



BIOLOGY

BOOKS - SANTRA BIOLOGY (BENGALI ENGLISH)

ECOLOGY, ENVIRONMENT AND POPULATION

Multiple Choice Question Mcq

1. A group of individuals of the same species occupying a given area is known as

A. Population

B. Species

C. Flora

D. Vegetation

Answer: A



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2. Population density is the

- A. Number of individuals per species
- B. Number of species per-community
- C. Number of communities per ecosystem
- D. Number of individuals per species per unit area.

Answer: D



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3. The aggregate of processes that determine the size and composition of any population is known as

- A. Population density
- B. Population dispersal
- C. Populationn explotion
- D. Population dynamics

Answer: D



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4. The sum total of the population of the same kind of organisms constitutes species. The abundance of a species population within its habitat is called

- A. Relative density
- B. Absolute density
- C. Regional density
- D. Niche density

Answer: D



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5. The inability of members of one group to successfully interbreed with another is called

- A. Reproductive Boilogy
- B. Reproductive isolation
- C. Speciation
- D. None of the above

Answer: B



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6. Which of the following is a means of reproductive isolation

A. geographic isolation

B. behaviour isolation

C. mating, genetic and hybrid isolation

D. all of the above

Answer: B



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7. Allopatric speciation is due to

- A. Interplay of geographical isolation and reproductive isolation
- B. Reproductive isolation
- C. Geographical isolation
- D. none of the above

Answer: A



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8. Formation of two species from one continuously interbreeding population is

A. Allopatric speciation

B. Sympatric speciation

C. Divergent evolution

D. None of these

Answer: B



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9. Similar environment can cause species to become more alike through a process called

- A. Divergent evolution
- B. Convergent evolution
- C. Co-evolution
- D. Speciation

Answer: B



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10. The population of all species that occupy a habitual constitute

A. Ecosystem

B. Population

C. Community

D. Plankton

Answer: C



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11. Population which are closely related, morphologically similar and symmetric but reproductively isolated are designated as

- A. Demes
- B. Sibling species
- C. Clines
- D. Clones

Answer: B



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12. Organisms which can interbreed with each other comes under the same

A. Genus

B. Family

C. Species

D. Kingdom

Answer: C



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13. Endemic plants are those plants which grow in

- A. The tissue of another plant
- B. Shady place
- C. Geographically limited areas
- D. Fresh water lakes

Answer: C



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14. Which of the following communities is more vulnerable to invasion by outside animals and plants?

A. Mangroves

B. Oceanic island communities

C. Temperate forests

D. Tropical evergreen forest.

Answer: B



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15. Hinny is derived from

A. Lion and tigress

B. Male donkey and mare

C. Tiger and lioness

D. Stallion and female donkey

Answer: B



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16. Which of the following animals lives in solitary life

A. Fox

B. Dear

C. Seal

D. Hamster

Answer: D



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17. The geographic limits within which a population exists is its

A. Habitat

B. Range

C. Territory

D. Niche

Answer: B



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18. Which of the following chemicals are used by insects to attract mate?

A. Hormone

B. Pheromone

C. Collagen

D. Pyrogens

Answer: B



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19. The maximum reproductive capacity of an organism is called its

- A. Biotic potential
- B. Reproductive isolation
- C. Carrying capacity
- D. Aboitic population control

Answer: A



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20. A territory is defended by

A. Intruders of other species

B. Any intruders

C. Predators

D. Intruders of the same species

Answer: B



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21. The area covered by members of a species in search of food and mates is called

A. Home range

B. Territory

C. Range

D. Geographically distribution

Answer: B



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22. Seasonal movement of animals from one defined place of residence of other area is called

A. Emigration

B. Migraion

C. Homing

D. Dispersal

Answer: B



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23. The population of an area tends to increase when

- A. Predators increase
- B. Emigration occurs
- C. Immigration increase
- D. Reproductively decrease

Answer: C



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24. What is the most important factor in the success of animal population

- A. Unlimited food
- B. Interspecies activity
- C. Adaptability
- D. Natality

Answer: C



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25. An activity that benefits other organisms at the individual's own expense is called

