



## BIOLOGY

# BOOKS - KUMAR PRAKASHAN KENDRA BIOLOGY (GUJRATI ENGLISH)

## ECOSYSTEM

### Section A Exam Oriented Questions Answers From Darpan

1. Give general information about ecosystem and give examples of various ecosystems.

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2. Explain structure and functions of Ecosystem.

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3. Explain productivity and types.

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4. What is decomposition ? Explain?

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5. Mention various steps included in the process of decomposition.

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6. Explain energy flow in ecosystem.

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7. Explain various types of ecological pyramids.



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8. Give information about ecological succession.



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9. Explain succession of plants.



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10. Mention type of nutrient cycling explaining it.



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11. Explain carbon cycle.



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12. Explain phosphorus cycle.



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13. Give various ecological services.



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## Section B Difference Scientific Reasons

1. Give differences

Grazing food chain and Detritus chain Grazing food chain



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## 2. Give differences

Production and Decomposition



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## 3. Give differences

Upright Pyramid and Inverted Pyramid



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## 4. Give differences

Food chain and food web



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## 5. Give scientific reasons

Earthworm is known as farmer's friend.



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6. Give scientific reasons

Energy pyramids are never inverted.

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## Section C Objective Questions Answers

1. Match the columns

Column - I		Column - II	
(a)	Decomposers	(i)	Bacteria
(b)	Primary productivity	(ii)	Consumers
(c)	Natural ecosystem	(iii)	Producers
(d)	Secondary productivity	(iv)	Forest

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2. Match the columns

Column - I		Column - II	
(a)	Primary succession	(i)	Development of ecosystem
(b)	Ecological succession	(ii)	Lichens
(c)	Base species on rocks	(iii)	Near to the equilibrium with the environment.
(d)	Climax community	(iv)	New species of environment



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3. Match the columns

Column - I		Column - II	
(a)	Earthworm	(i)	birth-rate
(b)	Succession	(ii)	basic species
(c)	Population rise	(iii)	pollination
(d)	Ecological services	(iv)	saprotrops



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#### 4. Match the columns

Column - I		Column - II	
(a)	Saprotrophs	(i)	He makes his food
(b)	Omnivores	(ii)	Dependent on dead organisms
(c)	Autotrophs	(iii)	Eat other animals for food
(d)	Vegetarian	(iv)	Fertilizers for plants



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#### 5. Definitions/Explanation

Productivity :



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#### 6. Definitions/Explanation

Decomposition :



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## 7. Definitions/Explanation

Saprotrophs :



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## 8. Definitions/Explanation

Trophic level :



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## 9. Definitions/Explanation

Sere :



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## 10. Definitions/Explanation

Standing state :



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## Section D Textual Exercise Fill In The Blanks

1. Plants are called as ..... because they fix carbon dioxide.



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## Section D Textual Exercise

1. In an ecosystem dominated by trees, the pyramid (of numbers) is ..... type.



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2. In aquatic ecosystems, the limiting factor for the productivity is .....

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3. Common detritivores in our ecosystem are ...

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4. The major reservoir of carbon on earth is

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5. Which one of the following has the largest population in a food chain ?

A. Producers

B. Primary consumers

C. Secondary consumers

D. Decomposers

**Answer: D**



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**6.** The second trophic level in a lake is

A. Phytoplankton

B. Zooplankton

C. Benthos

D. Fishes

**Answer: B**



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7. Secondary producers are

- A. Herbivores
- B. Producers
- C. Carnivores
- D. None of the above

**Answer: D**



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8. What is the percentage of photosynthetically active radiation (PAR) in the incident solar radiation ?

- A. 100 %
- B. 50 %
- C. 1 – 5 %
- D. 2 – 10 %

**Answer: B**



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**9. Distinguish between**

Litter and detritus



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**10. Distinguish between**

Primary and secondary productivity



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**11. Describe the components of an ecosystem.**



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12. What is primary productivity ? Give brief description of factors that affect primary productivity.



