

QB365 Question Bank Software Study Materials

Botany - Principles of Ecology Important 2 Marks Questions With Answers (Book Back and Creative)

12th Standard

Biology

Total Marks : 40

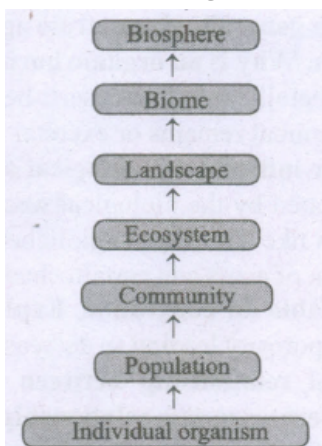
2 Marks

20 x 2 = 40

- 1) What is ecological hierarchy? Name the levels of ecological hierarchy.

Answer : The interaction of organisms with their environment results in the establishment of grouping of organisms

Levels of ecological hierarchy



- 2) What are ecological equivalents? Give one example

Answer : Taxonomically different species occupying similar habitats (Niches) in different geographical regions are called Ecological equivalents.

E.g: Certain species of epiphytic orchids of Western Ghats of India differ from the epiphytic orchids of South America. But they are epiphytes.

- 3) Why are some organisms called as eurythermals and some others as stenohaline ?

Answer : 1. Eurythermal: Organisms which can tolerate a wide range of temperature fluctuations.

2. Stenohaline: Organisms which can withstand only small range of salinity.

3. These variations the organisms also grow in different environment.

- 4) What is Phytoremediation ?

Answer : Certain plants can also be used to remove cadmium from contaminated soil, this is known as phytoremediation.

Example: Eichhornia

- 5) The organic horizon is generally absent from agricultural soils because tilling, e.g., plowing, buries organic matter. Why is an organic horizon generally absent in desert soils ?

Answer : A desert has little or no plant life without plants, there is no organic horizon in the soil leading to a low level of water retention that is unsuitable for plant growth.

- 6) Soil formation can be initiated by biological organisms. Explain how?

Answer : Soil formation is initiated by the weathering process. Biological weathering takes place when organisms like bacteria, fungi, lichens & plants help in the breakdown of rocks through the production of acids & certain chemical substances.

- 7) Sandy soil is not suitable for cultivation. Explain why?

Answer : Sandy soil loses water at high rate, These characters along with other parameters such as p^H , mineral composition is also important.

- 8) How does an orchid ophrys ensures its pollination by bees ?

Answer : The plant, Ophrys orchid, the flower looks like a female insect to attract the male insect to get pollinated by the male insect.

9) Why do submerged plants receive weak illumination than exposed floating plants in a lake?

Answer : Submerged plants are unable to obtain full illumination because a lot of sunlight is absorbed by overlying layers of water this is not the case for exposed floating plants that receive sunlight directly.

10) What is vivipary? Name a plant group which exhibits vivipary.

Answer : Vivipary seed germinate in the fruits of mother plant itself.
Example: Halophytes

11) How is rhytidome act as the structural defence by plants against fire?

Answer : 1. The outer bark of trees which extends to the last formed periderm is called rhytidome.
2. It is composed of multiple layers of suberized periderm, cortical & phloem tissues.
3. It protects the stem against fire, water loss, invasion of insects & prevents infection by microorganisms.

12) What is myrmecophily?

Answer : 1. Sometimes, ants take their shelter on some trees such as mango, litchi, jamun, acacia etc.
2. These ants act as body guards of the plants against any disturbing agent and the plants in turn provide food and shelter to these ants.
3. This phenomenon is known as Myrmecophily.
Example: Acacia and, A.cacia ants.

13) What is seed ball?

Answer : It is a technique of encasing seeds in a mixture of clay & soil humus & scattering them on to suitable ground, not planting of trees manually.

14) How is anemochory differ from zoochory?

Answer :

S.No	Anemochory	Zoochory
a	Dispersal of seeds or fruits by wind.	Dispersal of seeds or fruits by animals
b	Seeds are minute or may have wings.	Seeds or fruit surface may have hooks or sicky glandular hairs are seen.

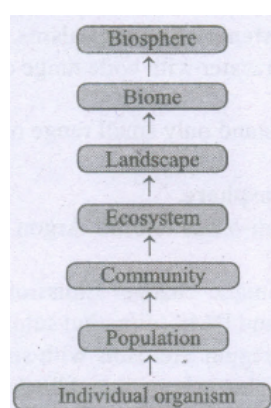
15) Explain Raunkiaer classification in the world's vegetation based on the temperature.

Answer : Based on the temperature prevailing in an area, Raunkiaer classified the world's vegetation into the following four types.

- (i) Megatherms
- (ii) Mesotherms
- (iii) Microtherms
- (iv) Hekistotherms

16) Sequentially arrange the different units of ecological hierarchy.

Answer :



17) What are ecological factors?

Answer : The environment (surrounding) includes physical, chemical and biological components. When a component surrounding an organism affects the life of an organism, it becomes a factor. All such factors together are called environmental factors or ecological factors.

18) How the steepness of mountain affects the vegetation?

Answer : The steepness of the mountain or hill allows the rain to run off. As a result the loss of water causes water deficit and quick erosion of the top soil resulting in poor vegetation. On the other hand, the plains and valley are rich in vegetation due to the slow drain of surface water and better retention of water in the soil.

19) What is meant by commensalism?

Answer : (i) It is an interaction between two organisms in which one is benefitted & the other is neither benefitted nor harmed.
(ii) The species that derives benefit is called the commensal, while the other species is called the cost.

Example: Orchids, Lianes etc.

20) Differentiate species ecology from community ecology.

Answer : (a) Autecology

1. Ecology of an individual species also called species ecology.
2. Also called species ecology.

(b) Synecology

1. Ecology of a population or community with one or more species.
2. Also called community ecology.