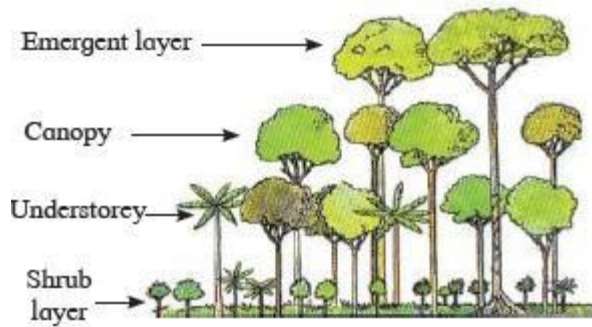


## 14. Ecosystems and Energy Flow

1) The element \_\_\_\_\_ is a part of sea water, rocks, coal, atmosphere as well as all living things.

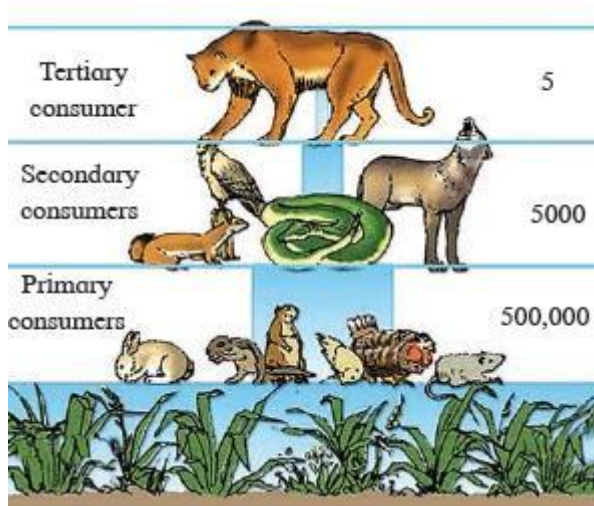
- (a) Carbon      (b) Calcium  
(c) Potassium    (d) Phosphorus

2) What does the following figure represent?



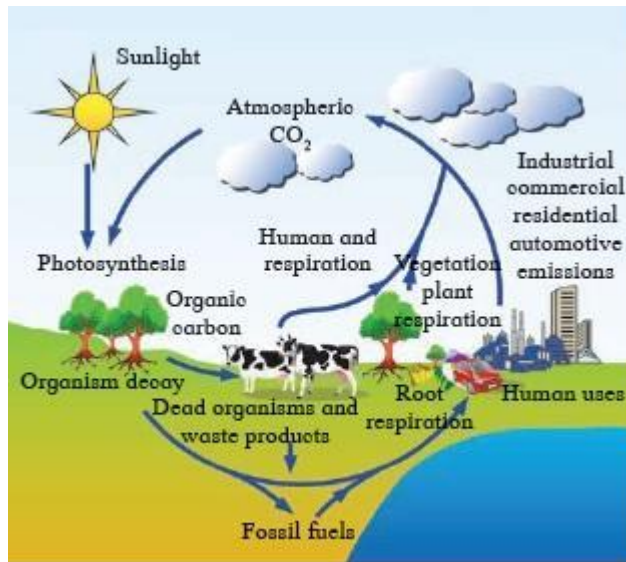
- (a) Food web      (b) Zonation  
(c) Stratification    (d) Decomposition

3) Fill the blank space in the mentioned figure.



