Palaeontology P C Jain

Aimed at advanced undergraduates but suitable also for graduate students and professionals, it covers processes of sedimentation, describes the characteristics of sedimentary rocks formed in major sedimentary environments, and discusses the fundamental principles of stratigraphy and basin analysis, including recent developments in the important fields of magnetostratigraphy, seismic stratigraphy, sequence stratigraphy, isotope stratigraphy, and sea-level analysis. The book presents divergent views on controversial topics and is extensively referenced and up-to-date thus encouraging students to refer to recently published literature.

Non-mammalian synapsids were the dominant terrestrial vertebrates from the Late Carboniferous to the Middle Triassic and play a key role in understanding the origin and evolution of mammals. Despite these facts and the outstanding fossil record of the group, early synapsids remain obscure. This book showcases the full breadth of contemporary research on non-mammalian synapsids, ranging from taxonomy and phylogenetics to functional morphology, biogeography, paleoecology, and patterns of diversity. It also underscores the importance and potential of studying non-mammalian synapsid paleobiology in its own right, not just in the context of mammalian evolution.?

Seven original case-studies are presented in this volume, each describing the application of micropaleontology and palynology in applied geology: (1) a study of the modern distribution of coccolith sedimentation in the North Sea and its potential for future application in basin analysis; (2) ostracods are shown to be good paleoenvironmental indicators in the early Cretaceous and Tertiary; (3) a biogenic gas seep in the North Sea is shown to be marked by diagnostic benthonic foraminifera; (4) in the North Sea hydrocarbon exploration, integrated studies of micropaleontology have provided invaluable data; (5) palynofacies analysis are shown to be vital in determining depositional events and hydrocarbon source rock potential; (6) the application of paleontology and sedimentology to sequence stratigraphy is demonstrated in the early Cretaceous; and (7) the application of micropaleontology is shown to be an essential tool in both engineering and economic geology. Most chapters have been prepared by earth scientists from industry. The study of microfossils presented in this book provides invaluable data for stratigraphers, petroleum geologists and for engineers and economic geologists working in hydrocarbon exploration and basin analysis.

New research on the giants of the Age of Dinosaurs.

Vector spaces, matrices, and tensors in physics form an essential part of the mathematical background required by physicists. This book is written primarily as textbook for undergraduate and postgraduate students and as a reference book for working physicists. Special emphasis is given to topics relevant to physics, for example linear independence and dependence of vectors, inner product, orthonormality, matrices as representations of linear transformations on vector spaces, similarity, eigenvalues, eigenvectors, diagonalization of matrices, expressing various physical quantities as tensors, tensorial formulation of vector algebra, calculus and geometry. The role of orthogonal, hermitian and unitary matrices in physics is highlighted.

Explains in a clear and concise manner the factors involved in the description and classification of fossils and the practical applications of paleontologic data

The Handbook for Statistical Genetics is widely regarded as the reference work in the field. However, the field has developed considerably over the past three years. In particular the modeling of genetic networks has advanced considerably via the evolution of microarray analysis. As a consequence the 3rd edition of the handbook contains a much expanded section on Network Modeling, including 5 new chapters covering metabolic networks, graphical modeling and inference and simulation of pedigrees and genealogies. Other chapters new to the 3rd edition include Human Population Genetics, Genome-wide Association Studies, Family-based Association Studies, Pharmacogenetics, Epigenetics, Ethic and Insurance. As with the second Edition, the Handbook includes a glossary of terms, acronyms and abbreviations, and features extensive cross-referencing between the chapters, tying the different areas together. With heavy use of up-to-date examples, real-life case studies and references to web-based resources, this continues to be must-have reference in a vital area of research. Edited by the leading international authorities in the field. David Balding - Department of Epidemiology & Public Health, Imperial College An advisor for our Probability & Statistics series, Professor Balding is also a previous Wiley author, having written Weight-of-Evidence for Forensic DNA Profiles, as well as having edited the two previous editions of HSG. With over 20 years teaching experience, he’s also had dozens of articles published in numerous international journals. Martin Bishop – Head of the Bioinformatics Division at the HGMP Resource Centre As well as the first two editions of HSG, Dr Bishop has edited a number of introductory books on the application of informatics to molecular biology and genetics. He is the Associate Editor of the journal Bioinformatics and Managing Editor of Briefings in Bioinformatics. Chris Cannings – Division of Genomic Medicine, University of Sheffield With over 40 years teaching in the area, Professor Cannings has published over 100 papers and is on the editorial board of many related journals. Co-editor of the two previous editions of HSG, he also authored a book on this topic.

