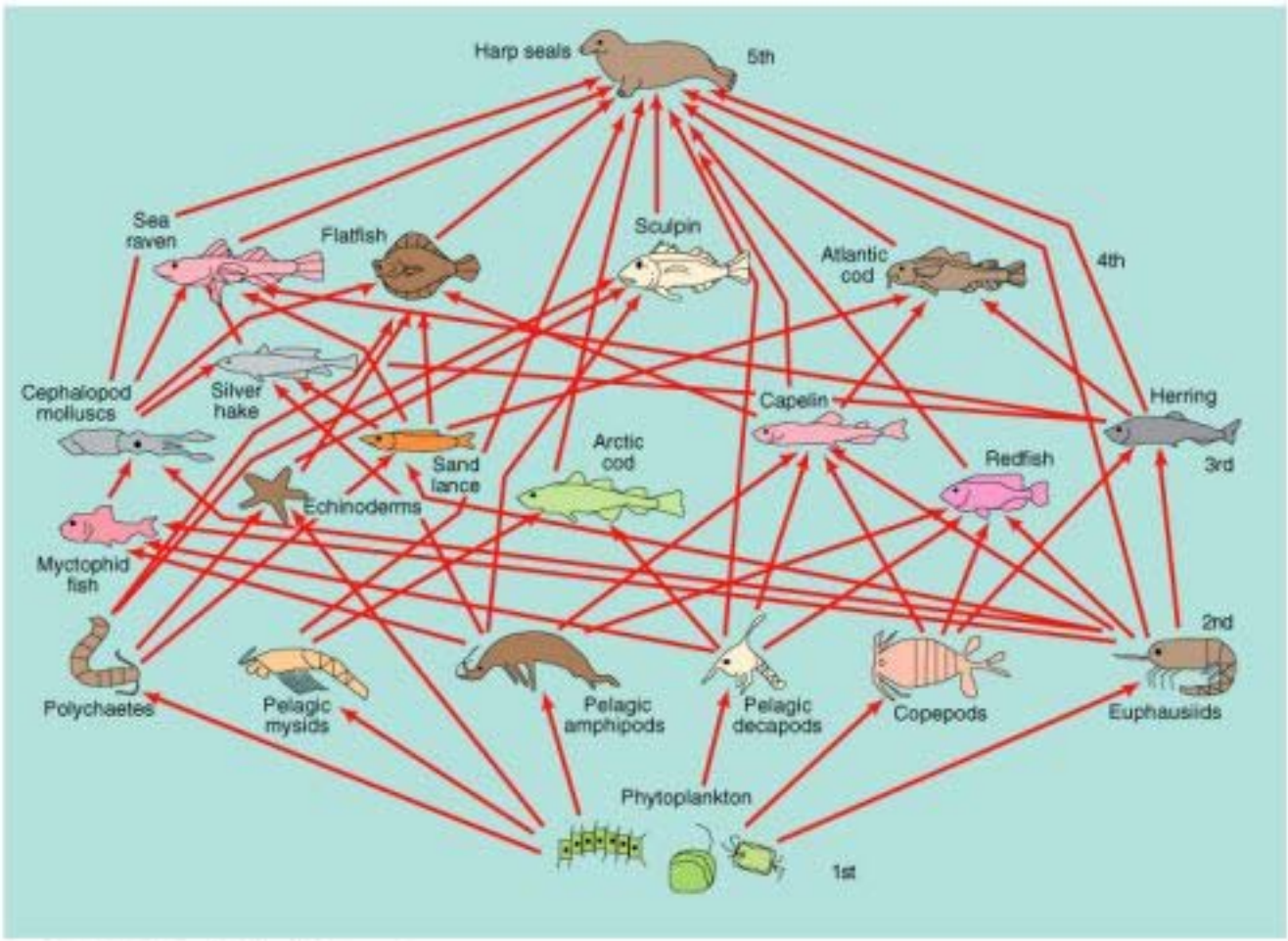
Answer: _____

7. Most humans eat a well balanced diet made up of a combination of meat and vegetables. How would you describe a human?

a. Autotrophs
b. Herbivores
c. Carnivores
d. Omnivores

Answer: _____

8. What is represented in the diagram below?



a. Food Chain
b. Food Web
c. Feeding diagram
d. Pyramid of Energy

Answer: _____

9. In a pyramid of energy which would you find at the bottom level?

a. First order consumer
b. A herbivore
c. Producers
d. Decomposers

Answer: _____

10. Which statement is **TRUE** of a pyramid of biomass?

a. It shows the number of organisms at each trophic level
b. It shows that biomass increases from each trophic level to the next
c. It shows the energy lost at each trophic level
d. It shows that biomass decreases from each trophic level to the next

