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The Principles of PETROLOGY - G.W. Tyrrell 2012-12-06
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.

Elements of Mining Technology Vol. 1 (8th Edition) - Deshmukh D.J. 2010-01-01
Contents: 1. Mining Geology Minerals, Rocks and Rock Structures. 2. Coal and Coalfields of India. 3. Boring. 4. Shaft Shinking. 5. Opencast Mining. 6. Access to Mineral Deposits and Pit Bottom, Pit-Top Layouts. 7. Drivage of Roads in Coal and Stone. 8. Explosives, Accessories and Blasting Practice. 9. Rock Mechanics and Roof Supports. 10. Stowing Pracice. 11. Bord and Pillar Method of Working Coal Development. 12. Pillar Extraction in Bord and Pillar. 13. Longwall and other methods of working. 14. Thick Seam Working.

Geology for Civil Engineers - C. Gribble 2017-12-21
This seasoned textbook introduces geology for civil engineering students. It covers minerals and rocks, superficial deposits and the distribution of rocks at or below the surface. It then looks at groundwater and gives guidance on the exploration of a site before looking at the civil engineering implications of rocks and the main geological factors which affect typical engineering projects.

Textbook of Physical Geology - G. B. Mahapatra 2018-03-30

Principles of Engineering Geology and Geotechnics - Dmitrij Pavlovič Krynin 1957

Soil Pollution - An Emerging Threat to Agriculture - Jayanta K. Saha 2017-04-05
The book provides reader with a comprehensive up-to-date overview of various aspects of soil pollutants manifestation of toxicity. The book highlights their interactions with soil constituents, their toxicity to agro-ecosystem & human health, methodologies of toxicity assessment along with remediation technologies for the polluted land by citing case studies. It gives special emphasis on scenario of soil pollution threats in developing countries and ways to counteract these in low cost ways which have so far been ignored. It also explicitly highlights the need for soil protection policy and identifies its key considerations after analyzing basic functions of soil and the types of threats perceived. This book will be a useful resource for graduate students and researchers in the field of environmental and agricultural sciences, as well as for personnel involved in environmental impact assessment and policy making.

A Geology for Engineers - F.G.H. Blyth 2017-12-21
No engineering structure can be built on the ground or within it without the influence of geology being experienced by the engineer. Yet geology is an ancillary subject to students of engineering and it is therefore essential that their training is supported by a concise, reliable and usable text on geology and its relationship to engineering. In this book all the fundamental aspects of geology are described and explained, but within the limits thought suitable for engineers. It describes the structure of the earth and the operation of its internal processes, together with the geological processes that shape the earth and produce its rocks and soils. It also details the commonly occurring types of rock and soil, and many types of geological structure and geological maps. Care has been taken to focus on the relationship between geology and geomechanics, so emphasis has been placed on the geological processes that bear directly upon the composition, structure and mechanics of soil and rocks, and on the movement of groundwater. The descriptions of geological processes and their products are used as the basis for explaining why it is important to investigate the ground, and to show how the investigations may be conducted at ground level and underground. Specific instruction is provided on the relationship between geology and many common activities undertaken when engineering in rock and soil.

Assessment of Climate Change over the Indian Region - R. Krishnan 2020-07-31
This open access book discusses the impact of human-induced global climate change on the Indian subcontinent and regional monsoon, the adjoining Indian Ocean and the Himalayas. It also examines the regional climate change projections based on the climate models used by the IPCC Fifth Assessment Report (AR5) and national climate change modeling studies using the IITM Earth System Model (ESM) and CORDEX South Asia datasets. The IPCC assessment reports, published every 6–7 years, provide important reference material for major policy decisions on climate change, adaptation, and mitigation. While the IPCC assessment reports largely provide a global perspective on climate change, they offer limited information on the regional aspects of climate change. Regional climate change effects over the Indian subcontinent, especially relating to the Indian monsoon, are unique to the region, and in particular, the climate in this region is shaped by the Himalayas, Western Ghats, the Tibetan Plateau, the Indian Ocean, Arabian Sea, and Bay of Bengal. Climatic variations in this region are influenced by (a) regional-scale interactions between the atmosphere, ocean, land surface, cryosphere and biosphere on different time scales, (b) remote effects from natural phenomena such as the El Nino / Southern Oscillation, North Atlantic Oscillation, Indian Ocean Dipole, and Madden Julian Oscillation, and (c) human-induced climate change. This book presents policy-relevant information based on robust scientific analysis and assessments of the observed and projected future climate change over the Indian region.