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## Section E Solution Of Ncert Exemplar Multiple Choice Questions Mcqs

1. Decomposers like fungi and bacteria are :

(i) autotrophs (ii) heterotrophs

(iii) saprotrophs (iv) chemo-autotrophs

Choose the correct answer :

A. i and iii

B. i and iv

C. ii and iii

D. i and ii

**Answer: C**



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2. The process of mineralisation by micro organisms helps in the release of

- A. inorganic nutrients from humus
- B. both organic and inorganic nutrients from detritus
- C. organic nutrients from humus
- D. inorganic nutrients from detritus and formation of humus.

**Answer: A**

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3. Productivity is the rate of production of biomass expressed in terms of:

(i)  $(kcal\ m^{-3})\ yr^{-1}$

(ii)  $g^{-2}\ yr^{-1}$



(iii)  $g^{-1}yr^{-1}$

(iv)  $(kcalm^{-2})yr^{-1}$

- A. ii
- B. iii
- C. ii and iv
- D. i and iii

**Answer: C**



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**4.** An inverted pyramid of biomass can be found in which ecosystem?

- A. Forest
- B. Marine
- C. Grass land
- D. Tundra

**Answer: B**



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**5. Which of the following is not a producer ?**

A. Spirogyra

B. Agaricus

C. Volvox

D. Nostoc

**Answer: B**



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**6. Which of the following ecosystems is most productive in terms of net primary production ?**

A. Deserts

B. Tropical rain forests

C. Oceans

D. Estuaries

**Answer: B**

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7. Pyramid of numbers is :

A. Always upright

B. Always inverted

C. Either upright or inverted

D. Neither upright nor inverted

**Answer: C**

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8. Approximately how much of the solar energy that falls on the leaves of a plant is converted to chemical energy by photosynthesis ?

- A. Less than 1 %
- B. 2 – 10 %
- C. 30 %
- D. 50 %

**Answer: B**



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9. Among the following, where do you think the process of decomposition would be the fastest?

- A. Tropical rain forest
- B. Antarctic

C. Dry arid region

D. Alpine region

**Answer: A**



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**10.** How much of the net primary productivity of a terrestrial ecosystem is eaten and digested by herbivores ?

A. 1 %

B. 10 %

C. 40 %

D. 90 %

**Answer: D**



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11. During the process of ecological succession the changes that take place in communities are :

- A. Orderly and sequential
- B. Random
- C. Very quick
- D. Not influenced by the physical environment

**Answer: A**



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12. Climax community is in a state of :

- A. non-equilibrium
- B. equilibrium
- C. disorder
- D. constant change

**Answer: B**



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**13.** Among the following bio-geo-chemical cycles which one does not have losses due to respiration ?

A. Phosphorus

B. Nitrogen

C. Sulphur

D. All of the above

**Answer: D**



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**14.** The sequence of communities of primary succession in water is :

A. phytoplankton, sedges, free-floating hydrophytes, rooted hydrophytes, grasses and trees.

B. phytoplankton, free-floating hydrophytes, rooted hydrophytes, sedges, grasses and trees.

C. free-floating hydrophytes, sedges, phytoplankton, rooted hydrophytes, grasses and trees.

D. phytoplankton, rooted submerged hydrophytes, floating hydrophytes, reed swamp, sedges, meadow and trees.

**Answer: D**



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**15.** The reservoir for the gaseous type of bio-geo chemical cycle exists in

A. Stratosphere

B. atmosphere



C. Ionosphere

D. lithosphere

**Answer: B**



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**16.** If the carbon atoms fixed by producers already have passed through three species, the trophic level of the last species would be.

A. scavenger

B. tertiary producer

C. tertiary consumer

D. secondary consumer

**Answer: C**



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17. Which of the following type of ecosystem is expected in an area where evaporation exceeds precipitation, and mean annual rainfall is below 100 mm ?