A. Co-operation

B. Aggregation

C. Recognition

D. Altruism

Answer: D



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26. Altruism

- A. Benefits only on relatives
- B. May endanger the altruistic individual
- C. Is not characteristic of social animals
- D. Decrease survival chances of a group

Answer: B



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27. Intraspecific competition is strongest when the

- A. Population overlap in their ranges
- B. Species overlap in their distribution
- C. Reproductive rate is at its maximum
- D. Population is at its carrying capacity

Answer: D



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28. The carrying capacity of a population is determined by its

A. Natality

B. Population growth rate

C. Mortality

D. Limiting resources

Answer: D



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29. A force that acts against maximum population growth is

A. Environmental resistance

B. Carrying capacity

C. Population pressure

D. Saturation point

Answer: A



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30. Which of the following is correct about the human race?

A. Different race cannot interbreed

B. Some human races can interbreed

C. All races can interbreed but most will produce sterile one

D. All races can interbreed can produce fertile offspring

Answer: D



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31. A biotic community is the assemblage of

A. Interacting population

B. Food chains

C. Food web

D. Closely related species

Answer: A



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32. If one species benefits from the association while the other is neither harmed nor benefited it is called

- A. Mutualism
- B. Commensalism
- C. Parasitism
- D. None of the above

Answer: B



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33. Association between a sea anemone
Adamsia and hermit crab living in gastropod
shell is

- A. Amensalism
- B. Commensalism
- C. Mutualism
- D. Proto-cooperation

Answer: D



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34. The association between ants and some member of family Rubiaceae is called

A. Entromophily

B. Anemophily

C. Mymecophilly

D. Hydrophily

Answer: C



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35. Which of the following is an insectivorous plants?

A. Cuscuta

B. Rafflesia

C. Drosera

D. Orobanche

Answer: C



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36. Ectoparasites

- A. Lives on the body surface
- B. Live inside the intestine
- C. Always cause disease
- D. Are always pathogenic

Answer: A



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37. Which of the following is a total parasite

A. Rhizobium

B. Nepenthes

C. Cuscuta

D. Orchid

Answer: C



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38. Mycorrhiza is an example of

A. Parasitism

B. Symbiosis

C. Scavenging

D. Commensalism

Answer: B



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39. Eating and removal of dead flesh is called

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

Answer: B



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40. Which of the following insect mimics dry leaf

- A. *Kallima paralekta*
- B. *Phyllium frondosum*
- C. *Selenia tetralunaria*
- D. *Mantis religiosa*

Answer: B



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41. Dominant species represents

- A. The most abundant species, which has a major effect on the physical environment
- B. The first tree
- C. The shrubs that appear for the first time
- D. The herb that bind the soil and provide organic matter to it

Answer: A



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42. A primary succession starts with a lichen. Which of the following lichens are responsible for biological weathering of rocks in the initial stage?

- A. Foliose
- B. Frusticose
- C. Crustose
- D. All of these

Answer: C



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43. Lichens are indicators of

A. Hydrosere

B. Halosere

C. Xerosere

D. Psammosere

Answer: C



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44. A community that starts the process of succession in a habitat is called

- A. Biotic community
- B. Artificial community
- C. Abiotic community
- D. Pioneer community

Answer: D



45. Climax community is the last stable community. It depends on

- A. Red rock
- B. Climate
- C. Soil organism
- D. Pool of available nutrient

Answer: D



46. Which of the following is miss matched?

A. Halosere-Marshy habitat

B. Lithosphere-Rock surface

C. Psammosere-Aquatic habitat

D. Hydrosere-Hydrach

Answer: C



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47. Which of the following factor governs the nature of climax community?