Answer: _____

11. Which statement is **FALSE**?

a. Populations compete for food, shelter, and water.
b. The biodiversity of an area can contribute to sustainability.
c. A single population could not survive without some type of interaction with other populations.
d. Monoiculture populations contribute to biodiversity.

Answer: _____

12. Which term describes the competition between two killer whales for seals as food?

a. Interspecific
b. Specific
c. Non-specific
d. Intraspecific

Answer: _____

13. Populations of native species on the island Newfoundland are beginning to suffer from the introduction of coyotes. What is the main problem the coyotes are causing?

a. Causing other species to be sleep deprived by the midnight howling.
b. Causing eutrophication of local ponds and streams due to excessive excretion.
c. Interfering with the food chain by competing for sources of food.
d. The coyotes are mating with dogs and now houshold pets are becoming wild.

Answer: _____

14. What type of relationship is shown in the image?

a. commensalism
b. predator - prey
c. parasitism
d. parasitoidism

Answer: _____

15. The way in which a species uses the resources of its habitat and what it does in the community.

a. Habitat
b. Ecosystem
c. Niche
d. Space

Answer: _____

16. What is the main reason why a farmer would use water-soluble pesticides on their crops instead of fat soluble pesiticides like DDT?

a. Water soluble pesticides work more quickly.
b. Water soluble pesticides last longer.
c. Water soluble pesticides are easier and cheaper to use.
d. Water soluble pesticides do not build up in the bodies of the top predators.

Answer: _____

17. Which organisms would you expect to have the **lowest** concentration of DDT in its system?

a. plankton
b. sea birds
c. fish
d. small whale

Answer: _____

18. Biodiversity is a term that is used to describe differences that exist in the:

a. Abiotic environment
b. Variety of organisms
c. Sizes of populations
d. Rates of reproduction

Answer: _____

19. Due to economic factors, many farmers are leaving the family farms and people are moving to the cities. The farm land that remains uncultivated will eventually begin to grow over and in the years to follow, trees and shrubbery will grow over the fileds. What is happening here?

a. primary succession
b. secondary succesion
c. erosion
d. eutrophication

Answer: _____

20. What is the process in which materials and nutrients are broken down by micro-organisms so that the nutrients are available to be re-used?

a. Rotting
b. Scavenging
c. Decomposition
d. Recycling

Answer: _____

21. What is the process whereby chemical bonds in food are broken and energy is released?

a. photosynthesis
b. cellular respiration
c. transpiration
d. the nitrogen cycle

Answer: _____

22. Which organism has the most important role in the nitrogen cycle?

a. Worms
b. Nitrogen-fixing bacteria

c. Fungi
d. Scavengers

Answer: _____

23. What statement is true about nitrogen?

a. Plants can use nitrogen directly from the atmosphere
b. Our atmosphere is made up of about 15% nitrogen
c. Nitrogen enters animals when they eat plants
d. Plants only use pure nitrogen

Answer: _____

24. What is the layer of material that covers land and supports plant growth?

a. Water
b. Soil
c. Humus
d. Rock

Answer: _____

25. In shallow ponds algae grow in the warm water of summer, die in the fall, sink to the bottom, decay which adds nurtients to the water to begin another season of algae growth. Over time the shallow pond begins to fill in creating a stagnant ecosystem. What term best describe this process?

a. primary succesion
b. eutrophication
c. oligotrophism
d. denitrification

Answer: _____

26. What is the name of the process of breaking down animal wastes into ammonia?

a. Ammonification
b. Nitrification
c. Denitrification
d. Nitrogen fixation

Answer: _____

27. Which factor prevents trees from growing in the tundra?

a. poor soil fertility
b. too windy
c. permafrost
d. too hot

Answer: _____

28. This cycle ensures that carbon dioxide is available for plants and that oxygen is available for animals.

a. Transpiration
b. Cellular respiration
c. Carbon cycle
d. The nitrogen cycle

Answer: _____

29. What should a farmer do to prevent the de-nitrification of soil by bacteria?

a. Add more fertilizer.
b. Add lime.
c. Aerate the soil by flipping it over.
d. Add pesticides.