- A. Grassland
- B. Shrubby forest
- C. Desert
- D. Mangrove

**Answer: C**



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18. The zone at the edge of a lake or ocean which is alternatively exposed to air and immersed in water is called :

- A. Pelagic zone
- B. Benthic zone

C. Lentic one

D. Littoral zone

**Answer: D**



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**19. Edaphic factor refers to :**

A. Water

B. Soil

C. Relative humidity

D. Altitude

**Answer: B**



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20. Which of the following is an ecosystem service provided by a natural ecosystem ?

A. Cycling of nutrients

B. Prevention of soil erosion

C. Pollutant absorption and reduction of the threat of global warming

D. All of the above

**Answer: D**



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## Section E Solution Of Ncert Exemplar Very Short Answer Type Questions Vsqs

1. Name an organism found as secondary carnivore in an aquatic ecosystem.



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2. What does the base tier of the ecological pyramid represent ?



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3. Under what conditions would a particular stage in the process of succession revert back to an earlier stage ?



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4. Arrange the following as observed in vertical stratification of a forest :

Grass, Shrubby plants, Teak, Amaranths.



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5. Name an omnivore which occurs in both grazing food chain and the decomposer food chain.



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6. Justify the pitcher plant as a producer.



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7. Name any two organisms which can occupy more than one trophic level in an ecosystem.



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8. In the North East region of India, during the process of jhum cultivation, forests are cleared by burning and left for regrowth after a

year of cultivation. How would you explain the regrowth of forest in ecological term ?

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9. Climax stage is achieved quickly in secondary succession as compared to primary succession. Why?

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10. Among bryophytes, lichens and fern which one is a pioneer species in a xeroc succession ?

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11. What is the ultimate source of energy for the ecosystems?

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12. Is the common edible mushroom an autotroph or a heterotroph ?



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13. Why are oceans least productive ?



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14. Why is the rate of assimilation of energy at the herbivore level called secondary productivity ?



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15. Why are nutrient cycles in nature called biogeochemical cycles ?



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16. Give any two examples of xerarch succession.

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17. Define self sustainability.

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18. Given below is a figure of an ecosystem.



(i) What type of ecosystem is shown in the figure.

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19. Given below is a figure of an ecosystem.



Name any plant that is characteristic of such ecosystem.

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## Section E Solution Of Ncert Exemplar Short Answer Type Questions

1. What is common to earthworm, mushroom, soil mites and dung beetle in an ecosystem.

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2. Organisms at a higher trophic level have less energy available.

Comment

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3. The number of trophic levels in an ecosystem are limited. Comment

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4. Is an aquarium a complete ecosystem?

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5. What could be the reason for the faster rate of decomposition in the tropics?

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6. Human activities interface with carbon cycle. List any two such activities.

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7. Flow of energy through various trophic levels in an ecosystem is unidirectional and non-cyclic. Explain.

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8. Apart from plants and animals, microbes form a permanent biotic component in an ecosystem. While plants have been referred to as autotrophs and animals as heterotrophs, what are microbes referred to as ? How do the microbes fulfil their energy requirements ?

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9. Poaching of tiger is a burning issue in today's world. What implication would this activity have on the functioning of the ecosystem of which the tigers are an integral part ?



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10. The meaning of protecting tiger means we save Jungle Tiger (higher carnivore of food chain it can not live where trees or herbivores are available. It hunts and in return keeps safe food and water for them.



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11. Primary productivity varies from ecosystem to ecosystem. Explain ?



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12. Sometimes due to biotic/abiotic factor the climax remain in a particular seral stage (pre climax without reaching climax. Do you agree with this statement. If yes give a suitable example.



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13. What is an incomplete ecosystem ? Explain with the help of suitable example.



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14. What are the shortcomings of ecological pyramids in the study of ecosystem?



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15. How do you distinguish between humification and mineralization ?





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**16.** The rate of decomposition of detritus is affected by the abiotic factors like availability of oxygen, pH of the soil substratum, temperature etc.

