

Textbook on Metallurgical Failure Analysis

Author: U. K. Chatterjee

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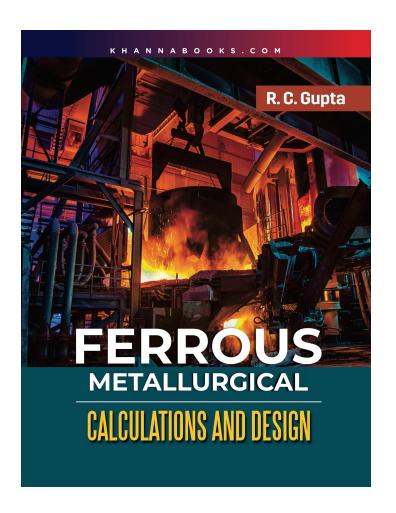
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Product Description

Textbook on Metallurgical Failure Analysis





Ferrous Metallurgical (Calculations and Design)

Author: R. C. Gupta

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Product Description

This book is a unique combination of ferrous metallurgical calculations and unit design. The book is divided in two arts each having eight chapters. The part one on ferrous metallurgical calculations gives method to calculate mass balance, chemical analysis of the product and waste materials including exit gases. This part one covers Coal & It's Properties, Combustion of Fuels, Coke Making, Iron Ore Agglomeration, Blast Furnace Iron Making, Alternate Methods of Iron Making, Ferroalloy Preparation and Melting Metal & Alloys. The second part on Ferrous Metallurgical Unit Design may be a globally first attempt to provide method of estimating basic design dimensions of some metallurgical units. This part covers Chimney & Draught, Coke Oven, Blast Furnace, DRI Kiln, Ladle Cupola, Basic Oxygen Steel Making Furnace, and Electric arc Furnace. In addition, the appendices provide weight, Measure & Science Laws, Mathematical Formulae, Unit Conversion Tables, Useful Data, Commonly Used Materials, Raw, Materials for Iron & Steel Making, Fuels and their Properties and Steel Plant Waste materials. Keys features 1. A useful book for Academic Staff & Students in Metallurgical Engineering, Still Plant Executives, Metallurgical Consultants, Steel Plant Managers, Chartered Engineers, and Auditors. 2. A Metallurgical Engineering book giving calculation method for mass balance, product & waste analysis in various ferrous metallurgical processes. 3. A first book to give method for designing metallurgical units e.g. coke oven, blast furnace, DRI Kiln, BOF, EAF, Ladle, Cupola etc. 4. Each chapter starts with introduction to highlight importance before giving calculation or design & each chapter gives projects for students. Some reference for further reading is also given at the end of chapters.

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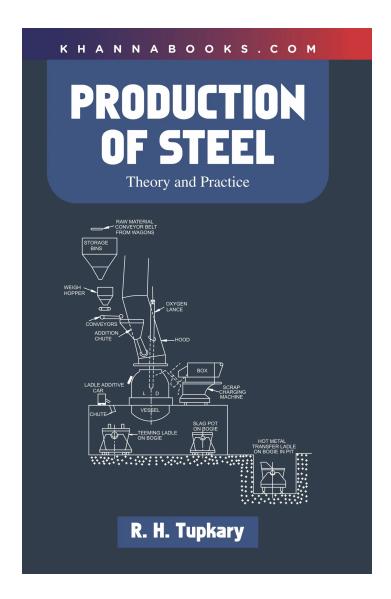
Chapter 11: Blast Furnace Dimensions. Chapter 12: DRI Kiln Dimensions. Chapter 13: Ladle Dimensions. Chapter 14: Cupola Dimensions. Chapter 15: Basic Oxygen Steel Making. Chapter 16: EAF Steel Making. Appendix



Author

Prof. R C Gupta is an alumni, Former Professor and Head, Department of Metallurgical Engineering (Advanced Centre in Metallurgy), Institute of Technology (now IIT-BHU), Banaras Hindu University, Varanasi (India). In his four decades (1970-2010) teaching and research carrier he guided many students for their PhD, M. Tech., and B. Tech. degree in Metallurgy. He held various positions in national & international forums including Ministry & Forest (Delhi-GOI) & Pollution Control Board (Bhubaneswar-Odisha State). The Author is globally known by his three popular PHI (Delhi) textbooks: Theory & Laboratory Experiments in Metallurgy (2009 & 2025), Energy & Environmental Management in Metallurgical Industries (2012), and Fuels Furnaces & Refractories (2016). His chapter on Energy Resources, Its Role, and Use in Metallurgical Industries in Elsevier's publications (2014 & 2024) on Treatise in Process Metallurgy (Chief Ed. Sheshadri Seetharaman) has made global imprint. In view of his books and other research publications (>140 nos.) the author is included in world top 2% scientist prepared by a Group of Professors at Stanford University (USA) in 2020.





