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the freedom to use, share, and build upon the material for any purpose as long as you give appropriate credit, provide a link to the license, and indicate if changes were made. ===== The book is a modest attempt to make readers conversant with an overview of genetics, providing sufficient information for a comprehensive understanding of genetics and allied disciplines. It aims to offer undergraduate and postgraduate students a rich but concise matter in simple language. The author emphasizes on the fundamental concepts in Genetics which are essential for the proper understanding of this new science. The text is divided into nine parts. Part I deals with classical Genetics or Mendelian Genetics, covering the history of Genetics. Dr. Veer Bala Rastogi has a vast experience of teaching biological sciences for over 45 years and writing books for more than five decades. She has authored many popular books in biology for various educational boards. The book covers a range of topics including Cell Biology, Genetics, Molecular Biology, Environmental Biology, Developmental Biology, Invertebrates and Vertebrates. The author brings a new functional approach to the study of evolution. Dr. Rastogi was conferred the 'Distinguished Author Award' 2012 by the Federation of Educational Publishers in India. The updated textbook now covers an extensive range of genetic concepts, including inheritance patterns, gene interactions, polygenic inheritance, linkage, crossing over, and chromosome mapping. A new chapter on probability and statistical genetics has been added to provide a solid foundation for understanding complex genetic phenomena. Part II delves into the intricacies of sex determination, sex-linked inheritance, and cytoplasmic inheritance. The subsequent sections focus on microbial genetics (Part III), human genetics (Part IV), physical heredity (Part V), chemical heredity or molecular biology (Part VI), genetic engineering or recombinant DNA technology (Part VII), chromosomal abnormalities (Part VIII), and applied genetics (Part IX). Each chapter is supplemented with illustrative diagrams, practical examples, and unsolved questions to facilitate deeper understanding. The book also includes a comprehensive glossary for quick reference.