**Chapter 1: Nutrition in plants**

**Que1: MCQ**

1. **4**
2. **2**
3. **1**
4. **2**
5. **2**
6. **1**

**Que2. True or False**

1. **False**
2. **False**
3. **True**
4. **True**
5. **False**

**Que3. Rewrite the statements correctly by changing the underlined words**

1. **Roots**
2. **Chlorophyll**
3. **Glucose**
4. **Sunlight**
5. **Lichen**
6. **Heterotrophic**

**Que4. Give two examples of each of the following**

1. **Coleus ‘**

**Que 5. Very short answer type question**

1. **Name the process by which green plants prepare their food.**

**Ans:** The process by which green plants prepare their food is Photosynthesis.

1. **What type of plant is Cuscuta?**

**Ans:** Cuscuta is a parasitic plant.

1. **What are the plants which eat insects called?**

**Ans:** The plants which eat insects are called insectivorous plants.

1. **What combines to form Lichen?**

**Ans:** Fungus and green alga live in association with each other to form Lichen.

**Que6. S hort answer type question**

1. **Define nutrition.**

**Ans:**  The process by which an organism takes in food ,uses it for its growth and utilizes it to perform various other vital activities is called nutrition.

1. **Why cannot non-green plants make their own food?**

**Ans:** Non-green plants cannot make their own food because they lack pigment chlorophyll, which is necessary for photosynthesis.

1. **Why does a farmer add manure or fertilizer to the soil?**

**Ans:**  Plants absorb nutrients from soil and makes the soil deficient in nutrients. It takes a long time to replenish them naturally. So, farmers add manure or fertilizer to the soil to replenish the soil nutrients artificially.

1. **How does a pitcher plant trap insects?**

**Ans**: In pitcher plant, the leaves are modified into pitcher like structure, which is lined with downward pointing hair, that do not allow the trapped insect to escape. The trapped insect is entangled in the hair and is digested by digestive juices secreted by the cells of pitcher plant.

**Que 7. Long answer type question**

1. **Distinguish between autotrophic and heterotrophic nutrition.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Autotrophic Nutrition** |  | **Heterotrophic Nutrition** |
| **1** | The mode of nutrition in which living organisms prepare their own food is called autotrophic nutrition. | **1** | The mode of nutrition in which living organisms cannot prepare their own food and depend on green plants directly or indirectly for their nutrition is called heterotrophic nutrition. |
| **2** | Chlorophyll is required | **2** | Chlorophyll is not required |
| **3** | All green plants and some bacteria have this type of nutrition | **3** | All animals and fungi have this type of nutrition |
| **4** | Food is generally prepared in day time | **4** | Food can be obtained any time |

1. **Differentiate between parasites and saprophytes.**

**Ans**:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Parasites |  | Saprophytes |
| 1. | The plants that depend on other plants for their food are called parasitic plants | 1. | The plants that feed on dead and decaying organic matter are called saprophytes. |
| 2 | Parasites attach to the host plant and gets ready made food from it. | 2 | Saprophytes secrete digestive juice on dead and decaying matter, converts them into solution and absorbs nutrients from them. |
| 3 | It shows intracellular digestion | 3 | It shows extracellular digestion |
| 4 | It causes harm to the living organism | 4 | It does not depend on living host |
| 5 | Ex: Cuscuta(dodder), Mistletoe | 5 | Ex: Yeasts, moulds, mushroom |

1. **What are insectivorous plants? Explain any two of them.**

**Ans**: The plants which eat small insects, spiders etc are called insectivorous plants.

**Examples:**

1. In **pitcher plant**, the leaves are modified into pitcher like structure, which is lined with downward pointing hair, that do not allow the trapped insect to escape. The trapped insect is entangled in the hair and is digested by digestive juices secreted by the cells of pitcher plant.
2. In **Venus flytrap** the leaves are modified into a trap which have short, stiff hair inside it. When an insect comes in contact with these hairs, the two lobes of leaves gets closed and insect gets trapped inside it which is then digested with the help of digestive juices present in it.
3. **Lists the benefits of photosynthesis.**

**Ans**: 1. Photosynthesis enables green plants to prepare their own food.

2. Animals depends on plants for food directly or indirectly

3. It produces oxygen, which is necessary for survival of all living organisms.

4. Plants takes CO2 and releases O2 .Thus, it maintains balance of O2 and CO2 in nature.

1. **What are essential factors for photosynthesis?**

**Ans**: Essential factors for photosynthesis are:

1. **Carbon di oxide(CO2­):** It is essential for photosynthesis. It enters the leaves through stomata.
2. **Water (H2O):** Water is essential for photosynthesis. Plants absorb it from roots and it reaches leaves through xylem tissue.
3. **Sunlight:**  Sunlight is required for photosynthesis. In its absence photosynthesis do not takes place.
4. **Chlorophyll:**  This is the pigment that traps sunlight. Hence, it is essential for photosynthesis.
5. **What is symbiotic relation? Explain with an example.**

**Ans**: The plants which live in association with other plants and share shelter and nutrients, thereby mutually benefitting from each other are called Symbiotic plants. Such relationship is termed as Symbiosis.

Ex: **Lichen** are the organisms in which fungus and green alga live in association with each other. The fungus gets nutrients from alga and in turn alga gets water, minerals and shelter from fungus.