



## BIOLOGY

### BOOKS - USHA BIOLOGY (ODIA ENGLISH)

#### ORGANISMS AND ENVIRONMENT

##### Exercise

1. Two opposite forces operate in the growth and development of every population. One of them relates to the ability to reproduce at a given rate. The force opposing it is called:

- A. Morbidity
- B. Fecundity
- C. Biotic potential

D. Environmental resistance

**Answer:**

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2. Organisms spending most of the time in transitional area between the two communities are :

- A. Keystone species
- B. Critical link species
- C. Exotic species
- D. Edge species

**Answer:**

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3. Ecotone is :

- A. Transitional area between two communities
- B. Interaction between two populations
- C. Development of ecads
- D. Development of ecotypes

**Answer:**



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4. A population is a group of \_\_\_\_\_

- A. Individual in a species
- B. Species in a community
- C. Individuals in a family

D. Communities in an ecosystem

**Answer:**

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5. Which one is an amphibious plant :

A. Lotus

B. Vallisneria

C. Typha

D. Trapa

**Answer:**

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6. Keystone species should be protected as they :

- A. Are capable of surviving in harsh conditions of environment
- B. Indicate presence of certain minerals in the soil
- C. Have become rare due to over exploitation
- D. Play an important role in supporting other species

**Answer:**

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7. Exponential growth occurs when there is \_\_\_\_\_

- A. A great environmental resistance
- B. A fixed carrying capacity
- C. No biotic potential

D. No environmental resistance

**Answer:**

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8. Annual migration does not occur in the case of:

A. Arc Tern

B. Salamander

C. Salmon

D. Siberian Crane

**Answer:**

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9. In a population , unrestricted reproductive capacity is called

\_\_\_\_\_

- A. carrying capacity
- B. Birth rate
- C. Biotic potential
- D. Fertility ratio

**Answer:**



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10. A large animal that eats another smaller is a \_\_\_\_\_

- A. Parasite
- B. Predator

C. Prey

D. Commensal

**Answer:**

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**11.** Population density of terrestrial organisms is measured in terms of individuals per :

A. Metre

B. (*Metre*)<sup>2</sup>

C. (*Metre*)<sup>3</sup>

D. (*Metre*)<sup>4</sup>

**Answer:**

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12. Under non limiting environmental conditions , there will be :

- A. Maximum natality and minimum mortality
- B. Minimum natality
- C. Maximum mortality
- D. Both ( B ) and ( C )

**Answer:**



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13. Geometric representation of age structure is a characteristic of :

- A. Biotic community
- B. Population

C. Ecosystem

D. Landscape

**Answer:**



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14. Population of an insect species increases explosively during rainy season and then disappears at the end of the season . It shows :

- A. Food plants mature and at the end of rainy season
- B. Population of predators increases enormously
- C. Population growth curve is J - shaped
- D. Population growth curve is S - shaped

**Answer:**



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15. Carrying capacity of a population is determined by its

-----

- A. Population growth rate
- B. Mortality
- C. Limiting resources
- D. Natality

**Answer:**



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16. Myrmecophily is characterized by :

- A. Plants harbouring ants

- B. Plants storing food underground
- C. Plants Imitating the habit of animals
- D. Plants with small leaves

**Answer:**



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**17. Physiognomy is :**

- A. Physiology of communities
- B. Anatomy of communities
- C. External appearance of communities
- D. Both ( A ) and ( B )

**Answer:**



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18. Characteristic feature of halophyte is :

- A. Velamen
- B. Lenticel
- C. Pneumatophore
- D. Hydathode

**Answer:**

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19. Humus is formed in :

- A. Horizon - A
- B. Horizon - O

C. Horizon - B

D. Horizon - C

**Answer:**

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**20.** Amount of fresh water present as polar and glacial ice is :

A. 0.5 %

B. 1.97 %

C. 0.02 %

D. 0.01 %

**Answer:**

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21. Population pyramids were first made by :

- A. Elton
- B. Bodenheimer
- C. Daubenrnaire
- D. Van Humboldt

**Answer:**



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22. Plants living partly inside water and partly above it are :

- A. Xerophytes
- B. Thallophytes
- C. Hydrophytes

D. Halophytes

**Answer:**

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**23.** Small fish sticks to bottom of shark to obtain food crumbs . The association is :

- A. Antibiosis
- B. Predation
- C. Commensalism
- D. Parasitism

**Answer:**

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24. Carrying capacity of a population is determined by its

-----

- A. Limiting resources
- B. Mortality rate
- C. Natality rate
- D. Predation

**Answer:**



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25. Each environment can support a limited population depending upon its :

- A. Biotic potential
- B. Carrying capacity

C. Natality

D. Reproductive potential

**Answer:**



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**26.** Which of the following is a conduit for energy transfer across trophic level ?

