



BIOLOGY

BOOKS - SANTRA BIOLOGY (BENGALI ENGLISH)

ECOSYSTEM

Multiple Choice Questions

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

A. Population

B. Species

C. Flora

D. community

Answer: b



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2. The term ecosystem was first coined by

A. Odum

B. Transley

C. Rachter

D. Both *b* and *c*

Answer: b



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3. The term ecological pyramid was proposed by

A. Odum

B. Eltoy

C. Transley

D. Haeckel

Answer: d



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4. Ecosystem consist of

A. Producer

B. Consumer

C. Decomposer

D. All of these

Answer: d



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5. The biotic part of ecosystem includes

A. Producer

B. Primary Consumers

C. decomposer

D. all of these

Answer: c



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6. The dominant second trophic level, in a lake ecosystem is

A. Benthos

B. Planktons

C. Zooplanktons

D. Phytoplankton

Answer: d



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7. Which of the following ecosystem has the highest primary productivity

A. Pond

B. Lake

C. Desert

D. Forest

Answer: a



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8. Which of the following ecosystem has the highest gross primary productivity

A. Grass land

B. Coral reef

C. Mangroves

D. Rain forest

Answer: d



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9. Which of the following belong to the category of primary consumer

A. Water insects

B. Snake and frog

C. Eagle and snake

D. Insect and cattle

Answer: a



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10. The pyramid of energy is always

A. Upright

B. Inverted

C. Horizontal

D. Negative

Answer: c



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11. Zooplanktons are

- A. Parasite
- B. Tertiary consumer
- C. Primary consumer
- D. Secondary consumer

Answer: b



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12. Ecotone is characterised by

- A. Forest ecosystem
- B. Transition zone between two vegetation
- C. Terrestrial ecosystem
- D. Zone of transiton between water and
land

Answer: a



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13. In an aquatic ecosystem, maximum biomagnification is seen in

A. Fishes

B. Phytoplankton

C. Zooplanktons

D. birds

Answer: a



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14. Which of the following is the most stable ecosystem

A. Ocean

B. Desert

C. Forest

D. Mountain

Answer: d



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15. The pyramid of energy in a pond ecosystem is always

A. Linear

B. Inverted

C. Irregular

D. Upright only

Answer: a



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16. When the number of organisms at successive levels are plotted, they give the shape of pyramid. This is called the pyramid of

A. Number

B. Energy

C. Biomass

D. None of these

Answer: c



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17. The pyramid of number in grassland ecosystem is

A. Linear

B. Energy

C. Upright

D. Negetive

Answer: c



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18. The great barrier reefs along the east coast of Australia can be categorised as

A. Population

B. Community

C. Ecosystem

D. Biome

Answer: d



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19. In a pond ecosystem, benthos means

A. Epineuston

B. Periphyton

C. Zooplankton on water surface

D. Primary consumer at depth of a pond

Answer: c



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20. Animals living at the bottom of the sea are called

A. Lotic

B. Lentic

C. Benthonic

D. Pelagic

Answer: c



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21. Which is the autotrophic component of an ecosystem

A. Sunlight

B. Herbivores

C. Green plants

D. Bacteria and fungi

Answer: b



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22. The vegetations of an ecosystem are separated by

A. Ecesis

B. Ecoline

C. Ecotone

D. Ecosystem

Answer: d



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23. Which of the following habitat are most suitable for primary productivity

A. Ponds

B. Meadow

C. River bank

D. All of these

Answer: d



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24. Which of the following is a man made aquatic ecosystem

A. Cands

B. Dams

C. Aquarium

D. All of these

Answer: a



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25. Which of the following is a major man made biotic factor

A. Fire

B. Grazing

C. Ploughing

D. Dairying

Answer: d



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26. In an ecosystem, which of the following shows one way passage ?