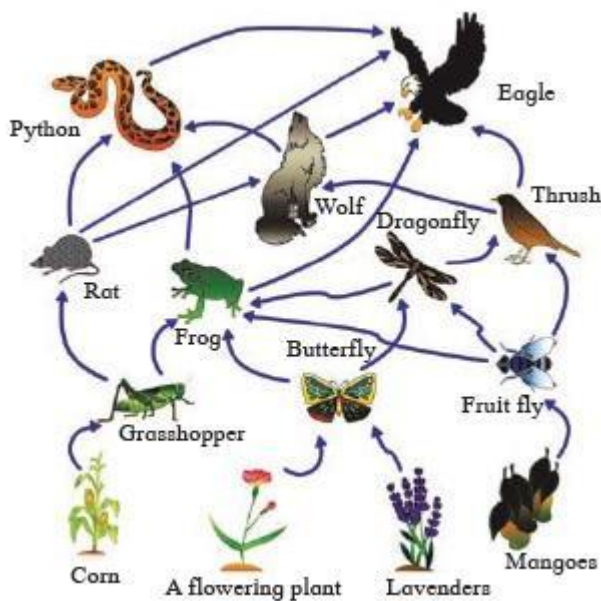
- (a) secondary consumers      (b) Producers  
(c) Decomposers              (d) Detritus

4) Name the nutrient cycle.



- (a) phosphorus cycle    (b) carbon cycle  
(c) nitrogen cycle        (d) water cycle

5) The diagram represents a \_\_\_\_\_.



- (a) Food chain    (b) Ecosystem  
(c) Food web     (d) Pyramid

6) \_\_\_\_\_ remains stable as long as the environment remains unchanged.

- (a) Pioneer species  
(b) Secondary succession  
(c) Climax community  
(d) Ecosystem services

7) In \_\_\_\_\_ of aquatic habitat small phytoplankton are replaced with time by rooted submerged plants.

- (a) Primary succession  
(b) Secondary succession  
(c) Eutrophication

- (d) Decomposition
- 8) In \_\_\_\_\_ the species that invade depend on the condition of the soil, availability of water and the environment.  
(a) Primary succession  
(b) Secondary succession  
(c) Climax community  
(d) Ecosystem services
- 9) Which of the following is most often a limiting factor of the primary productivity in any ecosystem.  
(a) Carbon              (b) Nitrogen  
(c) Phosphorus        (d) Sulphur
- 10) Forest, grassland and desert are the types of \_\_\_\_\_ ecosystems.  
(a) Natural        (b) Aquatic  
(c) Terrestrial    (d) Artificial
- 11) Vertical distribution of different species of plants and animals occupying different levels is known as \_\_\_\_\_  
(a) Spatial pattern    (b) Canopy  
(c) Stratification     (d) Zonation
- 12) Find the odd one out from the below mentioned names.  
Pyramid of biomass, saprotrophs, omnivores, decomposers, producers  
(a) Pyramid of biomass    (b) Omnivores  
(c) Decomposers            (d) Producers
- 13) Amount of accumulated energy per unit area is called as \_\_\_\_\_.  
(a) Energy pyramid    (b) biomass pyramid  
(c) number pyramid    (d) ecological pyramid
- 14) Which of the following statements is NOT true about ecological pyramid?  
(a) Pyramid of energy is always upright  
(b) There are three types of ecological pyramids.  
(c) Ecological pyramid is not a graphical representation.  
(d) There are certain limitations of ecological pyramids.
- 15) \_\_\_\_\_ is an example which is a primary consumer as well as a secondary consumer.  
(a) lion            (b) Sparrow  
(c) deer          (d) Elephant
- 16) \_\_\_\_\_ is a graphic representation of the relationship between the organisms of various successive trophic levels with respect to energy biomass and number.  
(a) Food chain            (b) Food web  
(c) Ecological pyramid    (d) Nutrient cycles
- 17) \_\_\_\_\_ is the breakdown of dead organic material and mineralization of the dead matter.  
(a) Productivity        (b) Nutrient cycling  
(c) Decomposition    (d) Catabolism
- 18) \_\_\_\_\_ is a process in which water-soluble inorganic nutrient go down into the soil horizon and get precipitated as unavailable salts.  
(a) Decomposition    (b) Leaching

- (c) Zonation                      (d) stratification

19) Match the terms in Column 1 with those in column 2.