A. Mutualism

B. Protocoopertaion

C. Parasitism

D. Predation

**Answer:**



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27. Phenomenon of inhibition of growth of one species by other species through secretion of some chemicals is termed as

-----

- A. Commensalism
- B. Allelopathy
- C. Mutualism
- D. Predation

**Answer:**



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28. World Population day is

- A. 5th May

B. 11th July

C. December

D. 21st August

**Answer:**



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**29.** Consequences of population explosion were explained for the first time by :

A. Darwin

B. de Vries

C. Lamarck

D. Malthus

**Answer:**



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**30.** Geographic limit within which a population exists is called :

- A. Biome
- B. Ecosystem
- C. Niche
- D. Habitat

**Answer:**



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**31.** The species though insignificant in number determines the existence of many other species in a given ecosystem :

- A. Extinct species

B. Endemic species

C. Keystone species

D. Sacred species

**Answer:**



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**32.** Alien species introduced into lake Victoria that was responsible for extinction of cichlid species is :

A. African Catfish

B. Murrels

C. Water Hyacinth

D. Nile Perch

**Answer:**



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**33.** Figs belong to :

- A. Keystone species as they show animal dependent pollination
- B. Keystone species as they produce food and provide protection to animals during lean period
- C. Critical link species as they form connecting link between trees and herbs
- D. Critical link species as they establish essential links for absorbing nutrients from soil and organic residues

**Answer:**



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34. A phenomenon when parasite parasitizes another parasite is :

- A. Hyperparasitism
- B. Parasitoids
- C. Monoxenous parasitism
- D. Polyxenous parasitism

**Answer:**



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35. Bell - shaped polygonal pyramid indicates :

- A. High percentage of young individuals
- B. Low percentage of young individuals
- C. Moderate percentage of young individuals
- D. Low percentage of old individuals



**Answer:**

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**36.** Which is appropriately defined ?

- A. Host is an organism which provides food to another organism
- B. Amensalism is relationship in which one species is benefitted while the other is unaffected
- C. Predator is an organism that catches and kills other organisms for food
- D. Parasite is an organism which always lives inside the body of other organism and may kill it

**Answer:**



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37. Predation perform all . Except \_\_\_\_\_

- A. Transfer of energy
- B. Loss of sense organs
- C. Keeps prey population under control
- D. Maintains species diversity

**Answer:**



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38. Parasitic phanerogams absorb water and solute from host plant

by :

- A. Mycorrhiza

B. Clinging roots

C. Adventitious roots

D. Haustoria

**Answer:**



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**39.** Microscopic aquatic organisms lacking locomotory ability and drifting with water current are :

A. Pleuston

B. Nekton

C. Plankton

D. Seston

**Answer:**



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40. Two important factors that influence the life of organisms are

-----

- A. Soil , temperature
- B. Soil , light
- C. Light , water
- D. Water , temperature

**Answer:**



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41. Under unfavourable conditions many zooplankton species in lakes and ponds enter :

A. Diapause

B. Hibernation

C. Aestivation

D. None of the above

**Answer:**



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**42.** Select the correct pair of adaptations in desert lizards : ( A )

Burrowing in soil to escape high temperature ( B ) Losing heat

rapidly at high temperature ( C ) Bask in the sun when temperature

is low ( D ) Insulating body with thick fatty dermis

A. B, D

B. A, B

C. C, D

D. A, C

**Answer:**



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**43.** Ecology describes \_\_\_\_\_

A. Interactions between living organisms only

B. Intraspecific competitions only

C. Interactions between members of a single species

D. Interactions of organisms and abiotic components around

**Answer:**



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44. Monarch Butterfly is not eaten by predators because of :

- A. Rough skin
- B. Bitter taste
- C. Foul smell
- D. Colouration

**Answer:**

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45. A logistic growth curve depicting population that is limited by carrying capacity is shaped like the letter :

- A. J
- B. M

C. F

D. S

**Answer:**



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**46. population with natality equal to mortality is :**

A. Increasing

B. Declining

C. Stable

D. Growing

**Answer:**



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47. Sigmoid / logistic growth curve is represented by :

A.  $dN/dt = rN$

B.  $dN/dt = rN(1 - N/K)$

C.  $Nt = N \oplus B + 1 - D - E$

D.  $dN/dt = 1 - N/K$

Answer:

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48. A population growing in a habitat with limited resources shows four phases in the following sequence :

A.