A. Carbon

B. Nitrogen

C. Minerals

D. Free energy

Answer: d



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27. Which of the following is a component in an ecosystem

- A. Consumer
- B. Flow of energy
- C. Cycling of material
- D. Both *b* and *c*

Answer: b



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28. An ecosystem has two components such as

- A. Frog and men
- B. Biotic and abiotic
- C. Plants and animals
- D. Weeds and trees

Answer: d



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29. The part of the earth and atmosphere supporting life is

A. Biota

B. Biome

C. Ecotone

D. Biosphere

Answer: c



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30. The lower most layer of atmosphere, in which man and other living organisms exist, is called

A. Mesosphere

B. Stratosphere

C. Troposphere

D. Thermosphere

Answer: c



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31. The flow of energy in the biosphere is

A. Linear

B. Diffuse

C. Unidirectional

D. Multidirectional

Answer: c



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32. The 10% energy transfer law of food chain was given by

A. Stansley

B. Transley

C. Lindermann

D. Weismann

Answer: d



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33. Food chain operates in

A. Sea

B. Forest

C. Desert

D. All of these

Answer: d



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34. The relationship in an ecosystem can be depicted by

A. Energy

B. Biomass

C. Number

D. All of these

Answer: b



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35. Snake in a food chain belongs to

- A. Saprophytes
- B. Top consumer
- C. Secondary Consumer
- D. Primary consumer

Answer: a



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36. The transfer of energy from one organism to another organisms in a natural community establishes

- A. Food chain
- B. Biological control
- C. Natural barrier
- D. Both *b* and *c*

Answer: d



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37. The first link in any food chain in green plants because

A. Are widely distributed

B. Firmly fixed to soil

C. Carnivores than herbivores

D. Fix atmosphere CO_2 in present of light

Answer: b



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38. Which of the following food chain may not be directly dependent on sunlight

A. Grazing

B. Detritus

C. Soaking

D. Depleting

Answer: a



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39. Maximum energy is stored in

A. Producer

B. Herbivores

C. Carnivores

D. Decomposer

Answer: d



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40. Trophic levels are linked with

A. Plants

B. Animals

C. Carnivore

D. Organisms linked food chain

Answer: d



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41. Temporary ecosystem is

A. Valley

B. forest

C. Sea

D. ditch

Answer: b



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42. Energy transfer from one trophic level to another is

A. 0.2

B. 0.1

C. 0.15

D. 0.05

Answer: a



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43. Sundarbans contain mainly

A. Mangrove plants

B. Fir forests

C. Alpine trees

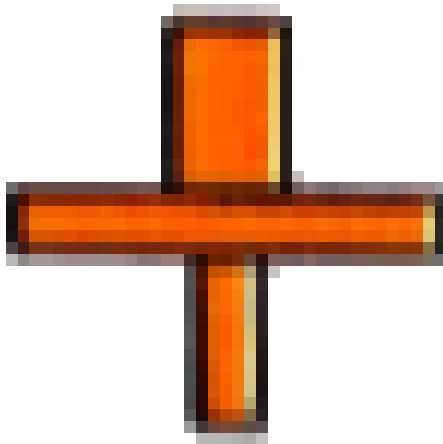
D. Grass

Answer: a



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44. The accompanying figure represent an ecological pyramid It is



A. Pyramid of biomass in lake

B. Energy pyramid in a spring

C. Pyramid of biomass in fallow land

D. Pyramid of numbers in grassland

Answer: d



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45. Which of the following is not used for construction of ecological pyramids

A. Number of individuals

B. Fresh weight

C. Dry weight

D. Rate of energy flow

Answer: b



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46. Ecosystem having the highest primary productivity

A. Ocean

B. Forest

C. Pond

D. Desert

Answer: b



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47. Extinction of a species in a food chain is compensated in

A. Food chain

B. Food web

C. Ecological pyramid

D. None of the above

Answer: c



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48. Detritus food chain begins with

A. Protozoa

B. Algae

C. Bacteria

D. Viruses

Answer: b



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49. Phytoplankton are

A. Saprotrophs

B. Autotrophs

C. Heterotrophs

D. All the above

Answer: b



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50. Phytoplankton are dominant in

- A. Benthic zone
- B. Limnetic zone
- C. Profundal zone
- D. Littoral zone

Answer: a



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51. The succulents grow in

A. Desert

B. Temperate deciduous forests

C. Tundra

D. Tropical main forest

Answer: b



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52. Find out odd in nitrogen cycle

A. Rhizobium

B. Pseudomonas

C. Clostridium

D. Nostoc

Answer: a



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53. An incomplete ecosystem is

A. Cave

B. Grassland

C. River

D. Wetland

Answer: a



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54. Nitrogen fixation in root nodules of *Alnus* is brought about by

- A. *Frankia*
- B. *Azorhizobium*
- C. *Clostridium*
- D. *Bradyrhizobium*

Answer: d



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55. Energy and nutrients enter a community through

- A. Sunlight
- B. Decomposer
- C. Primary consumer
- D. Producers

Answer: b



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56. Primary productivity of the ecosystem is most often limited by