Column 1	Column 2
A. Herbivores	1. Stratification and Zonation
B. Earthworm	2. Deer and rabbit
C. Spatial pattern	3. Lakes and rivers
D. Aquatic ecosystem	4. Decomposers

- (a) A-3, B- 2, C- 1, D-4  
 (b) A-2, B-4, C-1, D- 3  
 (c) A-4, B- 2, C- 1, D-3  
 (d) A-3, B- 1, C- 2, D-4

20) \_\_\_\_\_ and \_\_\_\_\_ occur during decomposition process.

- (a) Humification and mineralization  
 (b) Catabolism and leaching  
 (c) precipitation and production  
 (d) stratification and zonation

21) \_\_\_\_\_ begins in areas where natural biotic communities have been destroyed.

- (a) Primary succession  
 (b) Secondary succession  
 (c) Eutrophication  
 (d) Invasion

22) Match the terms in Column 1 with those in column 2.

Column 1	Column 2
A. Climax community	1. Consider both abiotic and biotic factors
B. Ecological succession	2. Does not evolve further.
C. Multidimensional niche	3. Succession of plants
D. Hydrarch	4. The gradual and predictable change

- (a) A-3, B- 2, C- 1, D-4  
 (b) A-2, B-4, C-1, D- 3  
 (c) A-4, B- 2, C- 1, D-3  
 (d) A-3, B- 1, C- 2, D-4

23) Eutrophication is due to overgrowth of \_\_\_\_\_ in water.

- (a) Fungi                      (b) Algae  
 (c) Pollutant                (d) Plants

24) Which statement is correct with respect to the Nutrient cycle?

- (a) There are two types of nutrient cycles.  
 (b) The movement of nutrient elements are not included in nutrient cycle.

- (c) Gases like nitrogen and carbon are not included in nutrient cycle.
- (d) Nitrogen is the main component of all the organic compounds of protoplasm.

**25)** The movement of nutrient elements through the various components of an ecosystem is called as \_\_\_\_\_.

- (a) Succession      (b) Nutrient cycle
- (c) Food web      (d) Trophic level

**26)** \_\_\_\_\_ is an example of saprotrophs.

- (a) Tiger      (b) Human
- (c) Bacteria      (d) Deer

**27)** Grazing, detritus and parasitic are three different types of \_\_\_\_\_ in an ecosystem.

- (a) Food chains      (b) Producers
- (c) Consumers      (d) Food web

**28)** \_\_\_\_\_ cycle is a process where carbon compounds are interchanged among the biosphere.

- (a) Carbon cycle      (b) Nutrient cycle
- (c) Food web      (d) Phosphorus cycle

**29)** Ecosystem services are of \_\_\_\_\_ types.

- (a) 2      (b) 4      (c) 3      (d) 5

**30)** \_\_\_\_\_ include carbon sequestration, predation, waste decomposition and detoxification.

- (a) Provisioning services
- (b) Cultural services
- (c) Regulating services
- (d) Supporting services

**31)** \_\_\_\_\_ include cultural, spiritual and historical recreational experience.

- (a) Cultural services
- (b) Provisioning services
- (c) Regulating services
- (d) Supporting services

**32)** \_\_\_\_\_ include services such as nutrient cycling, primary production, soil formation, habitat provision, pollination and maintaining balance of ecosystem.

- (a) Ecosystem services
- (b) Secondary succession
- (c) Regulating services
- (d) Supporting services

**33)** What is the % of photo synthetically active radiation in the incident solar radiation?

- (a) 100%      (b) 50%      (c) 1-5%      (d) 2-10%

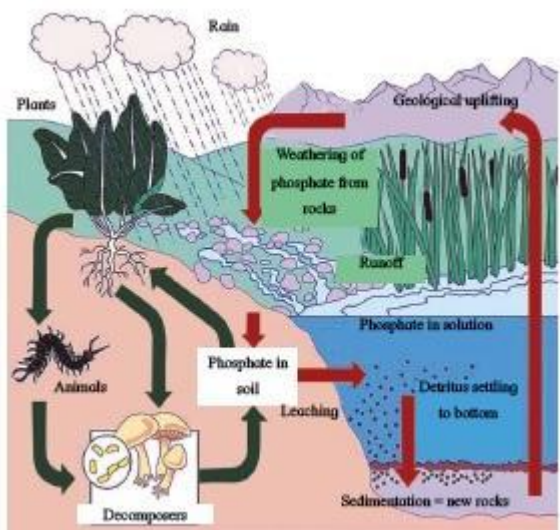
**34)** Give the term used to express a community in its final stage of succession?

