DPP
DAILY PRACTICE PROBLEMS

Class : XIIth
Date :

Solutions

Subject : BIOLOGY
DPP No. : 4

# Topic :- Ecosystem

1 **(d)**
In successive seral stages, there is not only a change in the species diversity of organisms present but there is also an increase in the number of species. Succession of plants and animals communities occurs side by side

2 **(a)**
Nitrogen cycle.
In gaseous cycles, the main reservoirs of chemical are the atmosphere and ocean, *e.g.*, carbon cycle, nitrogen cycle, oxygen cycle, etc.

3 **(d)**
(i) Deserts have the lowest primary productivity as the soil is deficient in moisture
(ii) Some plants have more efficiency to trap sunlight (sugar cane), so they accumulate more primary productivity
(iii) Productivity is maximum in the coral reefs because they grow in areas having good light, enough warm water and abundant nutrients

4 **(a)**
Pyramid of energy is a picture of rates of passage of food mass through the food chain. It is **always upright**, as in most of the cases there is always a gradual decrease in the energy content at successive trophy levels.

5 **(d)**
In a food chain a plant is primary producer. Producers are autotrophic organisms, which alone are able to manufacture organic food from inorganic raw materials in the process of photosynthesis

6 **(b)**
The highest primary productivity in terms of per unit area is of estuaries > Swamps and marrhes >Tropical rair forest > Temperate forest whicle in terms of average would net primary. Production is of opern ocean > Tropical rain forest > Temperate rainforest > Sauanna > Nothern coniferous forest

7 **(c)**
Great barrier reef along the North-eastern Australia is an ecosystem. It is about 2000 km long and up to 150 km from shore.

8 **(a)**
A much less fraction of energy flows through grazing food chain in ecosystem terrestrial. Energy for the food chain comes from the sun. Food chain adds energy into the ecosystem

9 **(a)**

Rain is required for higher primary productivity. Desert have the lowest primary productivity as the soil is deficient in moisture

10 **(c)**

The ultimate source of entire energy used by living things in an ecosystem is sunlight. Solar energy received by an ecosystem depends on the latitude, slope, cloud cover, air pollutants, etc.

11 **(d)**

Climax community is the stable, self perpetuating and final biotic.

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

12 **(b)**

Stratification involves vertical changes, within the community. Stratification in a forest community (especially tropical forests) is most complicated, where as many as five vertical sub-divisions may be recognized, *i.e.,* subterranean sub-division, forest floor, herbaceous vegetation, shrubs and trees.

14 **(c)**

Only 10% of the herbivore productivity is utilised for raising productivity of primary carnivores. The rest is consumed in ingestion, respiration, maintenance of body heat and retain only 10% of energy present in primary carnivores. It is called 10% law which was proposed by Lindeman, 1942

15 **(a)**

Ecological succession is directional because succession proced in a direction and periodical.

Primary succession is a biotic succession that occurs on a previously sterile or primarily bare area, *e.g*., newly exposed sea floor igneous rocks, sand dunes, new cooled lava sediment, etc.

16 **(c)**

At 40° North and South, the heat gain through insolation approximately equals to the heat loss through terrestrial radiation.

17 **(d)**

Herbivores (plant-eating animals) are depends upon producers (plant) so, rabbits are herbivores

19 **(b)**

Pyramid of number is used to know how many organisms are present at each level of a food chain

20 **(c)**

For food, light and space, the greatest competition is between two closely related species of same niche. Struggle for existence (competition) may be intraspecific (*i.e.*, between individuals of the same species), interspecific (*i.e.,* between different species) and extra

specific (*i.e.*, between individual and its environment).

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