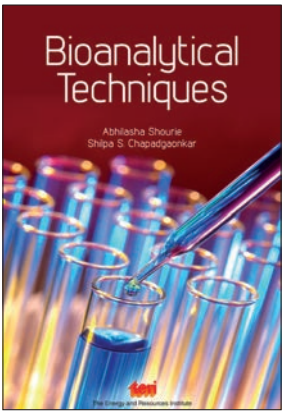
The Energy and Resources Institute

BOOKS ON LIFE SCIENCES

New

Bioanalytical Techniques

Authors: Abhilasha Shourie and Shilpa S Chapadgaonkar

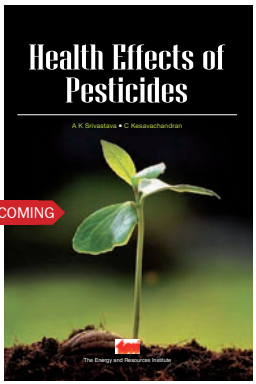


Bioanalytical techniques form an integral part of applied biology and biomedical sciences. The various principles of bioanalytical techniques used in biomedical sciences, environmental studies, life sciences, pharmaceutical analysis, molecular biology, and biotechnological research are comprehensively discussed in this book. Analytical instrumentation is also explained in as concise a manner as possible. Microscopy, centrifugation, chromatography, electrophoresis, spectroscopy, and radioisotope and immunodiagnostic techniques are the main topics focussed in this book. Techniques in molecular biology and recombinant DNA technology have also been described in detail.

Table of contents

• General principles of analytical instrumentation • Solutions and buffers • Microscopy • Cell disruption • Centrifugation • Chromatographic techniques • Electrophoresis • Spectroscopy I • Spectroscopy II • Radioisotope techniques • Immunochemical techniques • Molecular biology techniques

2015 • 411 pages • Paperback • 160mm x 240mm • 9788179935293 • ₹ 395.00



FORTHCOMING

Health Effects of Pesticides

Authors: A K Srivastava and C Kesavachandran

Health Effects of Pesticides covers various aspects of the use of pesticides, their behaviour, degradation, and impacts in the agrarian environment. It focuses on pesticide poisoning incidents and farm practices in developing countries. The health impacts of pesticides, including neurological effects, respiratory effects, and dermal effects are examined. Other repercussions caused as a result of pesticides, including reproductive abnormalities and cancer, are comprehensively discussed. Effects of pesticides on general health and agrarian health surveys have been touched upon.

Table of contents

• Introduction • Concerns about pesticides in the agrarian environment • Pesticide poisoning incidents and farm • Practices in developing countries • Pesticides used in developing countries • Health impacts of pesticides • Agrarian health surveys • Preventive strategies • Conclusion

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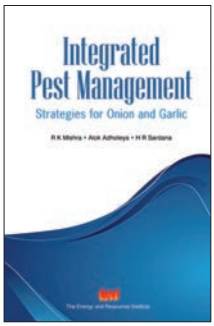


Integrated Pest Management

Strategies for onion and garlic

Authors: R K Mishra, Alok Adholeya, and H R Sardana

Onion (*Allium cepa L.*) and garlic (*Allium sativum L.*) are the most important *Allium* species cultivated worldwide and are used as vegetable and spice in our daily diet. These crops are widely cultivated for domestic consumption as well as for export purposes. They are attacked by many insect pests and diseases, which vary with region, season, and variety. This lowers the quality and yield, thereby increasing the cost of production and reducing the export potential.

Integrated Pest Management: strategies for onion and garlic discusses methods and tools used to minimize the incidence and severity caused by diseases and insect pests. It also focuses on the symptoms of diseases caused by various pathogens.

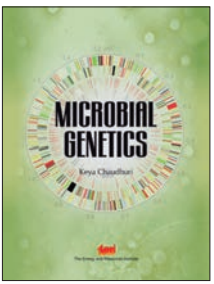
Table of contents

2012 • 88 pages • Paperback • 140mm × 210mm • 9788179934968 • ₹ 395.00

New

Microbial Genetics

Author: Keya Chaudhuri



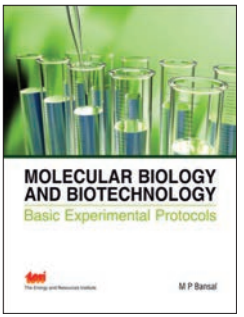
Microbial Genetics focuses on the current state of knowledge on the genetics of bacteria, bacteriophages, and recombinant DNA technology and its applications in a way understandable to the students, teachers, and scientists. The book expounds on the specialized aspects of microbial genetics and technologies, keeping in mind the syllabi of different Indian universities at the post-graduate level. Latest information on microbial genetics has been outlined in the book in a lucid manner.

