

Vidya Bhawan Balika Vidyapeeth Lakhisarai

Arun Kumar Gupta

Class 11th

Sub. Biology

Date:- 02.09.20

Kingdom Plantae

1. Eukaryotic, chlorophyll bearing organism.
2. Life cycle is divided into diploid saprophytic and haploid gametophytic, which alternate with each other.
3. Kingdom Plantae includes **Algae, Bryophytes, Pteridophytes, Gymnosperms** and **Angiosperms**.

Kingdom Animalia

1. Heterotrophic, eukaryotic organisms that are multicellular and cell wall is absent in the cell.
2. Mode of nutrition is holozoic and reserve food is glycogen or fats.
3. Sexual reproduction is by copulation between male and female followed by embryological development.

Virus, Viroids and Lichens

Five kingdom system of classification do not includes Virus, Viroids and Lichens.

- Viruses are non-cellular organisms having inert crystalline structure outside the living. When they enter the living cell, they take over the machinery of living cell to replicate themselves.
- D.J.Ivanowsky recognized certain microbes as causal organism of mosaic disease of tobacco.
- In addition to proteins, viruses also contain genetic material that could be DNA or RNA. In general, virus that infect plants have single stranded RNA and virus that infect animals have double stranded DNA.
- Some common diseases caused by virus are common cold, influenza, AIDS, small pox, leaf rolling and curling.
- Bacteria feeding virus are called Bacteriophage.They are usually double stranded DNA viruses.
- The protein coat called capsid is made of small subunits called capsomeres, protects the nucleic acid. These capsomeres are arranged in helical or polyhedral geometric forms.

- Viroids are discovered by **T.O.Diener** as new infectious agent smaller than virus causing potato spindle tuber disease. They are free RNA without protein coat.

Lichens are symbiotic association between algae and fungi. The algal part is called **Phycobiont** and fungal parts are called **Mycobiont**. They are good pollution indicator as they do not grow in polluted area.