

# Topic: Chromosome; Function

B.Sc. Botany Hons. III

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## Function of Chromosome

- The number of the chromosomes is constant for a particular species. Therefore, these are of great importance in the determination of the phylogeny and taxonomy of the species.
- **Genetic Code Storage:** Chromosome contains the genetic material that is required by the organism to develop and grow.
- DNA molecules are made of chain of units called genes. Genes are those sections of the DNA which code for specific proteins required by the cell for its proper functioning.

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- **Sex Determination:** Humans have 23 pairs of chromosomes out of which one pair is the sex chromosome. Females have two X chromosomes and males have one X and one Y chromosome. The sex of the child is determined by the chromosome passed down by the male. If X chromosome is passed out of XY chromosome, the child will be a female and if a Y chromosome is passed, a male child develops.
  - **Control of Cell Division:** Chromosomes check successful division of cells during the process of mitosis. The chromosomes of the parent cells insure that the correct information is passed on to the daughter cells required by the cell to



grow and develop correctly.

- **Formation of Proteins and Storage:** The chromosomes direct the sequences of proteins formed in our body and also maintain the order of DNA. The proteins are also stored in the coiled structure of the chromosomes. These proteins bound to the DNA help in proper packaging of the DNA.