



SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

AN AUTONOMOUS INSTITUTION

Accredited by NAAC – UGC with 'A' Grade

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

Department of Mechanical Engineering

19BY701 - BIOLOGY FOR ENGINEERS

UNIT -3 | GENETICS AND IMMUNE SYSTEM

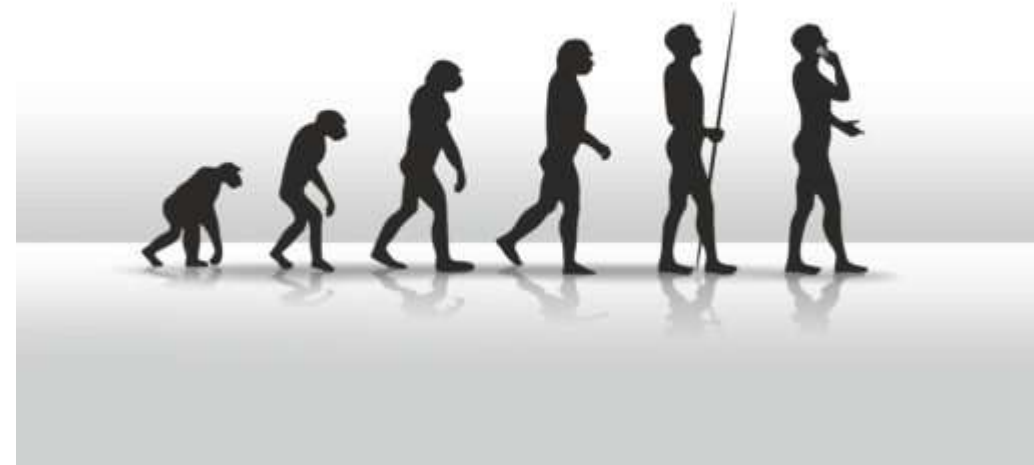
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Ap/Mech

EVOLUTION

- Evolution is **the process by which species adapt over time in response to their changing environment**
- Evolutionary processes give rise to diversity at every biological organization level.
- All life on earth shares a common ancestor known as the last universal ancestor.



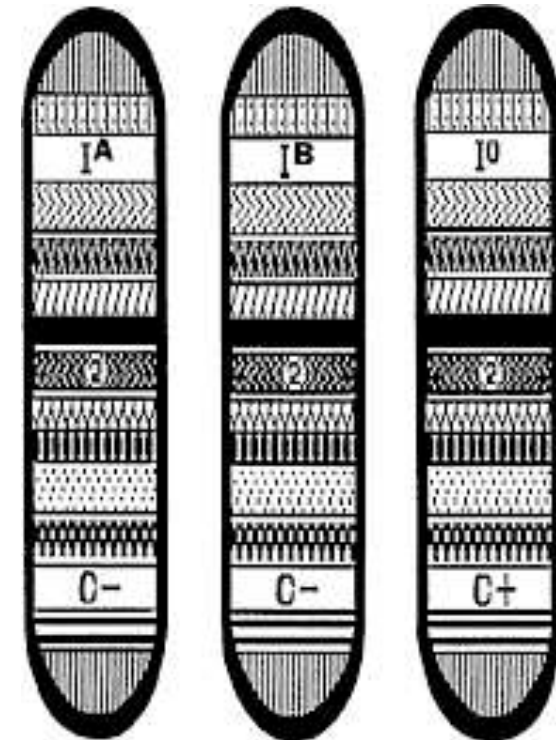
THEORIES OF EVOLUTION

- Darwin and a scientific contemporary of his, Alfred Russel Wallace, proposed that evolution occurs because of a phenomenon called **natural selection**.
- In the theory of natural selection, organisms produce more offspring than are able to survive in their environment.



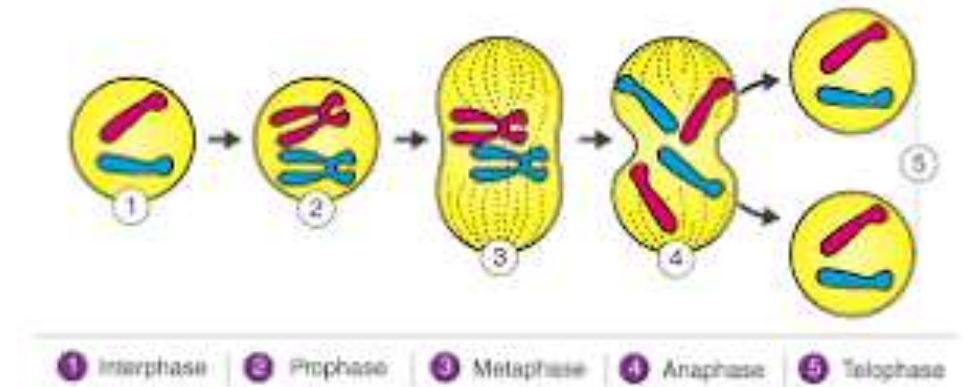
MENDEL'S CELL DIVISION

- We now know that this independent assortment of genes occurs during meiosis in eukaryotes.
- **Meiosis is a type of cell division that reduces the number of chromosomes in a parent cell by half to produce four reproductive cells called gametes.**



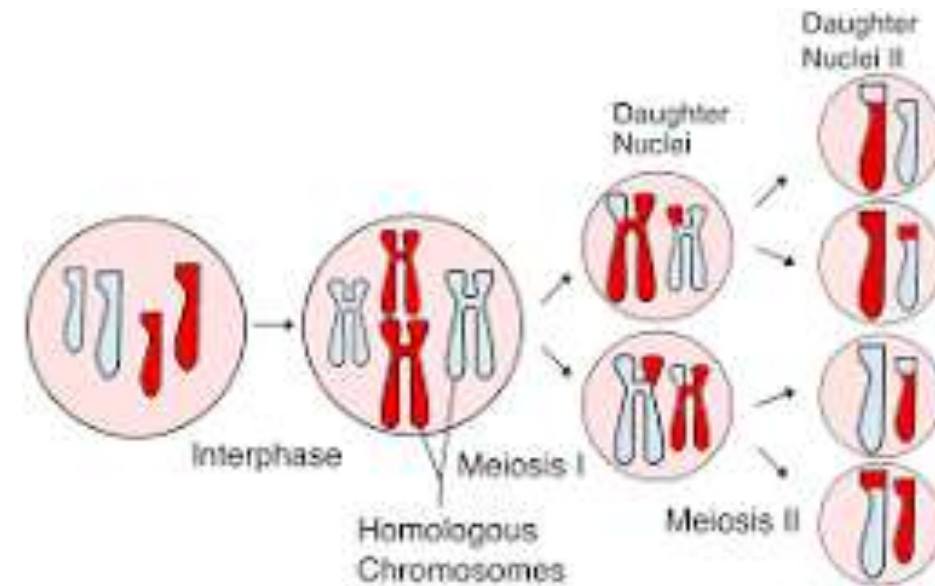
MITOSIS

- Mitosis is a type of cell division in which one cell (the mother) divides to produce two new cells (the daughters) that are genetically identical to itself.
- In the context of the cell cycle, mitosis is the part of the division process in which the DNA of the cell's nucleus is split into two equal sets of chromosomes



MEIOSIS

- Meiosis is a type of cell division that reduces the number of chromosomes in the parent cell by half and produces four gamete cells.
- This process is required to produce egg and sperm cells for sexual reproduction.





ASSESSMENT

Match the Following

1. MITOSIS
 2. MEIOSIS
- a. Reaction which occurs within an organism
 - b. reduces the number of chromosomes in the parent cell