Invertebrate Palaeontology and Evolution is well establishedas the foremost palaeontology text at the undergraduate level. Thisfully revised fourth edition includes a complete update of thesections on evolution and the fossil record, and the evolution ofthe early metazoans. New work on the classification of the major phyla (inparticular brachiopods and molluscs) has been incorporated. The section on trace fossils is extensively rewritten. The author has taken care to involve specialists in the majorgroups, to ensure the taxonomy is as up-to-date and accurate aspossible.

N this book the task of summarising modern petrology I from the genetic standpoint has been attempted. The scale of the work is small as compared with the magni tude of its subject, but it is nevertheless believed that the field has been reasonably covered. In conformity with the genetic viewpoint petrology, as contrasted with petrography, has been emphasised throughout; and purely descriptive mineralogical and petrographical detail has been omitted. Every petrologist who reads this book will recognise the author's indebtedness to Dr. A. Harker and Dr. A. Holmes, among British workers; to Prof. R. A. Daly, Dr. H. S. Washington, and Dr. N. L. Bowen, among American petrologists; and to

Prof. J. H. L. Vogt, Prof. V. M. Goldschmidt, Prof. A. Lacroix, and Prof. P. Niggli. among European investigators. The emphasis laid on modern views, and the relative poverty of references to the works of the older generation of petrologists, does not imply any disrespect of the latter. It is due to recognition of the desirability of affording the petrological student a newer and wider range of reading references than is usually supplied in this class of work; for refer ences tend to become stereotyped as well as text and illustrations. Furthermore it is believed that all that is good and living in the older work has been incorporated, consciously or unconsciously, in the newer.

With reference to India.

This book on EngineeringChemistry has been entirely rewritten in order to make it up-to-date andmodern, both in approach and content. All diagrams have been redrawn or replacedby new ones. To meet the requirements of the latest syllabi of the variousuniversities of India, topics like transition metals, coordination compounds,crystal field theory, gaseous and liquid states, adsorption, flame photometry,fullerenes, composites, mechanism of some typical reactions, oils and fats,soaps and detergents, have been included or expanded upon. A largenumber of solved numerical examples drawn from various university examinationshave been given at the end of theoretical part of each chapter. Questions havebeen drawn from latest examinations of various universities.

Discover how paleontologists dig deep to discover these remains and how they use them to learn more about the plants and animals that once covered the planet. A True Book: Earth Science series presents fascinating facts and fun activities that will engage the budding earth scientist, while exploring the fields of geology, meteorology, ecology, and more. This series includes an age appropriate (grades 3-5) introduction to curriculum-relevant subjects and a robust resource section that encourages independent study. Millions of years ago, Earth was populated by animals unlike any that we know today. The only way to learn anything about these extinct species is to study the remains they have left behind in Earth's rocks and soil.

The first introductory palaeontology text which demonstrates the importance of selected fossil groups in geological and biological studies, particularly in understanding evolutionary patterns, palaeoenvironmental analysis, and stratigraphy. Part one explores several key concepts, such as the processes of fossil preservation, the determination of evolutionary patterns, and use of fossils and statigraphical tools. Part two introduces the main fossil groups of value in these applied fields. Part three concentrates on the examination of important case histories which demonstrate the use of fossils in diverse practical examples. Evolutionary studies, palaeoenvironmental analysis, and stratigraphical applications are documented using up-to-date examples supported by overviews of the principles.

