

## DPP

DAILY PRACTICE PROBLEMS

Class : XII<sup>th</sup>

Date :

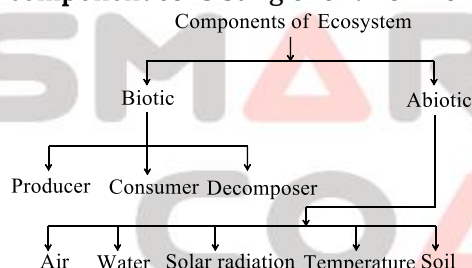
### Solutions

Subject : BIOLOGY

DPP No. : 2

### Topic :- Ecosystem

- 1 (b)  
Sun.  
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
- 2 (d)  
Free energy is the portion of a system's energy that can perform work when temperature is uniform throughout the system as in a living cell.  
Enthalpy is the total energy including usable energy and unusable energy.
- 3 (a)  
Xerarch succession is plant succession which takes place in dry area leading to a successional series from xeric to mesic conditions
- 4 (c)  
Living organisms.  
The components of an ecosystem may be divided into two main types, *i.e.*, **Biotic component** comprising the various kinds of living organisms and **Abiotic component** consisting of environmental factors



- 5 (a)  
*Prosopis* is a tree found in scrub.  
*Saccharum officinarum* is grass, which is cultivated.  
*Shorea robusta* (sal) is tree found in moist tropical forests. *Acacia catechu* is tree found in dry deciduous forests.
- 6 (b)  
A-Top carnivore, B-Detritus, C-Frog
- 7 (a)  
Some workers differentiate into two more categories of living beings amongst the biotic components of an ecosystem. These are detritivores and parasites.



Parasites belong to diverse groups, *e. g.*, bacteria, fungi, protozoans, worms, etc. Every type of living being can be attacked by parasites. Detrivores or scavengers are animals which feed on dead bodies of other organisms, *e. g.*, termites, carrion beetles. They are helpful in quick disposal of the dead bodies

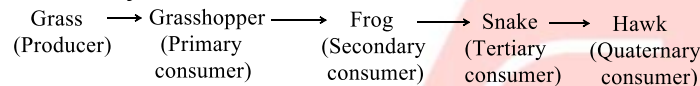
- 8 (d)  
Phosphorus.  
In sedimentary cycle, the main reservoirs are soil and rocks, *e. g.*, sulphur cycle, phosphorus cycle, etc.
- 9 (c)  
Pyramid of energy represents amount of energy trapped per unit area and time in different trophic levels of a food chain. It is always upright.
- 10 (b)  
The rate of synthesis of energy containing organic matter by any trophic level per unit area in unit time is described its productivity. It is measured as weight (*e. g.*,  $\text{g}/\text{m}^2/\text{yr}$ ) or energy (*e. g.*,  $\text{kcal}/\text{m}^2/\text{yr}$ ). The amount of energy accumulation in green plants as biomass or organic matter per unit area over a time period through the process of photosynthesis is known as primary productivity. Primary productivity is expressed in term of weight ( $\text{g}^{-2}$ ) or energy ( $\text{kcal m}^{-2}$ ).  $\text{C}_4$ - plants are more productive than  $\text{C}_3$  plants. Sugar cane is most productive crop being efficient in trapping light
- 11 (c)  
The number of trophic levels in the food chain is restricted as the transfer of energy follows 10% law. This law states that only 10% of the energy is transferred to next trophic level from the lower trophic level
- 12 (a)  
In a terrestrial ecosystem, plants grow by manufacturing food from carbon dioxide of air and water and minerals of soil with the help of chlorophyll and sunlight. Plants, thus, act as the producer on land. In a pond, phytoplankton (rooted and floating plants) synthesise food materials from dissolved nutrients by photosynthesis. They, thus, act as the producers. Consumers are not producers. They eat (consume) producers
- 13 (d)  
In both hydric and xerarch succession ultimately lead to mesarch conditions. The pioneer species on bare rock is always lichen
- 14 (b)  
Phytoplanktons are the producers in ocean's ecosystem.
- 15 (c)  
An inverted pyramid of biomass may occasionally be



observed in marine communities

- 16 (b) Vertical distribution of different species occupying different levels is called stratification. For example, in forest ecosystem, trees occupies the top vertical strata, shrubs occupies the second and herbs, grasses occupies the bottom layer. It is not a functional unit of an ecosystem
- 17 (b) In a pond ecosystem, fishes occupy the more than one trophic levels.
- 18 (d) Humus is dark coloured amorphous substance rich in lignin and cellulose
- 19 (a) Maximum energy is found in first trophic level ( $T_1$ ) i. e., produces.
- 20 (b)

Secondary consumer



### ANSWER-KEY

<b>Q.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>A.</b>	<b>B</b>	<b>D</b>	<b>A</b>	<b>C</b>	<b>A</b>	<b>B</b>	<b>A</b>	<b>D</b>	<b>C</b>	<b>B</b>
<b>Q.</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>A.</b>	<b>C</b>	<b>A</b>	<b>D</b>	<b>B</b>	<b>C</b>	<b>B</b>	<b>B</b>	<b>D</b>	<b>A</b>	<b>B</b>