Organic Fertilizers - Marcelo Larramendy 2016-06-30
This book, Organic Fertilizers - From Basic Concepts to Applied Outcomes, is intended to provide an overview of emerging researchable issues related to the use of organic fertilizers that highlight recent research activities in applied organic fertilizers toward a sustainable agriculture and environment. We aimed to compile information from a diversity of sources into a single volume to give some real examples extending the concepts in organic fertilizers that may stimulate new research ideas and trends in the relevant fields.

Rutley's Elements of Mineralogy - C.D. Gribble 2012-12-06
Rutley's elements of mineralogy has been around for a long time, certainly throughout my own lifetime; and if my great grandfather had read geology, it would have been prescribed reading for him too! It has been rewritten and revised frequently since fir~t conceived by Frank Rutley in the late 19th century. Major revisions occurred in 1902, and then in 1914, when H. H. Read first took over the authorship, and thereafter in 1936 and in 1965 when the last major changes occurred. It was with some trepidation that I agreed to attempt this revision. I had been asked to do it by Janet Watson in 1979, but various commitments delayed my start on it until 1984. This 27th edition encompasses a number of changes. Chapters

1-5 have the same headings as before, but considerable changes have been made in all of them, particularly 1, 3, 4 and 5. Comments sought prior to the revision revealed considerable disagreement about the role of blowpipe analyses in the book. I have only once had blowpipe analyses demon strated to me, and have never used them; but there is no doubt that they are employed in many countries, and many of the tests (flame colour, bead, etc.) are still useful as rapid indicators of which element is present in a mineral. I have therefore kept blowpipe analysis information in Rutley, but have relegated it to an appendix.

Coal Geology - Larry Thomas 2020-07-13

A global exploration of coal geology, from production and use to chemical properties and coal petrology Coal Geology, 3rd Edition, offers a revised and updated edition of this popular book which provides a comprehensive overview of the field of coal geology including coal geophysics, hydrogeology and mining. Also covered in this volume are fully revised coverage of resource and reserve definitions, equipment and recording techniques together with the use of coal as an alternative energy source as well as environmental implications. This third edition provides a textbook ideally suited to anyone studying, researching or working in the field of coal geology, geotechnical engineering and environmental science. Fills the gap between academic aspects of coal geology and the practical role of geology in the coal industry Examines sedimentological and stratigraphical geology, together with mining, geophysics, hydrogeology, environmental issues and coal marketing Defines global coal resource classifications and methods of calculation Addresses the alternative uses of coal as a source of energy Covers a global approach to coal producers and consumers

INDIA'S NEW CAPITALISTS - Harish Damodaran 2018-11-25

It?s no secret that certain social groups have predominated India?s business and trading history, with business traditionally being the preserve of particular `Bania? communities. However, the past four or so decades have seen a widening of the social base of Indian capital, such that the social profile of Indian business has expanded beyond recognition, and entrepreneurship and commerce in India are no longer the exclusive bastion of the old mercantile castes. In this meticulously researched book ? acclaimed for being the first social history to document and understand India?s new entrepreneurial groups ? Harish Damodaran looks to answer who the new `wealth creators? are, as he traces the transitional entry of India?s middle and lower peasant castes into the business world. Combining analytical rigour with journalistic flair, India?s New Capitalists is an essential read for anyone seeking to understand the culture and evolution of business in contemporary South Asia.

