

# PRINCIPLES OF ECOLOGY

## CC-2

### UNIT-I

Fill in the blanks

1 marks

1. The term ecology was coined by \_\_\_\_\_.
2. The structural components of an ecosystem are \_\_\_\_\_ and \_\_\_\_\_.
3. \_\_\_\_\_ occupies a pivotal place in our ecosystem.
4. The microconsumers are \_\_\_\_\_.
5. The interlinks between food chains are \_\_\_\_\_.
6. Depending upon organization synecology may deal with \_\_\_\_\_ and \_\_\_\_\_.
7. Pyramid of biomass generally \_\_\_\_\_ from producers to carnivores.
8. The pyramid of energy always \_\_\_\_\_.
9. The animals receiving poor light in caves show \_\_\_\_\_ speed of metabolic rate.
10. Earthworm shows \_\_\_\_\_ behaviour to light.

Answer the followings.

1.5/2.5marks

1. What is the difference between autecology and synecology?
2. What is food web?
3. What is the difference between linear and Y-shaped food chain?
4. Draw the pyramid of energy.
5. What is photokinesis?
6. Define homeothermic and endothermic animals?
7. Define ectothermic animal
8. What is diapause?
9. Define dormancy and write down its types.
10. What is cyclomorphosis?

Long answer questions.

6 marks

1. Define ecosystem. Write a note on pond ecosystem.
2. What is a food chain? Describe different types of food chains with examples each.
3. Define biogeochemical cycle. Write carbon cycle and its importance.
4. Define wild life. What are the threats to wildlife?
5. Describe light and temperature as limiting factors.

### UNIT-II

Fill in the blanks

1 marks

1. Study of population and its change over time is known as \_\_\_\_\_.
2. Population is of two types. They are \_\_\_\_\_ & \_\_\_\_\_.
3. \_\_\_\_\_ is the spatial pattern of individuals in a population relative to one another.
4. \_\_\_\_\_ is the birth rate in population.
5. \_\_\_\_\_ is the death rate in population.

6. In deer, man etc the mortality curve is \_\_\_\_\_.
7. In oysters, shell fish etc the mortality curve is \_\_\_\_\_.
8. Relationship between plant density and its biome is plotted by \_\_\_\_\_.
9. The study of the group characteristics of a population, their changes over time and prediction of future changes is known as \_\_\_\_\_.
10. The number of individuals of a population per unit area or volume is \_\_\_\_\_
11. The density per unit of total space is \_\_\_\_\_.
12. The density per unit of habitable space is \_\_\_\_\_.
13. The theoretical maximum number of individuals produced under ideal environmental conditions is \_\_\_\_\_.
14. \_\_\_\_\_ is the death under ideal or non-limiting conditions.

Answer the followings.

1.5/2.5marks

1. Define population.
2. Define population ecology.
3. Differentiate crude density and ecological density.
4. What is natality?
5. Define immigration.
6. Differentiate immigration, migration and emigration.
7. What is mortality?
8. What is dispersion?
9. Define dispersal.
10. Define a life table.
11. What is biotic potential?

Long answer questions.

6 marks

1. Define population. Describe its density, natality, mortality.
2. What is life table? Describe different types of survivorship curve.
3. Define sex ration and describe its importance.
4. Describe the exponential growth of population.

### UNIT-III

Fill in the blanks

1 marks

1. A group of coexisting species that interact with one another directly or indirectly is called \_\_\_\_\_.
2. The species that dominate the habitat and control the growth of other species of the community are called \_\_\_\_\_.
3. \_\_\_\_\_ is an example of a keystone species.
4. The number of a species and their relative abundance is called \_\_\_\_\_.
5. Species diversity depends on \_\_\_\_\_ and \_\_\_\_\_.
6. 3 levels of diversity over spatial scales was described by \_\_\_\_\_.
7. Simpson's index as a measure of species diversity of an ecosystem is based on \_\_\_\_\_.
8. The value of Simpson's index (D) ranges between \_\_\_\_\_.
9. \_\_\_\_\_ index is used for both richness and evenness of species present.
10. The tolerance of a community towards disturbance is called \_\_\_\_\_.

11. The degree of quickness a community can return to equilibrium after a disturbance is \_\_\_\_\_.
12. Resistance is associated with the dominance of \_\_\_\_\_ and resilience with \_\_\_\_\_.

Answer the followings.

1.5/2.5marks

1. Define a community and write down its important features.
2. Differentiate dominant and keystone species.
3. How keystone species control the ecosystem?
4. What is species richness and evenness?
5. What is relative abundance?
6. Define alpha diversity and beta diversity.
7. How disturbance and species diversity are related?
8. What is diversity-stability hypothesis?
9. What is edge effect?
10. Define ecological succession and climax community.
11. What is seral stage?

Long answer questions.

6 marks

1. Define a community. Describe species richness, dominance and diversity.
2. What is succession? Describe ecological succession with an example.
3. Describe ecotone and edge effect.

#### UNIT-IV

Fill in the blanks

1 marks

1. Measurements in biological system is known as \_\_\_\_\_.
2. \_\_\_\_\_ viewed that the whole theory of heredity rests on statistical basis.
3. \_\_\_\_\_ is the 1<sup>st</sup> step in a statistical analysis.
4. The data collected for first time and original in nature is called \_\_\_\_\_.
5. The process of sampling in which each unit of population has an equal chance of being included is called \_\_\_\_\_.
6. The process of arranging data into different classes basing some common characteristics is called \_\_\_\_\_.
7. The geographical classification of data is also known as \_\_\_\_\_.
8. Classification of data on the basis of time is called \_\_\_\_\_.
9. Data on rice production in different years in a certain region is arranged by \_\_\_\_\_ series.
10. Arrangement of variables forms a \_\_\_\_\_.
11. When the data of a series are divided into certain groups bounded by limits, each group is called a \_\_\_\_\_.

Answer the followings.

1.5/2.5marks

1. Define biostatistics.
2. Write a note on application of biostatistics.
3. Write at least 4 important features of biostatistics.
4. What is data?

5. What is secondary data?
6. What is a sample?
7. Write different methods of sampling.
8. What is a strata? How it helps in sampling?
9. What is a variable?
10. Define a discrete variable with an example.
11. What is frequency distribution?
12. What is class limits?

Long answer questions.

6 marks

1. Describe various types of sampling techniques.
2. What is measures of central tendency? Describe mean, median and mode.
3. What is measures of dispersion? Describe mean deviation and standard deviation.

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