$Ae \leq \text{ration} \rightarrow Dece \leq \text{ration} \rightarrow \text{Lagphase} \rightarrow \text{Asymp} \rightarrow te$

B.

*Asymp* → *te* → *Ae* ≤ *ration* → *Dece* ≤ *ration* → *Lagphase*

C.

*Lagphase* → *Ae* ≤ *ration* → *Dece* ≤ *ration* → *Asymp* → *te*

D.

*Ae* ≤ *ration* → *Lagphase* → *Dece* ≤ *ration* → *Asymp* → *te*

**Answer:**



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**49.** Which one is parasite in true sense ?

A. Head Louse living on human scalp as well as laying eggs on

human hair

B. Cuckoo laying eggs in Crow's nest

C. Female Anopheles biting and sucking blood from humans

D. Human foetus inside uterus and drawing nourishment from mother

**Answer:**



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50. Which type of human population is represented by this age pyramid ? Post - reproductive Reproductive Pre - Reproductive

A. Declining population

B. Expanding population

C. Vanishing population

D. Stable population

**Answer:**



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51. Complete competitors cannot coexist " is true for :

- A. Primary succession
- B. Secondary succession
- C. Character displacement
- D. Competitive exclusion

**Answer:**



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52. What do A , B and C represent in the diagram :

- A. Stationary , log and lag

B. Lag , stationary and log

C. Log , lag and stationary

D. Lag , Log and stationary

**Answer:**



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**53.** Vertical distribution of species occupying different heights is :

A. Stratification

B. Population dispersal

C. Population fragmentation

D. Population mobilisation

**Answer:**



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54. Which is a population ?

- A. Spider and trapped flies in its web
- B. All plants in a forest
- C. Earthworm that lives in grassland along with arthropods
- D. All the Oak trees in a forest

**Answer:**

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55. Which statement is false about predators ?

- A. Predators keep prey population under control

B. Predators help in maintaining species diversity in a community

C. If a predator is not efficient, the prey population will become extinct

D. Herbivores have a greater advantage since plants cannot run away to avoid predation

**Answer:**



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**56.** Which is correctly labelled :

A. B - logistic curve

B. C - carrying capacity

C. C - exponential curve

D. A - carrying capacity

**Answer:**

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57. Best method to solve population problem in India is to :

- A. Increase food production
- B. Increase medical facilities
- C. Reduce birth rate
- D. Conserve natural resources

**Answer:**

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58. Stomata open at night in :

- A. Succulents
- B. Xerophytes
- C. Hydrophytes
- D. Mesophytes

**Answer:**



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59. Fresh water bony fishes maintain water balance by :

- A. Excreting hypotonic urine
- B. Excreting wastes as uric acid
- C. Drinking small amount of water

D. Excreting salt across their gills

**Answer:**

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**60.** Age pyramid with broad base indicates :

- A. High percentage of young individuals
- B. Low percentage of young individuals
- C. High percentage of old individuals
- D. Low percentage of old individual

**Answer:**

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61. Grazing benefits the grasses . The term for this interaction should be :

- A. Commensalism
- B. Predation
- C. Mutualism
- D. Amensalism

**Answer:**

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62. A biologist studied the population of rats in a barn . He found that the average natality was 250 , average mortality 240 , immigration 20 and emigration 30. The net increase in population is :

A. Zero

B. 10

C. 15

D. 5

**Answer:**



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**63.** Which is not a parasitic adaptation :

A. Loss of digestive organs

B. Loss of reproductive capacity

C. Loss of unnecessary sense organs

D. Development of adhesive organs

**Answer:**



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**64.** Sigmoid / logistic growth curve is represented by :

- A. Logistic
- B. Exponential
- C. Accretionary
- D. Geometric

**Answer:**



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**65.** Latitude range with maximum species diversity is :

A.  $23.5^{\circ}N - 66.5^{\circ}N$

B.  $23.5^{\circ}N - 66.5^{\circ}S$

C.  $23.5^{\circ}N - 23.5^{\circ}S$

D.  $66.5^{\circ}N - 66.5^{\circ}S$

**Answer:**



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**66.** What is represented by the sketch ? A , B , C , D is community of four different species .