- (a) End community      (b) Final community
- (c) Climax community      (d) Dark community

**35)** Secondary consumers are \_\_\_\_\_

- (a) Herbivores      (b) Producers
- (c) Carnivores      (d) Autotrophs

- 36) After landslide which of the following type of succession occurs?  
 (a) Primary (b) Secondary  
 (c) Tertiary (d) Climax
- 37) Which of the following statement is not true about ecosystem.  
 (a) The energy flow is bidirectional.  
 (b) The process of productivity involves conversion of inorganic chemicals into organic material  
 (c) Decomposition is the breakdown of dead organic material.  
 (d) Nutrient cycling is the storage and transport of nutrients
- 38) Which one of the following has the largest population in a food chain?  
 (a) Producers  
 (b) primary consumers  
 (c) secondary consumers  
 (d) decomposers
- 39) The second trophic level in a lake is \_\_\_\_\_.  
 (a) Phytoplankton (b) Zooplankton  
 (c) Benthos (d) Fishes
- 40) Horizontal distribution of plants and animals on land is called \_\_\_\_\_.  
 (a) Energy flow (b) Zonation  
 (c) Decomposition (d) Productivity
- 41) \_\_\_\_\_ expressed as mass per unit surface per unit time.  
 (a) productivity (b) Energy flow  
 (c) succession (d) community
- 42) \_\_\_\_\_ is the building block of life and form stable bonds with other elements necessary for life.  
 (a) Carbon (b) Oxygen  
 (c) Nitrogen (d) Phosphorus
- 43) \_\_\_\_\_ succession takes place in wetter areas and the successional series progress from hydric to the mesic condition.  
 (a) Hydrarch (b) Secondary  
 (c) Climax (d) Primary
- 44) The figure represents \_\_\_\_\_ cycle.



- (a) Phosphorus cycle      (b) Carbon cycle
- (c) Nitrogen cycle        (d) Water cycle

----- **All the Best** -----

## **14. Ecosystems and Energy Flow Keys**

- 1) Ans. (a)**
- 2) Ans. (c)**
- 3) Ans. (a)**
- 4) Ans. (b)**
- 5) Ans. (c)**
- 6) Ans. (c)**
- 7) Ans. (a)**
- 8) Ans. (b)**
- 9) Ans. (a)**
- 10) Ans. (c)**
- 11) Ans. (c)**
- 12) Ans. (a)**
- 13) Ans. (a)**
- 14) Ans. (c)**
- 15) Ans. (b)**
- 16) Ans. (c)**
- 17) Ans. (c)**
- 18) Ans. (b)**
- 19) Ans. (b)**
- 20) Ans. (a)**
- 21) Ans. (b)**
- 22) Ans. (b)**
- 23) Ans. (b)**
- 24) Ans. (a)**
- 25) Ans. (b)**
- 26) Ans. (c)**



**27)** Ans. (a)

**28)** Ans. (a)

**29)** Ans. (b)

**30)** Ans. (c)

**31)** Ans. (a)

**32)** Ans. (d)

**33)** Ans. (b)

**34)** Ans. (b)

**35)** Ans. (c)

**36)** Ans. (b)

**37)** Ans. (a)

**38)** Ans. (d)

**39)** Ans. (b)

**40)** Ans. (b)

**41)** Ans. (a)

**42)** Ans. (a)

**43)** Ans. (a)

**44)** Ans. (a)