This book recognizes and celebrates the contributions of Professor Ashok Sahni to the field of paleontology. Prof. Sahni established a School of Vertebrate Palaeontology at Panjab University, Chandigarh, India, where he trained many of today’s vertebrate paleontologists of India. The book covers topics on evolutionary patterns, macroevolutionary events, origination and radiation events, changes in physical environments & climate and their implications for biodiversity dynamics, intercontinental affinities and biogeographic connections in a plate tectonic framework. The book begins by exploring India in the age of the dinosaurs, discussing new fossil remains from the Jurassic Era, then moves through the Cretaceous and Eocene to provide a picture on faunal and floral changes in Gondwanaland in the context of plate tectonics. Furthermore, the book explores the evolutionary patterns and biotic dispersals that resulted from the northward drift of Indian plate during the Cretaceous and its collision with Asia in the Eocene. The respective chapters reveal the role of plate tectonics and climate in shaping the geographical distribution of plants and animals in Gondwana, specifically in India, as well as the post-India/Asia collision implications for biodiversity changes and biogeography in the region’s continental environments. Given its scope, the book will appeal to vertebrate paleontologists, evolutionary biologists, and paleobiogeographers.

The planet as seen by its inhabitants In two millenia, our knowledge of the planet and its natural laws and forces has undergone remarkable changes--from the religious belief of earth as the center of the universe to the modern astronomers' view that it is a mere speck in the cosmos. Now a first-of-its-kind reference work charts this remarkable intellectual progression in our evolving perception of the earth by surveying the history of geology, geography, geophysics, oceanography, meteorology, space science, and many other fields. Covers human understanding of the Earth in various times and cultures The Encyclopedia traces our understanding of the earth and its functioning throughout history, summarizing historical explanations of earthly occurrences, including explanations with no scientific basis. It presents the latest facts and theories, explains how our understanding of the earth has evolved, and shows why many outrageous and fanciful earlier ideas were accepted in their time. The coverage explores the physical phenomena that inform our knowledge, starting at the earth's core and extending outward through the mantle, crust, oceans, and atmosphere to the magnetosphere and beyond. Charts the evolution of our perceptions The primary focus of the Encyclopedia is the history of the study of the earth. It also discusses the institutions that advanced and shaped science and probes the interplay between science, practical applications, and social and political forces. The result is a unified historical overview of the earth across a wide canvas of time and place, from antiquity to the space age. Its wide-ranging articles summarize subjects as diverse as geography and imperialism, environmentalism, computers and meteorology, ozone formation theories since 1800, scientific rocketry, the Scopes trial, and much more. Special Features Shows how diverse disciplines, from geology to space science, fit together in a coherent view of the earth * Explains earlier ideas and theories in the context of the beliefs and scientific knowledge of their time * Spotlights important institutions that have shaped the history of science * Explores relationships between science, practical applications, and sociopolitical concerns * Provides a subject index and an index of scientists with birth/death dates

This book provides practical morphological information, together with detailed illustrations and brief explanatory texts. Each chapter starts with a brief introduction, and goes on to describe the respective organism’s morphology in detail through numerous illustrations. This is followed by a brief note on its classification, and concludes with illustrated examples of stratigraphically important organisms through time with their major distinguishing characteristics. Featuring over 2500 clearly labelled, hand-drawn and classroom-friendly illustrations, the book offers a fundamental resource for budding palaeontologists, petroleum geologists and palaeobiologists.

