DPP
DAILY PRACTICE PROBLEMS

Class : XIIth
Date :

Solutions

Subject : BIOLOGY
DPP No. : 10

Topic :- Ecosystem

1 **(b)**
Productivity is maximum in the because they grow in areas having good light and abundant nutrients

2 **(b)**
In primary succession in water the pioneer species are small phytoplanktons, *e.g.*, diatoms, green flagellates, single-celled colonial or filamentous green algae

3 **(b)**
The amount of living matter present in an ecosystem is known as biomass. It is upright in case of tree, which supports a large number of birds and inverted in a pond where a large fish feeds upon a large number of phytoplanktons

4 **(c)**
A-Respiration, B-Photosynthesis, C-Respiration, D-Combustion of fossil fuels, E-Aquatic food chain, F-Coal, oil

5 **(b)**
Biomes are the major terrestrial ecosystems or distinctive terrestrial areas with their group of climax plants and associated animals It is the largest terrestrial community.

6 **(d)**
In the sedimentary cycle, the reservoir for the nutrient elements is in the sediments of the earth. Elements, such as phosphorus, sulphur, potassium and calcium have sedimentary cycle

7 **(a)**
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

8 **(c)**

Dried plant parts such as leaves bark, flower, etc., and dead remains of animals including faecal matter drop over the soil, constitute the above ground detritus and litter fall

9 **(b)**

Top carnivore (trophic level-IV or tertiary consumer)

↑

Primary carnivore (trophic level-III or secondary consumer)

↑

Herbivore (trophic level-II or primary consumer)

↑

Producers (trophic level-I)

10 **(d)**

The atmosphere carbon dioxide is virtually the only source of carbon. The main pathway of carbon in carbon cycle in from the air (atmosphere) and water (hydrosere) into the living systems and back

The atmospheric input of carbon from rainfall is greater. Carbon gas is exchanged between organism and atmosphere during respiration

11 **(a)**

Ecological pyramid is the graphic representation of the interaction of food chain and the size metabolism relationship between the lineally arranged various biotic components of an ecosystem. The concept of pyramid was proposed by **Charles Elton.**

12 **(a)**

Psammosere – Sequence of successional stages on sand

Lithosere – Sequence of successional stages on a bare rock

Hydrosere – The various stage of biotic succession

taking place in water body are collectively termed as hydrosere

Xerosere – The series of development stages of biotic succession is an arid area is termed as xerosere

13 **(a)**

An ecosystem is the basic functional ecological unit in which living organisms interact among themselves and with their surrounding physical environment

15 **(d)**

Net primary production.

Net primary productivity is the weight of the organic matter stored by the producers in a unit area/volume for unit time. It is given by NPP = GPP – R (Gross Primary Productivity) where, R = Respiration losses. It is utilised by hetertrophs

16 **(b)**

Decomposers or the microconsumers (bacteria and fungi) are also called as saprobes or saprophytes. They breakdown the complex organic substances of dead plants and animals to release most of inorganic substances back into the environment for their reuse by the producers

17 **(d)**

Ecological pyramids are the graphical representation of the trophic structure and function at successive trophic levels. Ecological pyramids are of three general types, listed as under

(i) **Pyramid of number**, showing the number of organisms at each level.

(ii) **Pyramid of biomass**, showing the total dry weight of living organisms.

(iii) **Pyramid of energy**, showing the rate of energy flow/productivity at successive trophic levels.

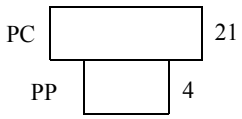
Thus, fresh weight is not used for the construction of ecological pyramids.

18 **(a)**

During weathering of rocks, minute amount of phosphates dissolve in soil solution and are absorbed by plants through roots

19 **(b)**

Pyramid of biomass is inverted in a pond, where a large number of zooplanktons eats upon a large number of phytoplanktons



Inverted pyramid of biomass where a small standing crop of phytoplanktons supports large standing crop of zooplanktons

20 **(a)**

Pyramids of number in grassland ecosystem.
The pyramid of numbers deal with the number of primary producers and consumers. It is upright in a grassland and inverted in a tree ecosystem. In a grassland the number of producers is more than the number of top carnivores, whereas in case of a tree, the number of producers is less as compared to consumers

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