



Handbook of Genetics & Biotechnology

Revised and Expanded 2nd Edition

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Handbook of Genetics and Biotechnology

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Chapter – 1

Introduction to Genetics and Biotechnology

A Overview

- Genetics is a branch of biology concerned with heredity and variation.
- Genes are the unit of inheritance and are composed of DNA.
- The effects of genes are noticeable at the molecular, cellular, family, and population levels.
- Genes are DNA sequences that instruct cells to produce particular proteins, which in turn determine traits.
- Genes can exist in more than one form and the variants of a gene arise by mutation.
- An allele is a variant of a gene that alters its expression in a detectable way. Alleles can be dominant or recessive.
- A polymorphism is a particular sequence of DNA that varies in one percent or more of the population.
- Single nucleotide polymorphisms are single base pair sites that differ among individuals.
- Chromosomes consist of genes and associated proteins.
- The human genome consists of 22 pairs of autosomes and one pair of sex chromosomes.

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Readership : This revised edition is meant for all those related to biotechnology and genetics.

This book consists of 27 chapters, more than 5000 questions with answers and a glossary covering most of the related technical terms. Each chapter starts with point wise brief of the text followed by MCQ's, fill in the blanks and T/F questions useful and beneficial in JRF, SRF, NET, SET, UG and PG examinations.

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