

Pioneer community:			Climax community:	
**	Succession begins by a few hardy	**	At the end of succession the diverse	
	invaders called pioneers community.		and stable community is called climax	
**	Crustose lichens in xerosere.		community.	
		**	Trees or forest at the end of xerosere.	

#### What do you mean by seral community? 8.

Each stage of succession is called sere, and the community at each stage of succession is called seral communities.



First seral community is **called** pioneer. while last seral community is **called** climax community.

# 9. Differentiate between primary and secondary succession?

Ans:

Primary Succession:			Secondary Succession	
**	Succession at a bare rock, sand or	*	Succession at a place where there was	
	clear glacial pool, where there were no		a previous community but was	
	race of previous community.		disturbed as in case of fire.	
*	It is slow process as soil conditions are	*	It is relatively fast process as previous	
	not suitable and little nutrients.		community has left its mark in the	
			form of improved soil and seeds.	

# 10. How a predator is related to its prey?

Ans: In predator-prey relation, the populations of both the organisms are interrelated. As the population size of prey increases that can support more predators so population of predators also increases.

But when the predators increase in number due to rapid predation the size of prey decreases. In this way ecosystem is kept balanced.

# 11. How nitrogen is lost is atmosphere?

Ans: The soil nitrogen is converted into atmospheric gaseous nitrogen by a process known as Denitrification. Some denitrifying bacteria in the absence of oxygen break down nitrates back into the atmosphere and using the oxygen for their own respiration.

# 12. Differentiate between gross primary production and net primary production?

Ans:

	Gross Primary Production:		Net Primary Production:
**	It is total amount of energy fixed by	*	It is amount of energy left after plants
	plants into food.		have met their respiratory need.
**	It is total photosynthate produced by	***	It is also called as plant biomass
,	the fixing of 1% light energy.		available for next trophic level.

### 13. What type of food chain better supports a community? And why?

Ans: A short food chain of 2 to 3 trophic levels supports a community more efficiently than a long food chain of 5 links.

As in each trophic level about **80 to 90** % energy is lost into outer space so in long food chain very little energy is available for higher trophic levels supporting less number of individuals.

# 14. Why the process of assimilation is called reverse of nitrification?

Ans: In nitrification, ammonium ion is converted into nitrites and nitrates in soil. When these nitrites and nitrates are taken up by plant for assimilation, they convert them back into ammonium ions for further utilization. So both processes are reverse of each other.

#### 15. **Define ecology?**

Ans: It is defined as the study of the relationship of animals to their environment.

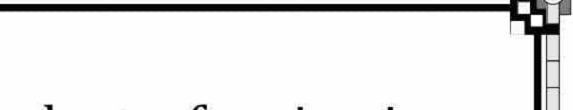
## 16. Define ecosystem and Eco-components?

### Ans: **Ecosystem**:

A unit or area where organisms interact with their environment is called ecosystem.

#### **Eco-components:**

The ecosystem consists of two basic interacting components the living or biotic, and the



physical or abiotic factors. Biotic components consists of animals, plants, fungi, micro-organism etc. and abiotic components are atmosphere, climate, soil and water.

# 17. What is community?

Ans: All population of different species within an ecosystem is **known** as a community and is in one or another manner interconnected to one another.

# 18. What is biome? How many biomes are presents?

# Ans: Biome:

Major types of ecosystems, those that occupy broad geographical regions primarily determined by climate are called biomes.

# **Major Biomes:**

Some major terrestrial biomes are forest, grassland and desert. Combined the biomes of earth together form the planetary ecosystem.

# 19. What is ecological niche?

**Ans:** Niche is defined as "the ultimate distributional unit within which a species is restrained by the limitations of its physical structure and its physiology."

Charles Eton, considered the niche, the basic role of an organism in the community what it does in and for living community, its relationship to its food and enemies. In other words, he defined the niche as the species's occupation.

#### 0r

A niche is defined as the role a species plays in a community including behaviour and influence.

# 20. Differentiate between autecology and synecology?

Ans: At different places in an environment the study of only one population. is autecology while study of different population or a community is called synecology.

### 21. Define succession?

Ans: Succession is change in the community structure of an ecosystem over a period of time. Succession begins by a few hardy invaders **called** pioneers and end with a diverse and relatively stable climax community.