A. In population ecology , only in one species where its individuals interact with each other

B. In community ecology , more than one species and their members are interacting with each other

C. Population ecology and community ecology

D. None of the above

**Answer:**



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**67.** Number of age groups in a population is :

A. 6

B. 4

C. 3

D. 2

**Answer:**



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68. Many tribes living in high altitudes of Himalayas have :

- A. High WBC count than people living in plains
- B. Lower WBC count than people living in plains
- C. Higher RBC count than people living in plains
- D. Lower RBC count than people living in plains

**Answer:**



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69. The two basic processes which contribute to a decrease in population density are :

- A. Natality and emigration
- B. Mortality and immigration



C. Natality and immigration

D. Mortality and emigration

**Answer:**

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**70.** Which of the following interactions is / are examples of competition : I. Balanus and Chathatmalus II. Abingdon tortoise and goats III. Monarch butterfly and birds IV. Ophrys and wasp

A. I and III

B. I and II

C. I , II and III

D. II , III and IV

**Answer:**



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71. Which Of the following is correct

A. Population change = ( Birth + Immigration ) - ( Death + Emigration )

B. Population change = ( Birth + Immigration ) + ( Death + Emigration )

C. Population change = ( Birth + Emigration ) + Death + Immigration )

D. Population change = ( Birth - Immigration ) - ( Death + Emigration )

**Answer:**



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72. The removal of keystone species will affect :

- A. Producers
- B. Consumers
- C. Ecosystem
- D. Decomposers

**Answer:**



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73. Which forest plants control light conditions at the ground ?

- A. Lianas and climbers
- B. Shrubs
- C. Tall trees

D. Herb

**Answer:**

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74. Sal ( Shorea robusta ) forest is a :

- A. Evergreen forest
- B. Deciduous forest
- C. Rain forest
- D. None of the above

**Answer:**

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75. The plant which produces highly poisonous cardiac glycosides is :

- A. Cactus
- B. Calotropis
- C. Acacia
- D. Bhang

**Answer:**



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76. Which helps in maintaining species diversity in a community ?

- A. Omnivores
- B. Predators

C. Herbivores

D. Facultative parasites

**Answer:**

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**77.** The interaction between the organisms of one of the following pairs is an example for commensalism :

A. Wasp and Fig tree

B. Orchid and Mango tree

C. Cuckoo and Crow

D. Cattle or sheep and grass

**Answer:**

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78. The first plants to appear in a badly burnt forest area will most probably be :

- A. Mosses
- B. Liverworts
- C. Ferns
- D. Grasses

**Answer:**



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79. Which statements correlate with diagram ?

- A. A and B are steady populations

B. A and D are declining populations

C. C and D are growing populations

D. B and D are declining populations

**Answer:**



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**80.** Percentage ratio of natality over mortality is :

A. Population dynamics

B. Population density

C. Vital index

D. Total count

**Answer:**



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81. In the equation ,  $d\frac{N}{dt} = rN\left(\frac{K - N}{K}\right)$  r stands for :

- A. Intrinsic rate of natural increase
- B. Death rate
- C. Population density at time
- D. Carrying capacity

**Answer:**



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82. Most animals are tree dwellers in a :

- A. Tropical rain forest
- B. Coniferous forest

C. Thorn woodland

D. Temperate deciduous forest

**Answer:**



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**83.** Which one of the following group of animals is homeothermic ?

A. Reptiles

B. Amphibians

C. Birds

D. Fishes

**Answer:**



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84. Fill In The blank : Ecological Niche concept was given by .....

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85. Fill In The blank : Water loving plants are .....

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86. Fill In The blank : The very common tissue in cortex of hydrophytes are .....

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87. Fill In The blank : Study about community is known as .....

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**88.** Fill In The blank : The association between Parthenium and roots of other plants is .....

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**89.** Fill In The blank : The association where one is harmed and other is unaffected is .....

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**90.** Fill In The blanks : Adaptation to dry habitats are .....

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**91.** Fill In The blanks : Annual plants complete their life cycle within very short periods are .....



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92. Distinguish between: Grassland and Savanna



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93. Distinguish between: Population and community



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94. Distinguish between: Natality and mortality



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95. Distinguish between: Immigration and emigration



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96. Distinguish between:Autotroph and heterotroph

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97. Distinguish between:Parasite and saprophyte

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98. Distinguish between:Symbiosis and parasitism

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99. Distinguish between:Xerophytes and hydrophytes

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