Discuss.



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## Section E Solution Of Ncert Exemplar Long Answer Type Questions

**1.** A farmer harvests his crop and expresses his harvest in three different ways.

(a) I have harvested 10 quintals of wheat.

(b) I have harvested 10 quintals of wheat today in one acre of land.

I have harvested 10 quintals of wheat in one acre of land, 6 months after sowing.

Do the above statements mean one and the same thing. If your answer is

yes, give reasons. And if your answer is 'no' explain the meaning of each expression.

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2. Justify the following statement in terms of ecosystem dynamics.  
"Nature tends to increase the gross primary productivity, while man tends to increase the net primary productivity".

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3. Which of the following ecosystems will be more productive in terms of primary productivity ? Justify your answer. A young forest, a natural old forest, a shallow polluted lake, alpine meadow.

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4. Given below is a list of autotrophs and heterotrophs. With your knowledge about food chain, establish various linkages between the organisms on the principle of 'eating and being eaten'. What is this inter-linkage established known as ?

Algae, hydrilla, grasshopper, rat, squirrel, crow, maize plant, deer, rabbit, lizard, wolf, snake, peacock, phytoplankton, crustaceans, whale, tiger, lion, sparrow, duck, crane, cockroach, spider, toad, fish, leopard, elephant, goat, nymphae, spirogyra.

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5. "The energy flow in the ecosystem follows the second law of thermodynamics." Explain.

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6. What will happen to an ecosystem if :

(a) All producers are removed,

(b) All organisms of herbivore level are eliminated, and

(c) All top carnivore population is removed

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7. Give two examples of artificial or man made ecosystems. List the salient features by which they differ from natural ecosystems.

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8. The biodiversity increases when one moves from the pioneer to the climax stage. What could be the explanation ?

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9. What will be the P/R ratio of a climax community and a pioneer community. What explanation could you offer for the changes seen in P/R ratio of a pioneer community and the climax community.



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## Section F Multiple Choice Questions Mcqs

1. Into what solar energy is transformed by photosynthesis.

- A. Free energy
- B. Physical energy
- C. Chemical energy
- D. None of the above

**Answer: C**



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2. With what is biotic components related to ?

- A. gases produced by industry

B. soils

C. All living organisms

D. fossil fuel

**Answer: C**



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3. Herbivores organisms of which trophic level receive energy from the producers ?

A. 1st

B. 2nd

C. 3rd

D. None of the above

**Answer: B**



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4. Insectivores plants are included in .....

- A. producers
- B. consumers
- C. A and B both
- D. none of above

**Answer: C**



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5. The process by which earthworm breaks down complex organic matter is .....

- A. Decomposition
- B. Mineralization
- C. Fragmentation

D. None of the above

**Answer: A**



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6. From where energy is obtained in grazing food chain ?

A. Sunlight

B. Water

C. Organic matter present in it

D. All of the above

**Answer: A**



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7. A frog eats insects it is a .....

- A. Primary consumer
- B. Secondary consumer
- C. Tertiary consumers
- D. Decomposer

**Answer: B**

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8. Chemical energy which is used as food by consumer organisms, in which it is released in atmosphere?

- A. Bio energy
- B. Release energy
- C. Heat
- D. Physical energy

**Answer: C**

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9. The productivity of which region is medium ?

- A. Forest area
- B. Desert
- C. Aquatic habitat
- D. Grass region

**Answer: D**

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10. The transport of minerals, by various biotic and abiotic components is called as what?

- A. Carbon cycle
- B. Geo-chemical cycle



C. Bio-geo chemical cycle

D. Chemical cycle

**Answer: C**



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**11. Which of the following is a sedimentary cycle ?**

A. Sulphur cycle

B. Nitrogen cycle

C. Oxygen cycle

D. Carbon cycle

**Answer: A**



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12. Which of the following is known as "storehouse of carbon" ?

A. atmosphere

B. ocean

C. pond

D. none of the above

**Answer: B**



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13. In which of the following is phosphorus a main component ?

