

Ecosystem Paper -1

- Which of the following would undergo secondary succession?
 - Cooled volcanic lava
 - a new sandbar exposed by the ocean
 - A heavily polluted stream that has been cleaned up
 - A bare rock outcrop
- A cow's herbivorous diet indicates that it is a...
 - Secondary consumer.
 - Decomposer.
 - Primary consumer.
 - Autotroph.
- Which of the following organisms fix nitrogen in aquatic ecosystems?
 - Phytoplankton
 - Chemoautotrophs
 - Cyanobacteria
 - Legumes
- Which of the following statements is (are) true?
 - At any point in time, it is impossible for consumers to outnumber producers in an ecosystem.
 - An ecosystem's trophic structure determines the rate at which energy cycles within the system.
 - Chemoautotrophic prokaryotes near deep-sea vents are primary producers.
 - There has been a well-documented increase in atmospheric carbon dioxide over the past several decades.
 - Both C and D are true
 - Only D is true
 - A and B are true
 - B and C are true
- Production, consumption, and decomposition are important ecosystem processes. Organisms in which of the following taxa perform decomposition?
 - invertebrates
 - bacteria
 - vertebrates
 - A and C
 - A, B, and C
 - A only
 - B only
- Which one of the following is a matching pair of certain organism(s) and the kind of association?
 - Shark and sucker fish- Commensalism
 - Algae and fungi in lichens- Mutualism
 - Orchids growing on tree- Parasitism
 - Both A and B
- Which of the following utilizes inorganic materials for the synthesis of food?
 - Autotrophs
 - Decomposers
 - Saprophytes
 - Heterotrophs
- The interdependent evolution of flowering plants and pollinating insects together is known as,
 - Mutualism
 - Coevolution
 - Commensalism
 - Cooperation
- Two opposing forces operate in the growth and development of every population. One of them relates to the ability to reproduce at a given rate. The force opposing it is called,
 - Mortality
 - Biotic potential
 - Fecundity
 - Environmental resistance
- An ecosystem which can be easily damaged but can recover after some time if damaging effect stops will be having,
 - High stability and low resilience
 - Low stability and high resilience
 - High stability and high resilience
 - Low stability and low resilience
- Lichens are well known combination of an alga and an fungus where a fungus is,
 - An epiphytic relationship with the alga
 - A parasitic relationship with the alga
 - A symbiotic relationship with the alga
 - A saprophytic relationship with the alga
- Maximum growth rate occurs in
 - Senescent phase
 - Lag phase
 - Exponential phase
 - Stationary phase

13. In which of the following habitats, does the diurnal temperature of soil surface vary most?
1. Forest 2. Desert 3. Grassland 4. Shrub land
14. A terrestrial animal must be able to
1. Conserve water 2. Actively pumps salts out through the skin
3. Excrete large amount of salt in urine 4. Excrete large amount of water in urine.
15. What is a keystone species?
1. A common species that has plenty of biomass yet has a fairly low impact on the community's organization.
2. A rare species that has minimal impact on the biomass and on other species in the community.
3. A dominant species that constitutes a larger proportion of the biomass and which affects many other species
4. A species which makes up only a small proportion of the total biomass of a community yet has a huge impact on the community's organization and survival.
16. Organisms in which of the following taxa are responsible for most of the conversion of organic materials into inorganic compounds that can be utilized in primary production?
A. Autotrophs B. Bacteria C. Fungi
1. A only 2. B only 3. B and C 4. A, B, and C
17. The main decomposers in an ecosystem are
1. Fungi 2. Plants 3. Prokaryotes 4. Both Fungi and some prokaryotes
18. The fundamental difference between materials and energy is that
1. Energy is cycled through ecosystems; materials are not.
2. Materials can be converted into energy; energy cannot be converted into materials.
3. Energy can be converted into materials; materials cannot be converted into energy.
4. Materials are cycled through ecosystems; energy is not
19. The concept that energy cannot cycle through an ecosystem is best explained by
1. The law of conservation of energy. 2. The principle of biomagnification.
3. The second law of thermodynamics. 4. The competitive exclusion principle.
20. Subtraction of which of the following will convert gross primary productivity into net primary productivity?
1. The energy fixed by photosynthesis 2. The energy contained in the standing crop
3. The energy used by heterotrophs in respiration 4. The energy used by autotrophs in respiration
21. Animals have the innate ability to escape from predation. Examples for the same are given below. Select the incorrect example.
1. Colour change in chameleon 2. Enlargement of body size by swallowing air in puffer fish
3. Poison fangs in snakes 4. Melanin in moths
22. The ability of the venus fly trap to capture insect is due to
1. Specialized "muscle like" cells 2. Chemical stimulation by the prey
3. A passive process requiring no special ability on the part of the plant.
4. Rapid turgor pressure changes
23. Which one of the following correctly represents an organism and its ecological niche?
1. Vallisneria and pond 2. Desert locust { Schistocera } and desert
3. Plant lice {aphids} and leaf 4. Vultures and dense forest
24. Animal migration does not occur in the case of
1. Arctic tern 2. Salmon 3. Siberian crane 4. Salamander
25. The formula for exponential population growth is
1. $dN/dt=rN$ 2. $dt/dN=dt$ 3. $dN/rN=T$ 4. $rN/dN-dt$
26. Niche overlap indicates,
1. Mutualism between two species 2. Active cooperation between two species

3. Two different parasites on the same host 4. Sharing of one or more resources between the two species
27. Praying mantis is a good example of
1. Camouflage 2. Mullerian mimicry 3. Warning colouration 4. Social insects
28. Animals undergo inactive stage during winter is known as
1. Aestivation 2. Hibernation 3. Adaptation 4. Acclimatization
29. Keystone species deserve protection because these
1. Are capable of surviving in harsh environmental conditions 2. Indicate presence of certain minerals in the soil
3. Have become rare due to overexploitation 4. Play an important role in supporting other species
30. Geometric representation of age structure is a characteristic of
1. Population 2. Landscape 3. Ecosystem 4. Biotic community

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