Physical Geology - Steven Earle 2016-08-12

This is a discount Black and white version. Some images may be unclear, please see BCCampus website for the digital version.This book was born out of a 2014 meeting of earth science educators representing most of the universities and colleges in British Columbia, and nurtured by a widely shared frustration that many students are not thriving in courses because textbooks have become too expensive for them to buy. But the real inspiration comes from a fascination for the spectacular geology of western Canada and the many decades that the author spent exploring this region along with colleagues, students, family, and friends. My goal has been to provide an accessible and comprehensive guide to the important topics of geology, richly illustrated with examples from western Canada. Although this text is intended to complement a typical first-year course in physical geology, its contents could be applied to numerous other related courses.

Earth Materials - Kevin Hefferan 2010-11-09

Minerals and rocks form the foundation of geologic studies. This new textbook has been written to address the needs of students at the increasing number of universities that have compressed separate mineralogy and petrology courses into a one- or two-semester Earth materials course. Key features of this book include: equal coverage of mineralogy, sedimentary petrology, igneous petrology and metamorphic petrology; copious field examples and regional relationships with graphics that illustrate the concepts discussed; numerous case studies to show the uses of earth materials as resources and their fundamental role in our lives and the global economy, and their relation to natural and human-induced hazards; the integration of earth materials into a cohesive process-based earth systems framework; two color thoughout with 48 pages of four color. Readership: students taking an earth materials, or combined mineralogy and petrology course in an earth science degree program. It will also be useful for environmental scientists, engineering geologists, and physical geographers who need to learn about minerals, rocks, soil and water in a comprehensive framework. A companion website for this book is available at: www.wiley.com/go/hefferan/earthmaterials.

Thriving on Our Changing Planet - National Academies of Sciences, Engineering, and Medicine 2019-01-20

We live on a dynamic Earth shaped by both natural processes and the impacts of humans on their environment. It is in our collective interest to observe and understand our planet, and to predict future behavior to the extent possible, in order to effectively manage resources, successfully respond to threats from natural and human-induced environmental change, and capitalize on the opportunities â€" social, economic, security, and more â€" that such knowledge can bring. By continuously monitoring and exploring Earth, developing a deep understanding of its evolving behavior, and characterizing the processes that shape and reshape the environment in which we live, we not only advance knowledge and basic discovery about our planet, but we further develop the foundation upon which benefits to society are built. Thriving on Our Changing Planet presents prioritized science, applications, and observations, along with related strategic and programmatic guidance, to support the U.S. civil space Earth observation program over the coming decade.

The Making of India - K.S. Valdiya 2015-11-26

This book presents in a concise format a simplified and coherent geological-dynamical history of the Indian subcontinent (including Sri Lanka, Bangladesh, Myanmar, Southern Tibet and Pakistan). Encompassing a broad array of information related to structure and tectonics, stratigraphy and palaeontology, sedimentation and palaeogeography, petrology and geochemistry, geomorphology and geophysics, it explores the geodynamic developments that took place from the beginning around 3.4 billion years ago to the last about 5,000 years before present. Presented in a distilled form, the observations and deductions of practitioners, this book is meant for teachers, researchers and students of geology, geophysics and geomorphology and practitioners of earth sciences. A comprehensive list of references to original works provides guidance for those seeking further details and who wish to examine selected problems in depth. The book is illustrated with a wealth of maps, cross sections and block diagrams — all simplified and redesigned.

The Mineral Resources of the Philippine Islands - Philippines. Bureau of Science 1908

Engineering Geology, 2nd Edition - Reddy D.V.