A. Biotic membranes

B. Nucleic acid

C. Cellular energy

D. All of the given

**Answer: D**



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**14.** Due to which of the following reasons the rate of releasing  $CO_2$  is increased ?

- A. Combustion/burning of fossil fuel
- B. Rapid deforestation
- C. Forest fire
- D. All of the given

**Answer: D**



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**15.** At which of the following places is primary succession observed ?

- A. Cold lava
- B. Open rock
- C. Newly formed pond
- D. All of the given

**Answer: D**

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**16.** What is not included in ecological pyramids ?

- A. producers
- B. detritus
- C. tertiary consumers
- D. B and C both

**Answer: D**

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17. Which of the following has never inverted pyramid ?

- A. Number
- B. Size/Volume
- C. Energy
- D. Biomass

**Answer: C**



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18. A person who is eating vegetable is .....

- A. Primary productivity
- B. Primary consumer
- C. Secondary consumer

D. Tertiary consumer

**Answer: B**



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**19.** The species that invade a bare area is .....

A. Angiospermic plant

B. Hydrophyte

C. Pioneer species

D. Climax Species

**Answer: C**



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**20.** Number pyramid in ecosystem of pond is .....

- A. inverted
- B. upright
- C. irregular
- D. spindle shaped

**Answer: B**

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**21. Due to what rate of decomposition seen high in nature ?**

- A. Moisture less environment
- B. Less temperature
- C. Moistured environment
- D. Aneacrobiosis

**Answer: C**

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22. Which of these is not a example of aquatic ecosystem?

A. Pond

B. River

C. Estuary

D. Desert

**Answer: D**



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23. Which of these is a man-made ecosystem ?

A. Crop field

B. Aquarium

C. Wetland



D. Both (A) and (B)

**Answer: D**



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24. Which of the following occupy top vertical strata of forest ecosystem ?

A. Shrubs

B. Herbs and grasses

C. Phytoplanktons

D. Tree

**Answer: D**



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25. Pond is a

- A. Shallow fresh water body
- B. Deep fresh water body
- C. Shallow marine water body
- D. Deep marine water body

**Answer: A**



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26. Which of the following have only unidirectional flow?

- A. Carbon
- B. Energy
- C. Nitrogen
- D. Sulphur

**Answer: B**



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**27.** At the bottom of ponds decomposers found are

- A. Fungi
- B. Bacteria
- C. Flagellates
- D. All of these

**Answer: D**



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**28.** Following are the terrestrial ecosystem except

- A. Forest

B. Wetland

C. Grassland

D. Desert

**Answer: B**



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**29. Unit of primary production is**

A.  $g/m^2$

B.  $(kcal/m^2)yr^{-1}$

C. Both (A) and (B)

D. none of these

**Answer: B**



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30. NPP is equals to

- A.  $GPP + R$
- B.  $GPP - R$
- C.  $GPP - R$
- D.  $GPP \div R$

**Answer: B**



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31. GPP means

- A. Gross public partnership
- B. Gross primary production
- C. Gross producer production
- D. Gross plant production

**Answer: B**



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**32.** Primary productivity depends upon which of the following?

- A. Environmental factor
- B. Photosynthetic capacity of plant
- C. Availability of nutrients
- D. All of the above

**Answer: D**



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**33.** The annual NPP of the whole biosphere is how much billion tons of organic matter?

A. 120

B. 170

C. 210

D. 150

**Answer: B**



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**34.** What is the percentage of primary productivity of oceans ?

A. 50 %

B. 90 %

C. 32 %

D. 70 %

**Answer: C**



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35. Earthworm help in

- A. Breakdown of complex organic matter
- B. Loosening of soil
- C. Both (A) and (B)
- D. None of these

**Answer: C**



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36. Oceans occupy ..... % of the surface of earth but productivity of oceans are ..... billion tons.

