

**Topic :- Ecosystem**

- 1 **(d)**  
Human activities like deforestation and massive burning of fossil fuel for energy and transport have significantly increased the rate of release of CO<sub>2</sub> into the atmosphere
- 2 **(b)**  
In gaseous cycles, the main reservoirs of chemical are the atmosphere and ocean, *e.g.*, carbon cycle, nitrogen cycle, oxygen cycle, etc.
- 3 **(d)**  
Producers constitute the first trophic level or base of a food chain. Producers are autotrophic organisms, which alone are able to manufacture organic food from inorganic raw materials in the process of photosynthesis
- 4 **(a)**  
Stability is the power of a system to be in their state against unfavourable factor. Resilience is the capability of regaining its original shape or position after being deformed. Hence, it has low stability and high resilience.
- 5 **(a)**  
Productivity of tropical rainforest is highest. The tropical rain forest covering 300,000 km<sup>2</sup> area. They contain more than 50% of total flora and fauna of the world.
- 6 **(a)**  
In a pond ecosystem, **producers** include phytoplankton (*e.g.*, diatoms, *Chlorella*, *Spirogyra*, *Chlamydomonas*, etc), free floating macrophytes (*e.g.*, *Lemna*, *Azolla*), suspended macrophytes (*e.g.*, *Utricularia*, *Hydrilla*), submerged plants (*Vallisneria*), floating leaved

plants (*e.g.*, *Nelumbo*), emergent plants (*Sagittaria*) etc.

7 (c)

Both (a) and (b).

An ecosystem may be defined as a structural and functional unit of the biosphere, comprising living organisms and their non-living environment that interact by means of food chains and chemical cycles resulting in energy flow, biotic diversity and material cycling to form a stable, self-supporting system

8 (a)

Population of two or more species, whose geographical ranges or distribution coincide or overlap are known as **sympatric species**.

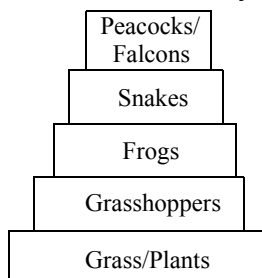
**Allopatric species** occupy different vertical zones in the same geographical area.

**Parapatric species** do not overlap but continuous, *i.e.*, touch each other.

Ring species are characterized by circular or looped geographical distribution.

9 (b)

In a grassland ecosystem, a larger number of grass plants or herbs support a fewer number of grasshoppers that support a still smaller number of frogs, the latter still smaller number of snakes and the snakes very few peacocks or falcons



10 (c)

Buried or cut forest already has soil humus and some vegetation (underground stems). So in buried or cut forest, succession is easy and is completed

11 (a)

Each trophic level has a certain mass of living material at a particular time called the standing crop. The standing crop is measured as the biomass of living organisms (biomass), as the number in a unit area

12 **(b)**

We know that plant only utilise 1-2% of total energy incident on earth. In the given dustion 100000 Kcal/m<sup>2</sup>/yr solar radiation is incident on earth. So plant producer utilize 1% of 100000 kcal m<sup>2</sup>/yr and that 1% is

$$= \frac{100000 \times 1}{100} = 1000 \text{ kcal/m}^2/\text{yr}$$

And from produces to the next level only 10% will goes, so  $\frac{1000 \times 10}{100} = 100 \text{ kcal/m}^2/\text{yr}$  will be transferred to primary consumer which is called secondary production

14 **(b)**

By the process of leaching, water-soluble inorganic nutrients go down into the soil horizon and get precipitated as unavailable salts

15 **(a)**

Climate.

Climax community is the stable, self perpetuating and final biotic community that develops at the end of biotic succession and is in perfect harmony with the physical environment. It is also termed as climatic climax community

16 **(a)**

A population consists of organisms of a particular species and has characteristics like natality, mortality, age structure growth dynamics, etc. When several populations share a common habitat and its resources, they interact among themselves and develop into a biotic community. Hence, community is a larger unit than a population.

17 **(d)**

The end result of decomposition is the production of dark brown, smelling, humus rich organic matter and inorganic substance like carbon dioxide, water and nutrients

18 (a)

In sedimentary cycle, the main reservoirs are soil and rocks, *e.g.*, sulphur cycle, phosphorus cycle, etc.

19 (c)

A certain mass of living material at each trophic level of an ecosystem at a particular time is called **standing crop**. The standing crop is measured as the mass of living organisms (biomass) or the number in a unit area.

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

PE