Engineering Geology is a multidisciplinary subject that interacts with other disciplines, such as mineralogy, petrology, structural geology, hydrogeology, seismic engineering, rock engineering, soil mechanics, geophysics, remote sensing (RS-GIS-GPS) and environmental geology. This book is the only one of its kind in the Indian market that caters to the students of all these subjects. Engineers require a deep understanding, interpretation and analyses of earth sciences before suggesting engineering designs and remedial measures to combat natural disasters, such as earthquakes, volcanoes, landslides, debris flows, tsunamis and floods. This book covers all aspects of engineering geology and is intended to serve as a reference for practicing civil engineers, geotechnical engineers, marine engineers, geologists and mining engineers. Engineering Geology has also been designed as a textbook for students pursuing undergraduate and postgraduate courses in advanced/applied geology and earth sciences. A plethora of examples and case studies relevant to the Indian context have been included for better understanding of the geological challenges faced by engineers.New in this Edition• The concept of watershed and the depiction of watershed atlas of India• Latest findings by the Indian Bureau of Mines• Recent developments in coastal engineering and innovative structures• New types of protective structures to guard against tsunamis• Role of geology in building smart cities• Environmental legislation in India

Foundations of Engineering Geology - Tony Waltham 2018-10-08

Now in full colour, the third edition of this well established book provides a readable and highly illustrated overview of the aspects of geology that are most significant to civil engineers. Sections in the book include those devoted to the main rock types, weathering, ground investigation, rock mass strength, failures of old mines, subsidence on peats and clays, sinkholes on limestone and chalk, water in landslides, slope stabilization and understanding ground conditions. The roles of both natural and man-induced processes are assessed, and this understanding is developed into an appreciation of the geological environments potentially hazardous to civil engineering and construction projects. For each style of difficult ground, available techniques of site investigation and remediation are reviewed and evaluated. Each topic is presented as a double page spread

with a careful mix of text and diagrams, with tabulated reference material on parameters such as bearing strength of soils and rocks. This new edition has been comprehensively updated and covers the entire spectrum of topics of interest for both students and practitioners in the field of civil engineering.

Geology: A Complete Introduction: Teach Yourself - David Rothery 2015-10-08

What processes and physical materials have shaped the planet we live on? Why do earthquakes happen? And what can geology teach us about contemporary issues such as climate change? From volcanoes and glaciers to fossils and rock formations, this user-friendly book gives a structured and thorough overview of the geology of planet Earth and beyond. Geology: A Complete Introduction outlines the basics in clear English, and provides added-value features like a glossary of the essential jargon terms, links to useful websites, and examples of questions you might be asked in a seminar or exam. Topics covered include the Earth's structure, earthquakes, plate tectonics, volcanoes, igneous intrusions, metamorphism, weathering, erosion, deposition, deformation, physical resources, past life and fossils, the history of the Earth, Solar System geology, and geological fieldwork. There are useful appendices on minerals, rock names and geological time. Whether you are preparing for an essay, studying for an exam or simply want to enrich your hobby or expand your knowledge, Geology: A Complete Introduction is your essential guide. David Rothery is a volcanologist, geologist, planetary scientist and Professor of Planetary Geosciences at the Open University. He has done fieldwork in the UK, USA, Australia, Oman, Chile and Central America, and visited many other parts of the world.

Fundamentals of Hydrogeology - Sanjay Akhauri 2015-01-01

Engineering Seismology and Earthquake Engineering - J. Solnes 2012-03-22

by Julius S6lnes An Advanced Study Institute on engineering seismology and earthquake engineering was held in Izrrir, 'rurkey July 2-13, 1973 under the auspices of the Scientific Affairs Division of NATO. The Institute was organized by an organizing committee headed by the two scientific directors and with representation by the Turkish National Science Foundation, Turkish National Committee for Earthquake Engineering, the Middle East Technical University and the Aegean University. 93 scientists and engineers of 18 countries took part in the work of the Institute which comprised 10 working days with lectures, discussions and panel meetings. The main lecture topics of the Institute were covered in five main sections: 1. Generic causes of earthquakes. 2. Ground motion and foundation response. 3. Earthquake response of structures and design consi derations. 4. Codes and regulations; implementation. 5. Earthquake hazards and emergency planning. Upon completion of each section, general discussion and short presentations by several of the participants took place and summary statements were offered by the main lecturers. The atmosphere of the meetings was in- VI formal and cordial thus giving rise to many unorthodox and newly conceived ideas.

