

#### Lecture Sheet: 07 Biology (Chapter-13: Environment of Life) Class: X

#### Symbiosis:

Symbiosis refers to the close relationship amongst two different organisms or living things belonging to different species that share similar habitat.

In symbiosis, the related organisms are called symbionts.

### Interaction:

The action-reaction, that occurs in between the symbiotic organisms, is called interaction.

- Environmental scientist Odum says that the interdependent relationship among the organisms can occur in two ways. Such as,
  - (1) positive interaction and
  - (2) negative interaction.

### 1) Positive Interaction

In the interrelationship, in which the two organisms help each other, is called **positive** interaction.

- a) In **mutualism**, both the involved organisms are benefited from each other.
- The association of an algae and a fungus forms lichen.

# Q. Why is lichen symbiosis?

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b) In **commensalism**, only one organism is benefited, while the other is neither benefited nor harmed.

## Q. Why is epiphytic plant commensalism?

# 2) Negative Interaction

In the relationship, in which one of the interacting populations is benefited and the other is harmed, is called **negative interaction.** 

a) In **exploitation**, an organism enjoys its rights by deceiving directly or indirectly another organism from its rights.

### Q. Why is relation between cuckoo and crow exploitation?

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- b) **Competition** is when populations or even an individual compete for light, air, water and food resources.
- c) If the growth and development of any organism is partly or wholly interrupted by the biochemical substance produced by other organism or even the organism may die, then this process is called **antibiosis**.

Some more interactions—

#### Parasitism:

Parasitism is generally defined as a relationship between the two living species in which one organism is benefitted at the expense of the other.

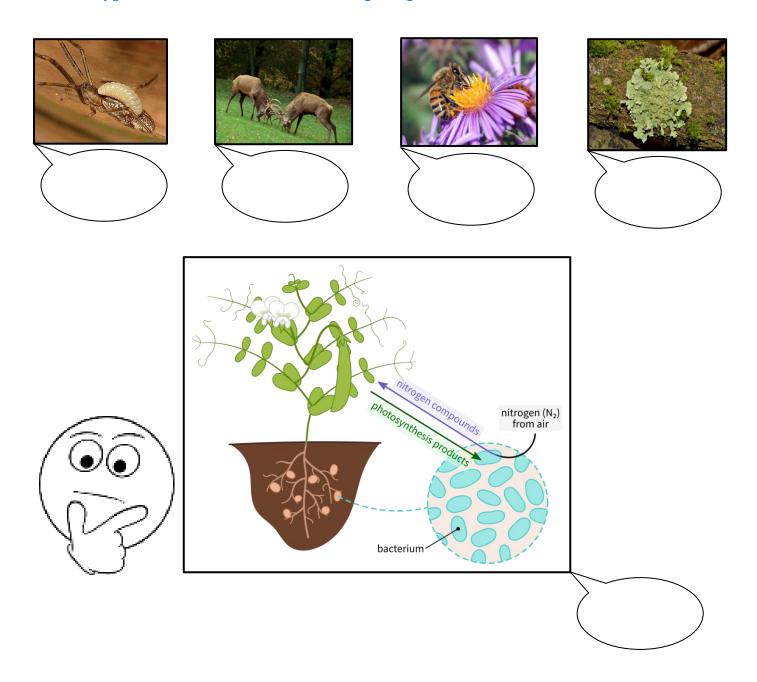
## Neutralism:

Neutralism describes the relationship between two species that interact but do not affect each other.

#### Amensalism:

Amensalism is an interaction where an organism inflicts (causes) harm to another organism without any cost or benefit received by itself.

# Q. What type of interactions do the following images indicate?



# Q. Write three differences between mutualism and exploitation.

Mutualism	Expolitation