Introduction To Embryophyta By N S Parihar

For the students of undergraduate and postgraduate students. All the diagrams have been made of several colours making these more attractive. As per the new format of question papers , three types of questions -Essay type, Short answer type and Objective type Questions have been added.

The authors also provide a comparative survey of the properties of genomes (genome size, gene families, synteny, and polymorphism) for prokaryotes as well as the main eukaryotic models.

Plant Hormones: Biosynthesis and Mechanisms of Action is based on research funded by the Chinese government's National Natural Science Foundation of China (NSFC). This book brings a fresh understanding of hormone biology, particularly molecular mechanisms driving plant hormone actions. With growing understanding of hormone biology comes new outlooks on how mankind values and utilizes the built-in potential of plants for improvement of crops in an environmentally friendly and sustainable manner. This book is a comprehensive description of all major plant hormones: how they are synthesized and catabolized; how they are perceived by plant cells; how they trigger signal transduction; how they regulate gene expression; how they regulate plant growth, development and defense responses; and how we measure plant hormones. This is an exciting time for researchers interested in plant hormones. Plants rely on a diverse set of small molecule hormones to regulate every aspect of their biological processes including development, growth, and adaptation. Since the discovery of the first plant hormone auxin, hormones have always been the frontiers of plant biology. Although the physiological functions of most plant hormones have been studied for decades, the last 15 to 20 years have seen a dramatic progress in our understanding of the molecular mechanisms of hormone actions. The publication of the whole genome sequences of the model systems of Arabidopsis and rice, together with the advent of multidisciplinary approaches has opened the door to successful experimentation on plant hormone actions. Offers a comprehensive description of all major plant hormones including the recently discovered strigolactones and several peptide hormones Contains a chapter describing how plant hormones regulate stem cells Offers a fresh understanding of hormone biology, particularly molecular mechanisms driving plant hormone actions Discusses the built-in potential of plants for improvement of crops in an environmentally friendly and sustainable manner

CONTENTS.--v. 1. Indian anthropology, compiled by J. M. Kanitkar.

Although plants comprise more than 90% of all visible life, and land plants and algae collectively make up the most morphologically, physiologically, and ecologically diverse group of organisms on earth, books on evolution instead tend to focus on animals. This organismal bias has led to an incomplete and often erroneous understanding of evolutionary theory. Because plants grow and reproduce differently than animals, they have evolved differently, and generally accepted evolutionary views—as, for example, the standard models of speciation—often fail to hold when applied to them.

Tapping such wide-ranging topics as genetics, gene regulatory networks, phenotype mapping, and multicellularity, as well as paleobotany, Karl J. Niklas's Plant Evolution offers fresh insight into these differences. Following up on his landmark book The Evolutionary Biology of Plants—in which he drew on cutting-edge computer simulations that used plants as models to illuminate key evolutionary theories—Niklas incorporates data from more than a decade of new research in the flourishing field of molecular biology, conveying not only why the study of evolution is so important, but also why the study of plants is essential to our understanding of evolutionary processes. Niklas shows us that investigating the intricacies of plant development, the diversification of early vascular land plants, and larger patterns in plant evolution is not just a botanical pursuit: it is vital to our comprehension of the history of all life on this green planet.
For the last 40 years this book has served well the students of Botany, Agriculture and Forestry for their regular courses like BSc. (General and Hons) and MSc., as well as competitive examinations. It has stood the test of time due to the authors' zeal to update it regularly with inputs from latest developments in the field. Since the last revision of the book, the methods used to study plant embryology have changed radically. Powerful modern biological techniques are now being applied to understand the developmental aspects and genetic and molecular bases of embryological processes. It has become possible to generate tissue specific mutants by T-DNA insertional mutagenesis, use of green fluorescent protein probes for live imaging of growing cells and tissues and to analyze gene expression in few-celled structures, such as early stages of embryo, and constituent cells of the male and female gametophytes. These techniques, combined with the development of high resolution confocal laser scanning microscopy, have provided non-invasive methods to view live processes, such as pollen tube growth in the pistil and double fertilization under in situ conditions. The book has been translated into Japanese and Korean languages. KEY FEATURES • Well established text with content rigorous enough for both UG and PG studies • Covers important topics like development and structure of male and female gametophytes, pollination, fertilization, sexual incompatibility, development of endosperm and embryo, polyembryony, apomixis and seed development • Describes embryology in relation to taxonomy and experimental and applied embryology Use of tables and figures to depict important data and information • Updated as per the new developments in the study of plant embryology