Structural Geology - Marland Pratt Billings 1954

Engineering Geology - Subinoy Gangopadhyay 2013-01-17

Engineering Geology will serve as a textbook for the undergraduate and postgraduate students of engineering geology, applied geology, mining and civil engineering. It will also serve as a reference text for civil engineers and professional geologists.

Principles of Engineering Geology - P.B. Attewell 2012-12-06

'Engineering geology' is one of those terms that invite definition. The American Geological Institute, for example, has expanded the term to mean 'the application of the geological sciences to engineering practice for the purpose of assuring that the geological factors affecting the location, design, construction, operation and mainten ance of engineering works are recognized and adequately provided for'. It has also been defined by W. R. Judd in the McGraw-Hill Encyclopaedia of Science and Technology as 'the application of education and experience in geology and other geosciences to solve geological problems posed by civil engineering structures'. Judd goes on to specify those branches of the geological or geo-sciences as surface (or surficial) geology, structural/fabric geology, geohydro logy, geophysics, soil and rock mechanics. Soil mechanics is firmly included as a geological science in spite of the perhaps rather unfortunate trends over the years (now happily being reversed) towards purely mechanistic analyses which may well provide acceptable solutions for only the simplest geology. Many subjects evolve through their subject areas from an interdisciplinary background and it is just such instances that pose the greatest difficulties of definition. Since the form of educational development experienced by the practitioners of the subject ulti mately bears quite strongly upon the corporate concept of the term 'engineering geology', it is useful briefly to consider that educational background.

Trends in Objective Geology: For Civil Services & Other Competitive Exams Over 3500 Solved Objective Questions, 3e - Ausaf Sayeed 2008-02-01

THE ARCHITECT OF OUR UNIVERSE - JAGJIT SINGH RAWAT 2020-03-11

There was only a space, which was cold, smooth, continuous, infinite, eternal, and without boundary and any visible matter and energy before creation of our early Universe. However, this space may not have been empty. It was, perhaps, the Dark Matter particle, which popped up from this space. And due to its intrinsic properties it converted itself into a Supersymmetrical Superparticle that generated Supergravity by the pressures of forces of moving particles and thus into an infinitesimally small, dense, primordial, non-transparent (opaque) plasma fireball. This particle first designed the fertile sites due to its own strong gravitational attractive field in which all galaxies, stars, and planets in different regions of the Universe, including our own Milky Way galaxy that contains our Solar System with the eight planets, including Earth, originated after the collapse of the normal particles. With passage of time, the great fertile sites were generated on the Earth by tectonics, in which sedimentary rocks containing petroleum deposits at depths overlain by great alluvial plains were generated for the evolution and development of living beings, including humans and practicing agriculture, establishing industries, constructing civil facilities, and a multitude of other things for the survival of humans.

The Soils of India - Bipin B. Mishra 2020-01-13

This book provides an overview of the diversified soil regimes in India. In addition to the historical advances in soil research and its limitations, it describes the monitoring of various soil conditions and soil uses to improve productivity. Discussing topics such as climate, geology and geomorphology, major soil types and their classification, soil mineralogy and clays, soil micromorphology, soil biogeochemistry, benchmark soils, land evaluation and land use planning, soil health and fertility and soil resilience, the book highlights the multiple uses of soils in industry, human health care, mitigation of challenges due to climate change and construction. It also presents measures for a brighter future of soil science in India, such as imposing organic farming principles toward sustainable agriculture in the context of the second green revolution besides alleviating the poverty and providing the employment opportunities among the farming communities in India.

Principles of Igneous and Metamorphic Petrology - Anthony Philpotts 2009-01-29

This textbook provides a basic understanding of the formative processes of igneous and metamorphic rock through quantitative applications of simple physical and chemical principles. The book encourages a deeper comprehension of the subject by explaining the petrologic principles rather than simply presenting the student with petrologic facts and terminology. Assuming knowledge of only introductory college-level courses in physics, chemistry, and calculus, it lucidly outlines mathematical derivations fully and at an elementary level, and is ideal for intermediate and advanced courses in igneous and metamorphic petrology. The end-of-chapter quantitative problem sets facilitate student learning by working through simple applications. They also introduce several widely-used thermodynamic software programs for calculating igneous and metamorphic phase equilibria and image analysis software. With over 350 illustrations, this revised edition contains valuable new material on the structure of the Earth's mantle and core, the properties and behaviour of magmas, recent results from satellite imaging, and more.