- A. 70, 45
- B. 60,55
- C. 70,55



D. 60,65

**Answer: C**



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37. An ecological pyramid of biomass is a representation of the ecosystem.

- A. Total dry weight at particular trophic level.
- B. Biological material in relation to abiotic material
- C. Energy flow through each trophic level
- D. Population in each food web

**Answer: A**



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38. Which of the following biomes has deepest and richest soil

- A. Tropical rain forest
- B. Temperate deciduous forest
- C. Tall grass prairie
- D. Tundra

**Answer: C**



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39. The concept of "trophic structure of a community emphasizes the

- A. Prevalent form of vegetation
- B. Keystone predator
- C. Feeding relationship within community
- D. Effects of coevolution

**Answer: C**



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**40.** A sequence of species through which the organic molecules in a community pass is called

- A. Food chain
- B. Food web
- C. Nutrient cycle
- D. Food cycle

**Answer: A**



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**41.** Biomes distribution corresponds roughly with regional variations in

- A. Climate
- B. Topography
- C. Soils
- D. All of these

**Answer: D**

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**42. Which is not a characteristic of tundra ?**

- A. Vast coniferous forest
- B. Permafrost
- C. Large number of water fall during summers
- D. Broad range of temperature

**Answer: C**

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43. For any ecosystem the amount of energy present in the \_\_\_\_ level is greater than that present in any other trophic level.

- A. Top consumer
- B. Saprophytes
- C. Producers
- D. Carnivores

**Answer: C**



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44. Ecosystem having least primary productivity per square meter

- A. Marshy area
- B. Tropical forest
- C. Open ocean

D. Grass land

**Answer: B**



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**45.** A natural food web

- A. Contains only grazing food chains
- B. Contains several trophic levels
- C. Is usually unstable
- D. All of the above

**Answer: C**



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**46.** Which is not consumer ?

- A. Omnivore
- B. Herbivore
- C. Producer
- D. Detritivore

**Answer: C**

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**47.** Energy flow in the ecosystem begins with

- A. Omnivores
- B. Herbivores
- C. Autotroph
- D. Decomposer

**Answer: C**

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48. Decomposition is favoured by

- A. Warm and moist environment
- B. Rich amount of nitrogen and water soluble substance like sugar in detritus
- C. Aerobic environment
- D. All the above

**Answer: D**



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49. What is the main source of energy for all ecosystem on earth ?

- A. Sun
- B. Volcano



C. Deep sea hydro-thermal system

D. Moon

**Answer: D**



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50. Humus is degraded by some microbes and release of inorganic nutrients, occur by the process known as

A. Fragmentation

B. Leaching

C. Mineralization

D. Humification

**Answer: D**



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51. Rate of decomposition process is decreased by

- A. Aerobic environment
- B. Rich amount of lignin chitin in detritus
- C. Warm and humid environment
- D. All of these

**Answer: B**



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52. Detritus contains

- A. Dead plant remains
- B. Dead animal remains
- C. Fecal matter
- D. All of these

**Answer: D**



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**53.** PAR (Photosynthetically active radiation) from incident solar radiation is

A. 50 %

B. 20 %

C. 90 %

D. 10 %

**Answer: A**



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**54.** Plant capture how much of PAR ?

A. 2 – 10 %

B. 10 – 20 %

C. 30 %

D. 90 %

**Answer: A**



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**55.** In a terrestrial ecosystem major producers are `

A. Herbs B. Woody plants

C. Shrubs D. Vallisneria

A. A & B

B. A & C

C. A, B, & C

D. B only

**Answer: C**



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**56.** Is a primary consumer

A. Grass

B. Goat

C. Tiger

D. Man

**Answer: B**



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**57.** Which of these is a common herbivores in aquatic ecosystem ?