- A. Soil fertility
- B. Temperature
- C. Climate
- D. Water

Answer: C



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48. Desert can be turned green with the help of

A. Halophyte

B. Chasmophytes

C. Oxylophytes

D. Psammophytes

Answer: D



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49. The miniature succession of microorganisms such as bacteria and different types of fungi on the

A. Psammosere

B. Serule

C. Subsere

D. lithosere

Answer: C



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50. Which mammal exeretes solid urine to avoid water loss

A. Squirrel

B. Camel

C. Kangaroo rat

D. Crow

Answer: C



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51. Characteristics feature of mangrove plants is

A. Vivipary

B. Apospory

C. Heterospory

D. Parthenocarpy

Answer: A



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52. In xerophytes, photosynthesis often occurs through

- A. Scaly leaves
- B. Stomata
- C. Modified stem
- D. Root

Answer: C



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53. Excessive aerenchyma is characteristic of

A. Xerophytes

B. Mesophytes

C. Hytrophytes

D. Heliophytes

Answer: C



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54. Transitional layer between stratosphere and mesosphere is

A. Stratopause

B. Troposphere

C. Tropopause

D. Lithosphere

Answer: A



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55. Open water zone beyond littoral zone is

A. Benthic zone

B. Limnetic zone

C. Coastal zone

D. Profundal zone

Answer: B



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56. Characteristic feature of halophyte is

A. Lenticel

B. Pneumatophore

C. Hydathode

D. Velamen

Answer: B



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57. Study of ecology of a population is

A. Demecology

B. Autecology

C. Synecology

D. Ecotype

Answer: A



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58. Large unit of land having different communities is called

A. Biosphere

B. Niche

C. Biome

D. Ecosystem

Answer: C



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59. Phytoplankton are dominant in

A. Mesophytes

B. Hydrophytes

C. Halophytes

D. Xerophytes

Answer: B



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60. Competition causes

A. Larger number of niches

B. Symbiosis

C. Extinction

D. Mutation

Answer: A



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61. Most important parameter for determining the population growth is

A. Natality

B. Population size

C. Population growth Curves

D. Vital index

Answer: B



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62. Cacti storing water in leaves are

A. Annuals

B. Non-succulants

C. Drought resistant

D. Ephemerals

Answer: C



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63. $\frac{\Delta N_n}{\Delta N_t} = B$ represents

A. Mortality

B. Growth rate

C. Natality

D. All of them

Answer: B



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64. Geographic limit within which a population exists is called

A. Habitat

B. Biome

C. Ecosystem

D. Niche

Answer: A



65. A population with natality equal to mortality is

- A. Growing
- B. Stable
- C. Declining
- D. Increasing

Answer: B



66. Population day is

A. 21st August

B. 5th may

C. 11th July

D. 1st December

Answer: C



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67. The study of the relation of an organisms with its environment is called

A. Herpetology

B. Synecology

C. Bionomics

D. Autecology

Answer: C



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68. Major ecological community of plants and animals extending over large natural areas is known as

A. Biome

B. Biota

C. Biosphere

D. Bioregion

Answer: A



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69. Acid rain is caused by

A. CO_2

B. NO_2

C. SO_2

D. SO_3

Answer: C



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70. The inter-relationship between cow and snake is

- A. Competition
- B. Protooperation
- C. Symbiosis
- D. Neutralism

Answer: D



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Choose More Than One Correct Answers For The Following

1. On the basis of habitat the types of ecology are

- A. Marine Ecology
- B. Autecology
- C. Synecology
- D. Terrestrial Ecology

Answer: A::D





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2. Applied ecology related with

A. Industry

B. Agriculture

C. Agronomy

D. Forestry

Answer: B::C::D



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3. The regulatory factors of environment are

A. Light

B. Water

C. Temperature

D. Soil

Answer: A::C



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4. Types of deciduous forests are

A. Temperate deciduous forest

B. Tropical deciduous forest

C. Rain forest

D. Flooded forest

Answer: A::B



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5. Physical components of the environment are

A. Light

B. Water

C. Soil

D. Solar energy

Answer: A::D



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6. Photoblastic seed producing plants are

A. Solanum

B. Arabidopsis

C. Lactuca

D. Rumex

Answer: C::D



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7. Homeothermal animals are

A. Reptiles

B. Bird

C. Mammals

D. Fish

Answer: B::C



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8. Heterotrophic components are

A. Primary Consumer

B. Decomposer

C. Secondary Consumer

D. Producer

Answer: A::B::C



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9. Name two tertiary consumers

A. Dog

B. Cat

C. Tiger

D. Lion

Answer: C::D



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10. The drought resisting xerophytic plants are

A. Asparagus

B. Aloe

C. Acacia

D. Calotropis

Answer: A::B



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1. Cacti are ___ plants.