Advances in Urbanism, Smart Cities, and Sustainability - Uday Chatterjee 2022

"While technology is developing at a fast pace, urban planners and cities are still behind in finding effective ways to use technology to address citizen's needs. Multiple aspects of sustainable urbanism are brought together in this book along with advanced technologies and their connections to urban planning and management. It integrates urban studies, smart cities, AI, IoT, remote sensing and GIS. Highlights also land use planning, spatial planning, and ecosystem-based information to improve economic opportunities. Urban planners and engineers will understand the use of AI in disaster management and the use of GIS in finding suitable landfill sites for sustainable waste management"--

Fundamentals of Historical Geology and Stratigraphy of India - Dr.

Ravindra Kumar 1985

AQA GCSE (9-1) Geography - John Widdowson 2016-05-27
AQA approved Stretch and challenge your students to achieve their full potential with learning materials that guide them through the new content and assessment requirements; developed by subject experts with examining experience and one of the leading Geography publishers. - Enables students to learn and practise geographical, mathematical and statistical skills through engaging activities specifically designed for the reformed 2016 curriculum - Helps higher ability students boost their knowledge and understanding via suitably challenging extension tasks that go beyond the core content - Develops students' skills responding to a range of questions with topic-specific Question Practice in each section, supplemented by practical insight from skilled teachers with examining experience - Incorporates possible fieldwork enquiries throughout with unrivalled advice on the changed fieldwork assessment from authors specialising in this key area - Reduces your research time by providing a bank of contemporary case studies that includes numerous UK examples for the revised criteria

Principles of Igneous and Metamorphic Petrology - John D. Winter 2014-01-13
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.

Engineering Geology - Q Zaruba 2012-12-02
Engineering Geology attempts to provide an understanding of relations between the geology of a building site and the engineering structure. It presents examples taken from real-life experience and practice to provide evidence for the significance of engineering geology in planning, design, construction, and maintenance of engineering structures. The book begins with an introduction of geological investigations, distinguishing between the reconnaissance investigation, the detailed investigation, and investigation during construction. It then explains the significance of geological maps and sections; the mechanical behavior of rocks; subsurface investigation for engineering construction; and geophysical methods. The remaining chapters discuss the physical and chemical weathering of rocks; slope movements; and geological investigations for buildings, roads and railways, tunnels, and hydraulic structures. This book is intended particularly for civil engineering students and students of engineering geology in the university faculties of natural sciences. It describes geological features so as to be comprehensible to Technical College students and to explain construction problems intelligibly for geology students. The book will also be of assistance to planners, civil engineers, and graduate engineering geologists.

Rutley's Elements of Mineralogy - Frank Rutley 2012-12-06
The last thorough revision of Rutley's Elements of Mineralogy appeared as the 23rd Edition in 1936. In subsequent editions, an effort to keep abreast with the great progress in the science was made by small (and often awkward) modifications and, especially, by the addition of an independent chapter on the atomic structure of minerals. For this present edition, the complete re-setting of the book has made possible not only the integration of the added chapter on atomic structure into its proper place in the accounts of the chemical and physical properties of minerals, but also extensive rewriting and rearrangement of the material in the first part of the book. To this part, also, has been added a short chapter on the classification of minerals. In the second part, the Descrip tion of Minerals, numerous, if not so extensive, modifications and modernisations have been introduced. A couple of dozen new figures have been added, mostly in the early part of the book. More specifically, the major changes in this new edition are the following. The electronic structure of atoms supplies the guide lines for the whole account of mineral-chemistry; additional items concern the electrochemical series, of interest in the occurrence and metallurgical treatment of ores, and chemical analysis. On the physical side, the dependence of physical properties of minerals on their atomic structure is emphasized and, in addition, a brief account of radioactivity and isotopic age-determination is given.