- A. Consumers
- B. Solar radiation
- C. Nitrogen
- D. Oxygen

Answer: c



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57. Which is man made ecosystem

A. Tissue culture

B. Forest

C. Aquarium

D. Herbarium

Answer: a



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58. Which one of the following is a Primary Consumer

A. Herbivore

B. Producer

C. Carnivore

D. None of them

Answer: b



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59. When the two ecosystems overlap each other the area is called

A. Niche

B. Ecotone

C. Ecotype

D. Habitat

Answer: b



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60. Pyramid of energy in ecosystem is

A. Mostly inverted

B. Always upright

C. Always inverted

D. Mostly upright

Answer: d



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61. The flow of energy in the ecosystem is

A. Multidirectional

B. Bidirectional

C. Cyclic

D. Unidirectional

Answer: c



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62. Mass of living matter at a trophic level in an area at any time is called

- A. Detritus
- B. Standing state
- C. Standing Crop
- D. Humus

Answer: a



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63. The breakdown of detritus into small particles by earthworm is a process called

A. Fragmentation

B. Mineralisation

C. Catabolism

D. Humification

Answer: d



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64. Which one of the following is not a functional unit of an ecosystem

- A. Energy flow
- B. Productivity
- C. Decomposition
- D. Stratification

Answer: a



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65. The upright pyramid of number is absent in

A. Forest ecosystem

B. Grassland

C. Lake

D. Pond

Answer: a



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66. Which one of the following is not a gaseous biogeochemical cycle in ecosystem

A. Phosphorus cycle

B. Sulphur cycle

C. Carbon cycle

D. Nitrogen cycle

Answer: a



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Choose More Than One Correct Answers

1. The term ecosystem was coined by

A. Odum

B. Mendal

C. Transley

D. Crick

Answer: ac



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2. Natural Ecosystem are

A. City

B. Village

C. Desert

D. Grassland

Answer: cd



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3. What are the incomplete ecosystem

A. Rain water pond

B. Aquarium

C. Kitchen garden

D. Sea bottom

Answer: ad



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4. The inorganic components of ecosystem are

A. Sulphur

B. Iron

C. Magnesium

D. Urea

Answer: abc



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5. The organic components of ecosystem are

A. Amino acids

B. Lipids

C. Potassium

D. Carbon

Answer: ab



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6. The Secondary consumers are

A. Spider

B. Toad

C. Lion

D. Lizard

Answer: abd



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7. The primary Consumer of ecosystem are

A. Cow

B. Bacteria

C. Monkey

D. Fungi

Answer: ac



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8. The Primary consumer of pond ecosystem are

A. Cyclops

B. Daphnia

C. Bhetki

D. Boal fish

Answer: cd



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9. Sedimentary type of nutrient cycles are

A. Phosphorus cycle

B. Water cycle

C. Sulphur cycle

D. Carbon cycle

Answer: ac



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10. The Sub-merged plants are

A. Hydrilla

B. Lemna

C. Potamogeton

D. Azolla

Answer: ab



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Fill In The Blanks

1. The biotic community together with the physical environment forms an interacting system known as_____.



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2. Ecosystem has been classified into two main groups namely (i)_____ (ii)_____.



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3. The animals that consume energy as food are called_____.



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4. Each step in a food chain represents a _____.



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5. An interlocking network of food chains is called _____.



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6. The principal grassland of south america is

_____.



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7. The plankton which can synthesize their own

food is known as _____.



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8. The organisms that are found along the floor of the sea bed are called as _____.



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9. Organisms which can tolerate wide temperature variation are called _____.



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10. Vegetation of New Delhi is predominantly

_____.



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11. _____ are unstable due to absence of diversity and self regulating mechanism.



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12. In india tropical rain forest is found in _____
and _____.



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13. _____ forest are found in Himalayas.



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14. When the primary productivity is calculated
in term of total plant community of an

ecosystem it is called _____ productivity.



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15. Phosphorus cycle is _____ type of cycle.



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Mention True Or False

1. According to the first law of thermodynamics, energy is neither created

nor destroyed.



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2. The multilayered gaseous covering over the earth is known as atmosphere.



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3. Free floating microscopic plants are called zooplanktons.



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4. Chlorophyll containing green plants are called autotrophs.



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5. Aquarium is the artificial ecosystem.



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6. Energy flow is unidirectional.



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7. Due to ecoregulation, organisms & their environment are not regulated by each other.



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8. Sulphur is the main constituent of the ATP.