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# 22. Name subdivision of biotic and abiotic components?

# Ans: Biotic Components:

- Producers.
- Consumers.
- Decomposers.

### **Abiotic Components:**

- Atmosphere.
- Hydrosphere.
- Lithosphere.

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# 23. What is tropic level?

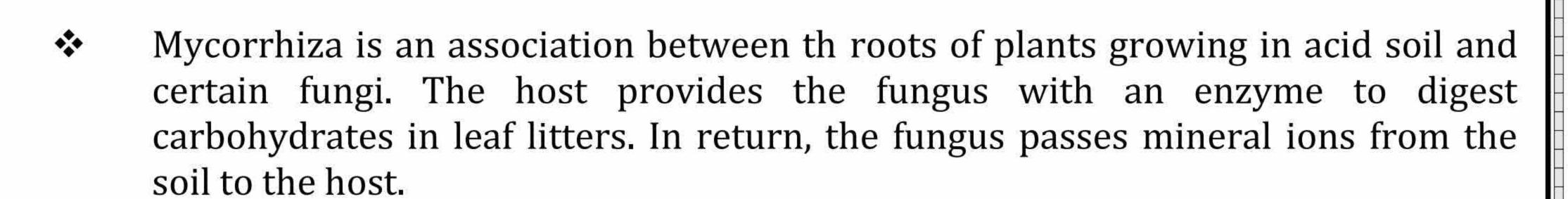
Ans: Each feeding level in a food chain is called trophic level.

# 24. Explain association of organism in lichen and mycorrhiza.

#### Ans: Lichen:

Lichen is a dual organism composed of symbiotic association of an alga living within a fungus mycelium.

### Mycorrhiza:



# 25. What is nitrogen cycle?

Ans: The living components of the ecosystem is called biotic while non-living components are **called** abiotic.

#### 26. What is infestation?

Ans: Diseases in living organisms, which are caused by parasites, are called infestations.

# 27. What is symbiosis? Discuss its types?

Ans: It is an association between two organisms, which brings benefit to both the organisms.

# **Types:**

It can be mutualism or commensalisms.

## 28. Define biogenic elements.

Ans: The chemical elements essential for life in living organisms are called biogenic elements or nutrients elements.

# **Examples:**

Carbon, hydrogen, oxygen etc.

# 29. What are the advantages and disadvantages of grazing?

Ans: Grazing is very important factor in determining the ecosystem.

### Advantage:

Moderate grazing is very helpful to maintain grassland ecosystem. It destroys the competitors and helps the grass to grow well.

#### Disadvantage:

Over grazing may lead to the transformation of a grassland into a dessert.

# 30. What are the function of nitrosomonas and nitrobacter?

# Ans: Nitrosomonas:

It converts ammonia and ammonium ions to nitrites.

### Nitrobacter:

It converts Nitrites into Nitrates.

#### 31. Define denitrification?

Ans: In the absence of oxygen bacteria break down nitrates releasing nitrogen back into the atmosphere and using oxygen for their own respiration. This process is **known** as denitrification in poorly drained soils.

#### 32. **Define Habitat.**

Ans: The actual location of place where an organism lives is called its habitat.

### 33. Differentiate between hydrosere and xerosere.



In this case the primary succession occurs in a pond.

#### Xerosere:

In this case, succession occurs on a dry soil or rock.



# 34. How grazers affect the texture of the soil?

Ans: The grazers are more resistant than herbaceous plants. They have ability to regrow very fast. But the hooves of grazing animals trample the soil. It changes the soil into hard layer. Thus the rain water cannot penetrate into this soil. The water runs off from the upper surface and removes the topsoil with it. Thus over grazing finally makes the land totally barren.

# 35. Write the significance of root nodules in plants.

# Ans: Significance of root nodules:

- The legume plants, pea and bean are the hosts of symbiont bacteria.
- These bacteria inhabit the roots of these plants and form root nodules.
- The root nodules bacteria fix nitrogen in soil air.
- They convert this nitrogen into amino acid.
- These amino acids are used by the host.
- In return, host provides bacteria with food and protection.

# 36. What is nitrogen cycle?

Ans: The process by which the limited amount of nitrogen is circulated and recirculated throughout the world of living organisms is **known** as nitrogen cycle.