Answer: _____

30. Which statement is true regarding denitrification by bacteria.

a. Denitrifying bacteria grow best in soil that has been aerated.
b. It occurs in oxygen-rich soils.
c. They provides more nutrients for plants.
d. They consume nitrates in the soil and return nitrogen gas back to the atmosphere.

Answer: _____

31. Before nitrogen can be used by living organisms, it must be converted to:

a. Ammonia
b. Nitrates
c. Cyanides
d. Nitrogenous wastes

Answer: _____

32. Spring runoff of nitrogen and phosphate in fertilizers:

a. helps improve the quality of waterways by killing off harmfull microorganisms.
b. promotes the growth of excess amounts of microorganism that reduce the amount of oxygen in the water
c. reacts together to provide more oxygen for fish and other aquatic organisms.
d. overall is generally good for the environment.

Answer: _____

33. An electrical power plant has been accused of thermal pollution of a nearby stream. A scientist suggests that in order to get evidence of this claim you could take water samples up-stream and down-stream of the plant. What would you test for?

a. water temperature
b. phosphate levels
c. nitrate levels
d. the bacteria thermalitus defishitus

Answer: _____

34. Carbon is recycled in the earth by way of the Carbon dioxide. What is the main environmental concern of the carbon cycle?

a. Carbon dioxide is being put into the atmosphere faster than it can be taken out.
b. Carbon dioxide is being removed from the atmosphere faster than it can be replaced.
c. Carbon is stored in the shells of shell fish. As we catch more and more shell fish there is nowhere to store carbon.
d. Their is a growing concern that carbon will soon be replaced by silicon.

Answer: _____

35. The biome which has the thickest, most fertile layer of topsoil.

a. tundra
b. temperate descidious forest
c. grasslands
d. boreal forest

Answer: _____

36. Which of the following layers are in the correct order from the top downward?

a. Bedrock, litter, topsoil, subsoil
b. Litter, topsoil, subsoil, bedrock
c. Topsoil, subsoil, bedrock, litter
d. Litter, bedrock, subsoil, topsoil

Answer: _____

37. Which canadian biome has the least biodiversity?

a. tundra
b. grassland
c. boreal forest
d. temperate deciduous forest

Answer: _____

38. Why do evergreen trees of the boreal forest have narrow pointed needle-like leaves covered in a waxy coated.

a. To give them a fresh look that will last all year round.
b. To reduce water loss during the long cold winter.
c. To reduce the mass of the tree so that it can grow taller.
d. Spruce budworms have eaten the tip of the growing bud that then causes the leaves to grow like needles.

Answer: _____

39. The picture below is of lichens, mosses and small flowing plants. Which biome is represent in the picture?

a. Tundra
b. Boreal Forest
c. Temperate Deciduouis Forest
d. Grassland.

Answer: _____

40. **Match each biotic factor with their biome.**

___ 1. Rich fertile soil with 25 to 75 cm of precipitation per year.
___ 2. Permafrost and very low precipitation each year
___ 3. Higher temperatures with up to 100 cm precipitation or more per year.
___ 4. Acidic soil containing some water and 40 cm of

a. Temperate deciduos forest
b. Boreal Forest
c. Tundra
d. Grasslands

41. **Match each biotic factor with its correct biome.**

___ 1. Rich layer of undergrowth as well as upper storey; deer, black bears, wolves, and woodpeckers.
___ 2. Rapid-flowering plants, mosses, and lichens; caribou, ptarmagin, and lemmings.
___ 3. Fescue grasses with trees only along rivers; grasshoppers, bison, wolves, and hawks.
___ 4. Evergreen trees; squirrels, deer, pine martens, and seed-eating birds

a. Tundra
b. Temperate deciduous forest.
c. Boreal Forest
d. Grasslands

42. **Match each soil description with its layer.**

___ 1. Partially decomposed leaves and grass.
___ 2. Solid underlying layer.
___ 3. Small pieces of rock mixed with decaying plant and animal material.
___ 4. Stones of mixed sizes mixed with small amounts of organic matter .

a. Subsoil
b. Topsoil
c. Bedrock
d. Litter