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9. Hydrilla is a submerged plant.



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10. Rhizocarpon is a crustose lichen.



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Very Short Answer Type Questions

1. Name two types of components of ecosystem.



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2. Who gave the term ecosystem ?



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3. Who called the ecosystem as Biogeocoenosis ?



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4. Name three functional kingdom of ecosystem.



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5. What are edaphic factor ?



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6. Define tanning.



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7. state the term for the response of organisms to the duration of light.



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8. Name a short day animal and a long day animal.



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9. What are circadian rhythms ?



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10. Give the term for shade plants.



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11. What are auroal animals ?



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12. Which is the most important ecological factor affecting the living organism ?



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13. Define Bergman's rule.



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14. Which rule states that mammals of colder parts have shorter body appendages ?



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15. Name two mammals undergoing hibernation.



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16. What is cyclomorphosis ?



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17. Which type of vegetation is found in areas with scanty rainfall eg Deserts ?



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18. Give the term for the animals which can live in water of different salt concentration.



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19. What is aerenchyma ?



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20. Which animal does not drink water and depend on metabolic waste ?



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21. Define paedogenesis.



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22. What are Halophyte ?



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23. What is topography ?



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24. Which type of organisms have salt secreting glands ?





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25. Name the instrument used to measure relative humidity.



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26. What is detritus ?



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27. Name the most productive agro-ecosystem.



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28. What is atmosphere ?



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29. What is flora ?



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30. What is migration ?



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Short Answer Type Questions

1. Enlist basic requirement of an ecosystem.



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2. Why bacteria and fungi called decomposer.



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3. Differentiate between autotrophs and heterotrophs.



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4. Which controls maintain homeostasis in ecosystem.



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5. A food chain has a few trophic level.



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6. Define food web. Give its significance.



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7. Differentiate between grazing food chain and detritus food chain.



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8. Define ecological pyramid. Name different types of ecological pyramids.



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9. What is ecosystem ?



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10. What is food chain ?





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11. What are the three vertical zone of a marine ecosystem.



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12. Differentiate between lentic and lotic system.



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13. What are the three zones of a deep lake on the basis of penetration of light.



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14. Why is biosphere called a life supporting zone of earth ?



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15. Define biogeochemical cycle. Name two types of biogeochemical cycle.



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16. List various sources of CO_2 in the biosphere.



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17. Define food web. Give its significance.



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18. What are GHGs ? Give its role in N_2 fixation.



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19. What is leghaemoglobin ? Give its role in N_2 fixation.



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20. What is Energy flow ?



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21. Define ecological pyramid.



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22. What is oxygen cycle ?



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23. Define phosphorus cycle.



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24. What Is productivity ?



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25. Define decomposition.



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26. Define biogenic nutrients.



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27. What is assimilation ?



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28. What Is ammonification ?



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29. What are primary and secondary productivity ?



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30. Briefly describe about the assimilation in nitrogen cycle.



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31. What are the significance of food chains ?



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32. What is biological magnification ?



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33. Briefly describe about the 2-channel model of energy flow.



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34. Briefly describe about the function of ecosystem.



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35. What is the significance of oxygen cycle.



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36. Briefly describe about the pattern of ecosystem.



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37. What are the structure and function of ecosystem ?



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38. State difference between the following: (i) abiotic and biotic components. (ii) food chain and food web. (iii) producer and consumer. (iv) producer and decomposer. (v) Net Primary production and Gross primary production.



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Long Answer Type Questions

1. Explain the pond ecosystem as a classical example of ecosystem.



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2. Give an account of fresh water ecosystem.



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3. Describe the marine ecosystem ?



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4. What are climatic factors.



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5. Describe the effects of temperature on living organisms.



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6. What is meant by the term of Nutrient cycle ?



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7. Define sedimentary cycle ? Describe phosphorus or sulphur cycle.



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8. Describe the flow of energy in biosphere.



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9. Describe the oxygen cycle.



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10. Describe the different processes of decomposition.



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11. Describe about different types of food chain.



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12. What are the stages of energy flow in a ecosystem ?



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13. Describe about different ecological pyramids.



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14. Describe about the laws governing energy transformations.



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15. Briefly describe about the ecological services.



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16. Describe the different component of ecosystem.



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17. Describe about the dynamics in ecosystem.



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18. What are the factors controlling ecosystem ?



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19. Describe about the different stages of hydrosere.



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20. What are the different stages of xerosere ?



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