

2. Classical Genetics

Learning Objectives

The Learner will be able to

- ❖ Differentiate classical and modern genetics.
- ❖ Understand the concepts of principles of inheritance.
- ❖ Describe the extensions of Mendelism.
- ❖ Explain polygenic inheritance and Pleiotropy.
- ❖ Analyze extra chromosomal inheritance in cytoplasmic organelles

Key Points and Notes

- ❖ Genetics – The Science of heredity (Inheritance) - “Genetics” is the branch of biological science which deals with the mechanism of transmission of characters from parents to off springs. The term **Genetics** was introduced by **W. Bateson** in 1906.
- ❖ Heredity is the transmission of characters from parents to off springs.
- ❖ The organisms belonging to the same natural population or species that shows a difference in the characteristics is called variation.
- ❖ Genes – Functional Units of inheritance: The basic unit of heredity (biological information) which transmits biochemical, anatomical and behavioural traits from parents to off springs.