In seiner gelungenen Kombination aus Lehr- und Praktikums- Buch stellt dieser Band die Erg{nzung des fr}her im gleichen Verlag erschienenen Werkes KRYPTOGAMEN: CYANOBAKTERIEN, AL- GEN, PILZE, und FLECHTEN dar. Durch die Einbeziehung der Moose und Farne in diesem Band steht mit beiden B{nden nun eine umfassende Information }ber alle Kryptogamen zur Verf}gung.

The Study Of Bryophytes Is No Longer Confined To Their Morphology, Anatomy, Life-History, And Phylogenetic Considerations. In

Recent Years There Has Been An Increasing Emphasis On Investigations Concerning The Ultrastructure, Reproductive Biology, Ecology, Morphogenesis, Physiology, Biochemistry And Related Aspects Of Bryophytes. These Themes Have Also Rightfully Found Their Place In The Syllabi At All Levels In Most Universities All Over The Globe. However, The Writing Of Texts In This Area Has Lagged Behind. Since The Literature Is Scattered And At Times Not Easy To Reach, There Is An Urgent Need For A Book Which Deals With The Modern Topics Of Bryology. This Volume Is Intended To Fill This Gap. The Authors Have Tried To Make The Compilation Of The Literature As Up-To-Date As Possible, And The References Cited In The Text Have Been Listed At The End Of Each Chapter For Those Interested In More Details. Most Of The Illustrations Have Been Taken From Recent Research Publications And These Have Not Previously Been Included In Any Book As Far As We Aware. Summary Charts And Tables Are Provided At All Appropriate Places.

Includes entries for maps and atlases.

Phylogeography of California examines the evolution of a variety of taxa—ancient and recent, native and migratory—to elucidate evolutionary events both major and minor that shaped the distribution, radiation, and speciation of the biota of California. The book also interprets evolutionary history in a geological context and reviews new and emerging phylogeographic patterns. Focusing on a region that is defined by physical and political boundaries, Kristina A. Schierenbeck provides a phylogeographic survey of California’s diverse flora and fauna according to their major organismal groups. Life history and ecological characteristics, which play prominent roles in the various outcomes for respective clades, are also considered throughout the work. Supporting scholars and researchers who study evolutionary diversification, the book analyzes research that helps assess one of the major challenges in phylogeographic studies: understanding changes in population structures shaped by geological and geographical processes. California is one of only twenty-five acknowledged biological hotspots worldwide, and the phylogeographic history of the state can be extrapolated to study other regions in western North America. Further consideration is given to implications for conservation, recommendations concerning the biogeographic provinces that roughly define the state of California, and predictions related to climate change.

This book is a fascinating overview of one of the first pharmacogenetic traits to be identified as responsible for genetic variation in response to drugs -- the understanding of the arylamine N-acetyltransferases (NATs) is linked to many important therapeutic areas, particularly tuberculosis and also cancer. NATs have been important in the metabolism of established anti-tubercular drugs and also in carcinogenesis and susceptibility to bladder cancer. The reach of these enzymes spans pharmacology and therapeutics as well as toxicology and pharmacogenetics. The NAT genes are encoded in a highly polymorphic region of the human genome which has been explored for fine mapping in molecular anthropological studies. The book takes a wide ranging approach covering all aspects of the arylamine N-acetyltransferases from genetics to the chemistry and structural biology of the enzymes in the organisms in which they are found, from humans to bacteria and fungi where they appear to have distinct roles. The coverage is by experts in the field from across the globe. Contents: Human Arylamine N-acetyltransferases (NATs) Drug