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2. Persistence of prehensile tail is an ___ adaptation.



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3. Lichens is an association of ___ and ___.



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4. The phenomenon of autotomy is exhibited by ____.



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5. The natural home of an organisms is called ____.



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6. The carrier of ____ is female Anopheles.



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7. Snake is ____ animal.



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8. Rhizobium found in root nodules of legumes can fix atmospheric ____.



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9. The protective similarity of one species of animal to other in appearance is known as ____.



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10. Man shows ____ locomotion.



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11. Plant growing on rocks are called ____.



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12. The term microclimate refers to microscopic ____ only.



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13. High ____ velocity may cause lodging.



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14. The study of soil is called ____.



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15. The red and orange wavelength reach up to the depth of ____ meter in a sea.



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Mention True Or False

1. The plants growing in saline soil are called as halophytes.



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2. Water reaching the deep saturated zone of the soil is called as gravitational water.



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3. Organisms which can interbreed with each other comes under the same family.



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4. The population of all species that occupy a habitat constitute ecosystem.



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5. The plants growing on burnt soil are called as Pyrophilous.



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Very Short Answer Type Questions

1. What is biological rhythms?



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2. Name the direct environmental factors.



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3. Name the indirect environmental factors.



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4. What is the source of light on our planet.



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5. What are the parameters of light on our planet.



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6. Give two example each of short day plant and long day plant.



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7. What are microthermal organisms?



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8. What is encystment?



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9. Define Hibernation.



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10. What is snow?



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11. Give two example of mon succulents.



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12. Give two examples of succulent.



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13. What are Eutrophic soils?



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14. What are lithophytes?



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15. What is run away water?



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Short Answer Type Questions

1. What is the effect of temperature on metabolism of plants?



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2. Classify the vegetation of world into major groups.



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3. Name of the gases along with valume in epiphytic plants.



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4. Name of three types of parts found in epiphytic plants.



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5. Write briefly about wilting coefficient.



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6. What is limnetic zone?



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7. What is homeostasis?



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8. What is phenotypic plasticity?



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9. What is population?



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10. Define environment.



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11. Briefly state about the aims of ecology.



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12. Classify ecology on the basis of the levels of organization.



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13. What is r/k selection?



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14. What is community ecology?



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15. Briefly state about the branches of ecology.



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16. State the difference between Population and Species.



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17. Briefly state about the microclimate.



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18. Differences between Ecosystem and Biome.



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19. Differences between natality and mortality.



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20. Differences between S-shaped and J-shaped growth form.



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Long Answer Type Questions

1. Define biotic community. Who coined the term biocoenosis for biotic community and list two properties of biotic community.



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2. What do you mean by stratification and state three significance of it.



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3. Define symbiosis and how proto cooperation different from symbiosis.



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4. Define (i) Natality, (ii) Mortality, (iii) Population density, (iv) Sex ratio, (v) Immigration.



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5. Write a brief note on 'waggle dance'.



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6. Briefly explain altruistic behaviour and give reasons with proper explanation.



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7. With the help of a diagram show the sigmoid growth curve.



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8. Mention five factors responsible for the increase in Human population.



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9. Write brief notes on (i) Amensalism (ii) Parasitism (iii) Symbiosis (iv) Commensalism.



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10. Explain briefly- (i) Polymorphism (ii) Territory (iii) Biotic stability (iv) Carrying capacity.



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11. Explain the dominance of species in a biotic community?



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12. Explain S-shaped and J-shaped growth curves for human. Under what condition can they be obtained?



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13. What are the different types of adaptation in animals? Explains with suitable example.



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14. Describe about the morphological, anatomical and physiological adaptation in Xerophytic plants.



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15. Briefly describe about characteristics of Population.



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16. Briefly describe about different types of biomes.



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