A. Insect

B. Birds

C. Molluscus

D. Mammals

**Answer: C**



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**58.** Detritus food chain begins with

A. Dead Organic matter

B. Fungi

C. Bacteria

D. Plant

**Answer: A**



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59. Decomposers shows

- A. Intracellular digestion
- B. Extracellular digestion
- C. Both (A) & (B)
- D. No digestion at all

**Answer: B**



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60. Main decomposers are

- A. Bacteria & fungus
- B. Earthworm
- C. Flagellated protozoans
- D. Flagellated diatoms

**Answer: A**



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**61.** Herbivores are

- A. Producers
- B. Primary consumers
- C. Secondary consumers
- D. Tertiary consumers

**Answer: B**



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**62.** Measures of biomass is generally done in terms of

- A. Fresh weight



B. Dry weight

C. Ash

D. Numbers of organism

**Answer: B**



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**63.** Pyramid is always upright in

A. Pyramid of number

B. Pyramid of energy

C. Pyramid of biomass

D. All of the above

**Answer: B**



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64. An inverted pyramid of biomass is seen in

- A. Forest ecosystem
- B. Grassland ecosystem
- C. Aquatic ecosystem
- D. Desert

**Answer: C**



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65. Orderly and sequential changes in communities, parallel with the changes in the physical environment is known as

- A. Ecological succession
- B. Extinction
- C. Divergent evolution
- D. Convergent evolution

**Answer: A**



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**66.** If a succession occurs on bare rock, it is known as

- A. Primary succession
- B. Newly cooled lava
- C. Newly created pond
- D. All of the above

**Answer: A**



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**67.** The entire sequence of communities that successively change in a given area are called :

A. Sere

B. Evolution

C. Endemismu

D. Climax community

**Answer: A**



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**68.** The species invading an area in secondary succession depends upon

A. Soil condition

B. Water availability

C. Seed or propagules present

D. All of the above

**Answer: D**



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69. Climax will be faster in which of the following succession ?

- A. Succession on bare rock
- B. Succession on burnt forest
- C. Succession on newly cooled lava
- D. All of the above

**Answer: B**



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70. Standing state

- A. Amount of inorganic nutrient
- B. Circulates between living and Non-living component
- C. Both A & B

D. None of the above

**Answer: C**



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71. Is not a gaseous type of nutrient cycle

A. Nitrogen

B. Phosphorus

C. Carbon

D. Oxygen

**Answer: B**



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72. What percentage of the dry weight of an organism does carbon constitute ?

A. 70 %

B. 90 %

C. 40 %

D. 49 %

**Answer: D**



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73. What percentage of global carbon does the atmosphere contains ?

A. 30 %

B. 19 %

C. 21 %

D. 1 %

**Answer: D**



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**74.** Nutrient cycle is also known as

- A. Hatch-slack pathway
- B. Calvin cycle
- C. Kreb's cycle
- D. Biogeochemical cycle

**Answer: D**



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**75.** Human activities mainly influence the

- A. Carbon cycle



B. Nitrogen cycle

C. Phosphorus cycle

D. Sulphur cycle

**Answer: A**



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**76.** How much carbon is fixed approximately in biosphere annually through photosynthesis ?

A.  $4 \times 10^{13} \text{ kg}$

B.  $4 \times 10^{10} \text{ kg}$

C.  $4 \times 10^8 \text{ kg}$

D.  $4 \times 10^{20} \text{ kg}$

**Answer: A**



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77. What price tag did Robert Constanza put for fundamental ecosystem services ?

A. 33 trillion US `

77. What price tag did Robert Constanza put for fundamental ecosystem services ?

A.

B. 22 trillion US `

77. What price tag did Robert Constanza put for fundamental ecosystem services ?

A. 33 trillion US `

77. What price tag did Robert Constanza put for fundamental ecosystem services

?

A.

B.

C. 11 trillion US `

77. What price tag did Robert  
Constanza put for  
fundamental ecosystem  
services ?

A. 33 trillion US `

77. What price tag  
did Robert  
Constanza put for  
fundamental  
ecosystem services  
?

A.

B. 22 trillion US `

77. What

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A. 33

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A.

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D. 44

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