Metabolism & Pharmacogenetics Then and Now Human NAT2: Phenotypic Correlation with Genotype, Clinical Perspective Human NAT2: Genomics for NAT2 Polymorphisms Human NAT1 NAT in Ontogeny NATs in Tissues NATs in Anthropology NATs in Other Eukaryotic Organism NATs in Primates and in Evolution Transgenic Animals Fungal NATs NATs in Prokaryotic Organisms Bacterial NATs Mycobacterial NATs NAT and Diseases Human NAT2 in Cancer Prediction Human NAT1 and Breast Cancer Mycobacterial NATs and Tuberculosis NAT Nomenclature Readership: Biotechnology & pharmaceutical industry professionals, graduate students and researchers in cell biology, biochemistry and genetics; clinicians; senior undergraduates in cell biology, biochemistry and genetics; toxicologists, pharmacologists and those with an interest in drug and xenobiotic metabolism; evolutionary biologists and genetic anthropologists. Keywords: Pharmacogenetics;Toxicity;Cancer;Tuberculosis;Arylamine;Isoniazid;Drug Metabolism;XenobioticsReview: Key Features: The book features all of the key figures in the field of the arylamine N-acetyltransferases and includes scientists from Australia, Canada, France, Germany, Greece, Italy, Jordan, Spain, Switzerland, the United Kingdom, and the United States The treatment including human isoenzymes and also the NAT enzymes from other organisms makes a unique contribution. The coverage is from basic chemistry in identifying NAT substrates and inhibitors to anthropological studies of pharmacogenetics and also studies on fungi where the possibilities for commercial exploitation of these enzymes are ripe for investigation Each chapter is designed to be stand alone as well as fitting into an overall framework

The book covers the entire course on archegoniate plants which is prescribed in the syllabi of different universities for undergraduate students. The presentation is comprehensive and innovative.The book describes different divisions of plant kingdom related to archegoniate plants covering their life cycle, relationship, classification and economic importance. Details of different genera in terms of morphology, anatomy, reproduction and sexuality have been explained with due diagrams. The book also discusses topics like heterospory, seed habit, leaf phylogeny, stellar system, alternation of generations, regeneration in general and special role of germ cells—egg and spore—in life cycle.Experimental studies described in the book highlight the phenomena of apogamy and apospory, their occurrence, induction and alternate role in life cycle. Also given are accounts on micropropagation of gymnosperms and ferns, for commerce and industry.Key Features• Covers Bryophytes, Pteridophytes and Gymnosperms• Loaded with up-to-date information gathered through research results• Supports description through explicit diagrams for clear understanding• Short and to-the-point description so as to cover the entire syllabus within a semester

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Transformative Paleobotany: Papers to Commemorate the Life and Legacy of Thomas N. Taylor features the broadest possible spectrum of topics analyzing the structure, function and evolution of fossil plants, microorganisms, and organismal interactions in fossil ecosystems (e.g., plant paleobiography, paleoecology, early evolution of land plants, fossil fungi and microbial interactions with plants, systematics and phylogeny of major plant and fungal lineages, biostratigraphy, evolution of organismal interactions, ultrastructure, Antarctic paleobotany). The book includes the latest research from top scientists who have made transformative contributions. Sections are richly illustrated, well concepted, and characterize and summarize the most up-to-date understanding of this respective and important field of study. Features electronic supplements, such as photographs, diagrams, tables, flowcharts and links to other websites Includes in-depth illustrations with diagrams, flowcharts and photographic plates (many in color for enhanced utility), tables and graphs

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