The automated identification of biological objects or groups has been a dream among taxonomists and systematists for centuries. However, progress in designing and implementing practical systems for fully automated taxon identification has been frustratingly slow. Regardless, the dream has never died. Recent developments in computer architectures and innovations in software design have placed the tools needed to realize this vision in the hands of the systematics community, not several years hence, but now. And not just for DNA barcodes or other molecular data, but for digital images of organisms, digital sounds, digitized chemical data - essentially any type of digital data. Based on evidence accumulated over the last decade and written by applied researchers, Automated Taxon Identification in Systematics explores contemporary applications of quantitative approaches to the problem of taxon recognition. The book begins by reviewing the current state of systematics and placing automated taxon identification in the context of contemporary trends, needs, and opportunities. The chapters present and evaluate different aspects of current automated system designs. They then provide descriptions of case studies in which different theoretical and practical aspects of the overall group-identification problem are

identified, analyzed, and discussed. A recurring theme through the chapters is the relationship between taxonomic identification, automated group identification, and morphometrics. This collection provides a bridge between these communities and between them and the wider world of applied taxonomy. The only book-length treatment that explores automated group identification in systematic context, this text also includes introductions to basic aspects of the fields of contemporary artificial intelligence and mathematical group recognition for the entire biological community.

The role of fossil planktonic foraminifera as markers for biostratigraphical zonation and correlation underpins most drilling of marine sedimentary sequences and is key to hydrocarbon exploration. The first - and only - book to synthesise the whole biostratigraphic and geological usefulness of planktonic foraminifera, Biostratigraphic and Geological Significance of Planktonic Foraminifera unifies existing biostratigraphic schemes and provides an improved correlation reflecting regional biogeographies.Renowned micropaleontologist Marcelle K. Boudagher-Fadel presents a comprehensive analysis of existing data on fossil planktonic foraminifera genera and their phylogenetic evolution in time and space. This important text, now in its Second Edition, is in considerable demand and is now being republished by UCL Press.

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. For a combined, one-semester, junior/senior-level course in Igneous and Metamorphic Petrology. Also useful for programs that teach Igneous Petrology and Metamorphic Petrology. Typical texts on igneous and metamorphic petrology are geared to either advanced or novice petrology students. This unique text offers comprehensive, up-to-date coverage of both igneous and metamorphic petrology in a single volume–and provides the quantitative and technical background required to critically evaluate igneous and metamorphic phenomena in a way that students at all levels can understand. The goal throughout is for students to be able to apply the techniques–and enjoy the insights of the results–rather than tinker with theory and develop everything from first principles.

This is a text book of 'Applied Micropalaeontology' with number of aspects of the microfossils to make their taxonomy interpretative. Since they were 'once-living microorganisms', it also forms a part of the biological subjects. Besides, it also covers important developments that took place within the last seven decades in the study of foraminifera, ostracoda, calcareous nannoplanktons, diatoms and conodonts by transforming their ecological-data in the 'rich-text' enabling students to understand the trend of their applications in the recent exploration-techniques for oil and other minerals.

Presents a comprehensive and up-to-date account of the fundamental aspects of structural geology, emphasising both classical concepts and modern developments. A detailed account of the techniques of geometrical analysis is provided, giving a sound background to principles of geological deformation and in-depth analysis of mechanisms of formation of geological structures. Many new features are included such as detailed discussions on rotation of rigid inclusions and passive markers, boudinage (including chocolate tablet boudins, foliation boudins and shear fracture boudins), structural implications of basement-cover relations and time-relation between crystallation and deformation. The book presents the methods of structural analysis from microscopic to map scale, describes modern techniques used in field and laboratory and offers a balanced picture of modern structural geology as it emerges from combined field, experimental and theoretical studies. Hardback edition (0 080 41879 1) also available £50.00

Geology is an inter-discipliry science and the advance made in its understanding is based on valuable research contributed from the other sciences. This has given rise to a host of specialised fields such as environmental geology, marine geology, photogeology and mining geology, to me a few. This book has been written for the first year students of Geology and also for those who have opted for Geology as one of their subjects for competitive examitions such as UPSC, MPSC and others.