Key features

- Details of the genetics of bacteria, bacteriophages, and recombinant DNA technology
- Discussion of various areas of microbial genetics
- Analysis of the field of bacterial molecular genetics enhanced by the contribution of a number of researchers

Table of contents

2014 • 568 pages • Paperback • 180mm × 240mm • 9788179933237 • ₹ 550.00



Molecular Biology and Biotechnology

Basic experimental protocols

Author: M P Bansal

Molecular Biology and Biotechnology: basic experimental protocols is a compilation of methods and techniques commonly used in biomedical and biotechnological studies. The book aims to provide ample support to both students and faculty while conducting practical lessons. Four sections are covered in this book—Genomics, Proteomics, Quantitative Biochemistry, and Bioinformatics. A concise introductory note accompanies each protocol/ method for better comprehension. Every topic discussed is supported by actual methods and their expected results, and is accompanied by relevant questions.

Key features

- Ready design of basic experiments in biomedical and biotechnology sciences.
- Extensive coverage of basic equipment used in biomedical and biotechnological studies.
- Concise information on each subject, with focus on practical lessons.

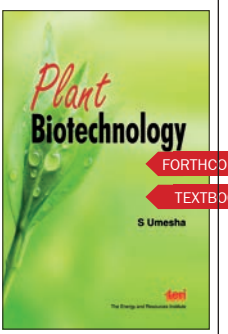
Table of contents

- Section I: Genomics
- Section II: Proteomics
- Section III: Qquantitative biochemistry
- Section IV: Bioinformatics

2013 • 392 pages • Paperback • 180mm × 240mm • 9788179933794 • ₹ 695.00

Plant Biotechnology

Author: S Umesha



FORTHCOMING

TEXTBOOK

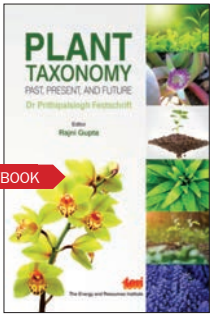
Plant biotechnology is a precise science which allows for the transfer of only one or a few desirable genes. It is through this precise science that plant breeders are able to develop crops with specific beneficial and desirable traits. Thus, plant biotechnology is an important aspect of agriculture.

This book comprehensively covers almost every aspect of plant biotechnology—from tissue culture and its applications to plant transformation technology and molecular marker-aided breeding. It also addresses the most recent advances in this much needed science.

Table of contents

• Tissue culture • Tissue culture applications • Plant transformation technology • Plant genetic engineering for productivity and performance • Molecular marker-aided breeding • Applications of plant biotechnology • Greenhouse and green home technology • Biotechnological applications • Important issues in plant biotechnology

2015 • 383 pages • Hardback • 160mm × 240mm • 9788179935033 • ₹ 795.00



TEXTBOOK

Plant Taxonomy

Past, present, and future

Editor: Rajni Gupta

Plant Taxonomy: past, present, and future contains various contributions from stalwarts in the field of plant taxonomy, which focus on different aspects of this field. Each contribution has been written based on thorough research, and includes recent developments, such as molecular taxonomy and barcoding. Interesting aspects of naming plants, speciation, molecular aspects of plant identification, and e-flora have been dealt with in an elaborate manner. In addition, a chapter is dedicated to the genesis of botanical names and the meaning of the names of plants found in Delhi. This book is a Festschrift brought out in honour of Dr Prithipalsingh on his 65th birthday for his dedication and devotion to this subject for almost 40 years.

Table of contents

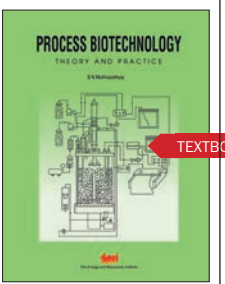
• Ethnobotanical Noah's Ark • Plant nomenclature: an overview • Plants of Delhi: Scientific names and their meaning • Species and speciation • Modern tools for identification of plants • Plant taxonomy in plant genetic resource management • Indigenous knowledge of plants and biopiracy in India • Herbaria and data information systems in plant taxonomy • Phylogenetic systematics • Plant anatomy in relation to taxonomy • Chemotaxonomy • Cytotaxonomy and its evolution of Orchidaceae and Cyperaceae • Palynology: timeline • Role of molecular markers in evaluation of plant diversity • E-flora: the future of floristic documentation

Reprint 2014 • 376 pages • Hardback • 160mm × 240mm • 9788179933596 • ₹ 995.00

Process Biotechnology

Theory and practice

Author: S N Mukhopadhyay



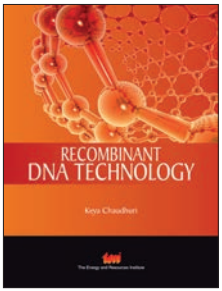
TEXTBOOK

This book covers biological, ecological, chemical, and biochemical engineering topics related to the subject. It provides much needed theory-based solved numerical problems for practice in quantitative evaluation of various parameters relevant to process biotechnology. It will be useful for students who would like to further their careers as biotechnologists and can be used as a self-study text for practicing engineers, biotechnologists, microbiologists, and scientists involved in bioprocessing research and other related fields.

