

Topic :- Ecosystem

- 1 **(a)**
A biotic components includes the non-living physico-chemical factors of the environment. These components not only affect the distribution and structure of organisms but also their behavior and inter-relationships. Abiotic factors include inorganic substances, organic compounds, climatic factors and edaphic factors
- 2 **(c)**
The shape of pyramid of energy is always upright as energy always decreases at each successive level (*i.e.*, from producers to consumers).
- 3 **(b)**
Organic remains (dead plant parts, animal remains and excretions) are also called detritus. A food chain, which begins with detritus or dead organic matter is called detritus food chain. The energy passes into decomposers and detrivores, then to smaller carnivores, then to larger carnivores and so on.
- 4 **(c)**
The rate of total capture of energy or the rate of total production of organic material is **gross primary productivity**, while the balance or biomass remaining after meeting the cost of respiration of producers is net primary productivity. Hence, gross productivity has highest value in grassland ecosystem.
- 5 **(a)**
Ecosystem is an open system. It receive input in the form of solar energy and matter. It results in productivity or synthesis of organic food. Food

- with its contained energy passes through various components of ecosystem
- 6 **(b)**
Phosphorus and sulphur.
In sedimentary cycle, the main reservoirs are soil and rocks, *e.g.*, sulphur cycle, phosphorus cycle, etc.
- 7 **(d)**
Tropical rain forests (tropical dense forests) occur near the equator where rainfall and temperature are very high.
- 8 **(b)**
In a lake, there are littoral zone, limnetic zone and profundal zone. In limnetic zone, the producers are mainly phytoplanktonic algae which are diatoms, green algae and blue green algae. In profundal zone, the organisms mainly depend for their food on the littoral and limnetic zone.
- 9 **(b)**
A-10%, B-Lindeman, C-1942
- 10 **(b)**
The process of 'humification' can occur naturally in soil or in the production of compost. It leads to accumulation of dark amorphous substance called humus
- 11 **(b)**
Total energy fixed by an ecosystem is called gross production
- 12 **(b)**
Detritivores feed on and breakdown the dead plants and animal matter, returning essential nutrients to the ecosystem. Detritivores includes microorganisms such as bacteria and protists as well as larger organisms such as fungi, insects, worms and isopod crustaceans
- 13 **(c)**
All the animals that depend for food on plants are called consumers. *Consumers are divided into the following categories*
Primary consumers Animals which feed directly on plants, *i.e.*, herbivores
Secondary consumers Consumers that feed on primary consumers, *i.e.*, carnivores

Tertiary consumers Consumers that feed on secondary consumers. Grazers is one of the category of consumers

- 15 **(d)**
Nitrogen and carbon cycle.
In sedimentary cycle, the main reservoirs are soil and rocks, *e.g.*, sulphur cycle, phosphorus cycle, etc.
- 17 **(a)**
Producers
- 18 **(b)**
The zone of transition between two different communities presenting a situation of overlapping is known as **ecotone**.
- 19 **(d)**
The major functions of an ecosystem includes
(i) Productivity (ii) Decomposition
(iii) Energy flow (iv) Nutrient cycling

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	A	C	B	C	A	B	D	B	B	B
Q.	11	12	13	14	15	16	17	18	19	20
A.	B	B	C	A	D	B	A	B	D	C