

Q. do you describe
this interaction
between the



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Q.

1. Define the terms—eurythermal, stenothermal. Ans. Organisms that can tolerate a wide range of temperature are called eurythermals. Organisms that can tolerate narrow range of temperatures are called stenothermals. Q.
2. Why are plants and animals dependent on light? Ans.

Plants are dependent on light for: (1) Photosynthesis. (2) Photoperiodism—for flowering. (3) Formation of chlorophyll. Animals are dependent on light for: (1) Photoperiodism—foraging, reproductive and migratory activities. Q.

3. What is adaptation? Why do animals/plants adapt? Ans. Any change of the organism that enables the organism to survive and reproduce in its habitat is called adaptation.

It is done for reproduction i. e. to increase its population (r) and survival. Q.

4.

What are behavioral responses or adaptations? Give one example. Ans.

Responses shown in the behaviour of an organism to cope with the changes in its immediate environment is called as behaviour response, e. g.

For example, desert lizards bask in day - sun shine to increase their body temperature. When their body temperature falls below the comfort zone.

When basking in sun raises the temperature they then move to shade. Q. 5.

How have some organisms (animals) evolved to defend themselves from predation? Give examples. Ans.

The organisms have developed/evolved with certain defensive mechanisms such as in animals - insects, frogs are cryptically coloured (camouflaged)

inorder to escape the site of predator. They are difficult to be distinguished from the back ground e. g. melanism in the moths; Monarch butterfly is highly distasteful to it predator (bird) because of a special chemical that it acquires from a poisonous weed during its caterpillar (developmental stage).

Q. 6.

An orchid plant is growing on the branch of mango tree. How do you describe this interaction between the orchid and the mango tree? Ans. This is an example of commensalism. This interaction between the orchid and mango tree is beneficial to one species-orchid but the other species-mango tree is neither benefited nor harmed.

Q. 7. Briefly mention of one example to employment of sexual deceit'.

Ans. Ophrys a mediterranean orchid employs sexual deceit i. e.

One petal of its flower bears the resemblance of female bee in its colour, size and markings. The male beemistakes it for its partner and ' pseudocopulates' it and thereby gets brushed with pollens. When it repeats the act with other orchid flower of same species the flower gets pollinated.

Q.

8. Give an example for: (a) An endothermic animal (b) An extothermic animal (c) An organism of benthic zone. Ans. (a) Human, (b) Frog, (c) Fish. Q. 9.

Define population and community. Ans. A group of organisms of a particular species, living in an area that share or compete for similar resources and potentially interbreed is called as population. A group of various organism

populations that exist in an area and interact in various ways is called a community.

Q. 10. Define the following terms and give one example for each: (a)

Commensalism (b) Parasitism (c) Camouflage (d) Mutualism (e) Interspecific

competition. Ans. (a) Commensalism: The interaction between two species in which one species is benefited and the other is neither benefited nor harmed is called commensalism e.

g. barnacles growing on the back of whale. (b) Parasitism: The interaction between two species in which one species survives on the expense of other the host.

The host is harmed by this association. It is called parasitism e. g. malarial parasite causes harm to human host. (c) Camouflage: The ability of the prey to escape itself from its predator by its cryptically coloured pattern to make its predator difficult to prey on it is called camouflage e. g.

moths are camouflaged to escape its predator (bird). (d) Mutualism: The association of two species in which both are benefited is called mutualism e.

g. lichens are the association of fungus and algae where both are benefited.

(e) Interspecific competition: The competition between different individuals of species/ population for limited sources of food, space, is called interspecific competition e. g.

flamingoes and resident fishes of south American lake compete for their common food — zooplankton in the lake. Q. 11.

Describe the logistic population growth curve. Ans. Logistic Growth Model:

No population of any species in nature has its disposal unlimited resources to permit the exponential growth.

It leads to competition between the individual of the limited resources and eventually the fittest individual survives and reproduces. In nature the given habitat the population cannot grow beyond its carrying capacity (K) for that species in a habitat. The population growing in a habitat with limited resources first shows lag phase, then acceleration and deceleration and finally asymptote when it reaches (K). The plot formed is sigmoid curve-S-shaped. It is also called Verhulst-Pearl logistic growth. It is more realistic one.