Table of contents

Section I: Background on Life Formation • Prebiotic science of chemicals for life • Biotic chemistry • Cell biology and microbiology • Chemical and biochemical engineering principles • **Section II: Bioprocess Engineering System: Tutorials** • Upstream process biotechnology: solved numerical problems • Enzyme engineering and technology: solved numerical problems • Process recovery and purification: solved numerical problems • Unsolved numerical problems

2012 • 620 pages • Paperback • 180mm × 240mm • 9788179933077 • ₹ 495.00



Recombinant DNA Technology

Author: Keya Chaudhuri

Recombinant DNA Technology focuses on the current state of knowledge on recombinant DNA (rDNA) technology and its applications. The book provides comprehensive information on the principles and concepts of rDNA technology or genetic engineering, protein expression of cloned genes, polymerase chain reaction (PCR) amplification of DNA, restriction fragment length polymorphism (RFLP), amplified fragment length polymorphism (AFLP), DNA fingerprinting, and the most recent siRNA technology. It is useful for post–graduate students and teachers in the areas of molecular biology, biotechnology, genetics, microbiology, life sciences, pharmacy, agriculture, and basic medical sciences.

Key features

- Extensive analysis of restriction endonucleases, sequencing by Sanger's method, and protein production in bacteria
- Detailed description of PCR, RFLP, AFLP, and DNA fingerprinting
- Thorough explanation of site-directed mutagenesis and cloning in cosmid vectors
- In-depth discussion on methods for creating recombinant DNA molecules and construction of DNA libraries
- Concepts and applications of agarose gel and polyacrylamide gel electrophoresis

Table of contents

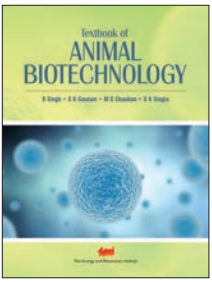
• Recombinant DNA technology • Methods for creating recombinant DNA molecules • Properties of restriction endonucleases • Screening of recombinant DNA molecules • Construction of DNA library • Sequencing by sanger's method • Protein production in bacteria • Site-directed mutagenesis • Restriction fragment length polymorphism • Polymerase chain reaction DNA fingerprinting • RNAi and siRNA technology • Molecular biology methods • Features of commonly used vectors • Isolation and purification of plasmid vectors • Cloning in cosmid vectors • Construction of genomic DNA libraries in cosmid vectors • Enzymes used in molecular cloning • Agarose gel and polyacrylamide gel electrophoresis • Detection and extraction of DNA from gels • Revision questions • Bibliography • Glossary • Colour plates • Index • About the author

Reprint 2015 • 298 pages • Paperback • 180mm × 240mm • 9788179933206 • ₹ 595.00

New

Textbook of Animal Biotechnology

Authors: B Singh, S K Gautam, and M S Chauhan



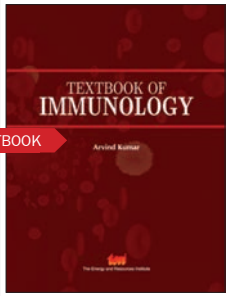
Animal biotechnology is an integral component of agriculture. Supported with over 50 figures and more than 30 tables, this textbook is a must have for undergraduates and postgraduates of various agriculture and animal husbandry academia, teachers, professionals, and researchers in basic as well as applied animal sciences, including biotechnology, nutrition, physiology and reproduction.

The book covers various topics, including economically important livestock breeds, paradigm shifts in livestock production, biotechnology in animal nutrition and in livestock-assisted reproduction, and genomics and genetic engineering tools in livestock production and management.

Table of contents

- Unit 1 Animal cell and tissue culture lab
- Unit 2 Aquaculture
- Unit 3 Animal nutrition
- Unit 4 Assisted reproduction
- Unit 5 Dairy and food processing
- Unit 6 Animal health environment and emerging issues

2015 • 678 pages • Hardback • 180mm × 240mm • 9788179933275 • ₹ 695.00



TEXTBOOK

Textbook of Immunology

Author: Arvind Kumar

The book provides in-depth but concise coverage of all the major topics of immunology in simple and lucid manner. The text of the book is illustrated with simplified well-labelled diagrams and pictures to make the subject easily understandable and interesting to read for students. Extensive cross-referencing between chapters is used to reinforce and broaden the understanding of the core concepts of immunology. This book might be an ideal source of comprehensive, authoritative, and up-to-date information for those who work in the field of immunology.

Key features

- Comprehensive and up-to-date coverage of key concepts in immunology
- Extensive coverage of the composition of the immune system, antigens, and immunogens
- Detailed explanation of antigen and antibody interaction and major histocompatibility complex
- Description of cell mediated immunity and cytotoxicity
- Clear and logical format with easy and accessible information

Table of contents

2013 • 314 pages • Paperback • 180mm × 240mm • 9788179933800 • ₹ 595.00

Other Book on Life Sciences

Biotechnology for Food and Nutritional Security by Vibha Dhawan (ISBN: 9788179930564) Price: Rs.425

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MYCORRHIZA NEWS

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