A Textbook of Geology - G. B. Mahapatra 2017-03-30

Mineralogy - Dexter Perkins 2013-10-03
This student-oriented text is written in a casual, jargon-free style to present a modern introduction to mineralogy. It emphasizes real-world applications and the history and human side of mineralogy. This book approaches the subject by explaining the larger, understandable topics first, and then explaining why the “little things” are important for understanding the larger picture.

WHERE WHEN AND HOW ANCESTRAL (LUCA) TO ALL LIFE ORIGINATED - Jagjit Singh Rawat 2021-12-06
The book is all about the living beings. All living beings, including humans have originated and evolved from the Last Universal Common Ancestor: LUCA that was possible as a result of spontaneous step-by-step chemical origin in about 3.750 billion years ago from the elements consisting of life body, such as nitrogen bases (adenine, thyamine, cytosine, guanine, and uracil, which are made up off the elements - C, H, O, N) and ribose sugar. This life originated in the sediments of the palaeo floodplains at the palaeo mouths of fresh water flows/rivers on the Hadean surface in the Archaean Eon. This was a global phenomenon. The life on the rocky planet like our Earth was possible because of existence of fresh water bodies over minerals, metals, and clay deposits, which rested on Hadean surface and active geological processes and active environments. The book also makes an attempt to explain as to how do the simple elements, like C, H, O, N, S, and P first change to simple chemistry – H 2 O, NH 3 followed by CH 4 HCN, and monomers - monosaccharides, amino acids, glycerol's/fatty acids, nucleotides, and polymers - carbohydrates, proteins, lipids, and nucleic acids. There was not much development for about 3210 million years (from 3750 million years to 540 million years) and suddenly changed/jumped to complex life forms in about 541 million years ago. Here the life originated and evolved without head and heart from 3750 million years ago to 522 million years ago, i.e., for about 3228 million years. The head was originated and evolved in about 521million years ago. However, consciousness emerged along with bonding of carbon with hydrogen and other elements which were finally converted into nucleosides having nitrogenous base and ribose sugar. The gravity and gravitational force intertwined with electromagnetic force were the reason there were bonding of carbon and hydrogen and other elements to originate and evolve LUCA, which stayed away from thermodynamic equilibrium.

American Women and Flight Since 1940 - Deborah G. Douglas 2004
Kentucky is most commonly associated with horses, tobacco fields, bourbon, and coal mines. There is much more to the state, though, than stories of feuding families and Colonel Sanders’ famous fried chicken. Kentucky has a rich and often compelling history, and James C. Klotter and Freda C. Klotter introduce readers to an exciting story that spans 12,000 years, looking at the lives of Kentuckians from Native Americans to astronauts. The Klotters examine all aspects of the state’s history—its geography, government, social life, cultural achievements, education, and economy. A Concise History of Kentucky recounts the events of the deadly frontier wars of the state’s early history, the divisive Civil War, and the shocking assassination of a governor in 1900. The book tells of Kentucky’s leaders from Daniel Boone and Henry Clay to Abraham Lincoln, Mary Breckinridge, and Muhammad Ali. The authors also highlight the lives of Kentuckians, both famous and ordinary, to give a voice to history. The Klotters explore Kentuckians’ accomplishments in government, medicine, politics, and the arts. They describe the writing and music that flowered across the state, and they profile the individuals who worked to secure equal rights for women and African Americans. The book explains what it was like to work in the coal mines and explains the daily routine on a nineteenth-century farm. The authors bring Kentucky’s story to the twenty-first century and talk about the state’s modern economy, where auto manufacturing jobs are replacing traditional agricultural work. A collaboration of the state historian and an experienced educator, A Concise History of Kentucky is the best single resource for Kentuckians new and old who want to learn more about the past, present, and future of the Bluegrass State.

Courses in Mining Geology - R. N. P. Arogyaswamy 2017-03-30