Production of steel (Theory and Practice)

Author: R. H. Tupkary

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Product Description

Production of steel (Theory and Practice) "A good slag maker is a good steel producer" "In engineering and technology what can not be measured can not be controlled to improve the quality"



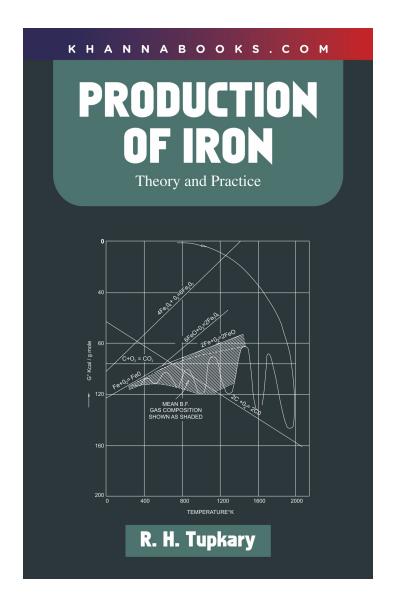
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Author

Dr. R. H. Tupkary graduated in Metallurgical Engineering from Banaras Hindu University in 1959 with distinction. He obtained Master of Engineering Science in 1963 and Ph. D in 1966 from University of Melbourne. He worked as Lecturer and Assistant Professor in BHU and as Professor and Head in VNIT, Nagpur(India) from where he voluntarily retired 994. Thereafter he worked as Managing Director of Marathi 'Tarun Bharat' in Nagpur.





Production of Iron (Theory and Practice)

Author: R. H. Tupkary

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Product Description

Production of iron (Theory and Practice) "A good slag designer is essential for production iron efficiently" "In engineering and technology what can not be measured can not be controlled to improve the quality"



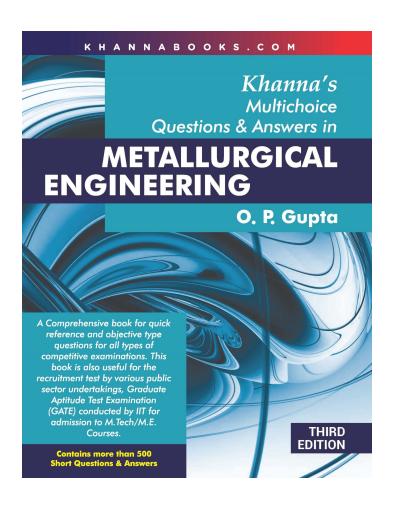
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Author

Dr. R. H. Tupkary graduated in Metallurgical Engineering from Banaras Hindu University in 1959 with distinction. He obtained Master of Engineering Science in 1963 and Ph. D in 1966 from University of Melbourne. He worked as Lecturer and Assistant Professor in BHU and as Professor and Head in VNIT, Nagpur(India) from where he voluntarily retired 994. Thereafter he worked as Managing Director of Marathi 'Tarun Bharat ' in Nagpur.





Khanna's Multichoice Questions & Answers in Metallurgical Engineering

Author: O.P. Gupta

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Product Description

This book is meant for diploma & degree student of metallurgical engineering for their academic programs as well as for various competitive examination for securing jobs. This book has been structured in three section. First section contains multiple choice type questions of various subjects of metallurgical engineering. Second section contains chapter wise question of GATE (Graduate Aptitude Test in Engineering) from 1991 to 2016. Third section contains SHORT QUESTIONS & ANSWERS in METALLURGICAL ENGINEERING. Fourth section contains APPENDICES containing Glossary of terms related to Metallurgical Engineering and Q&A of GATE-2017. This book has been designed to serve as "Hand Book of Metallurgical Engineering" which will be useful for various competitive examinations for recruitment in various public sector & Private Sector companies as well as for GATE Examination. Question have been arranged subject wise and answers are given at the bottom of the page.



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Chapter 21: Miscellaneous Questions.

Section B - MCQ of GATE (Graduate Aptitude Test in Engineering)

Chapter 22: General Metallurgy.

Chapter 23: Mineral Dressing.

Chapter 24: Iron Making.

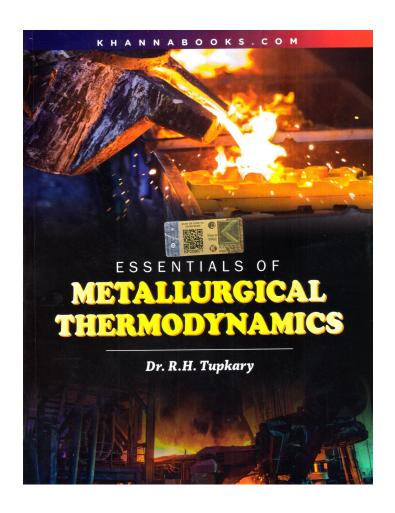
Chapter 25: Steel Making.



Author

Om Prakash Gupta is basically being a chemical engineer, he has a practicing experience of efficient Energy management and HR functions in steel Industry for more than three decades. privileged to be the youngest writer of technical books in the country (for he had written his first book at the age of 24 years while doing M. Tech. at I.I.T Kanpur in 1979), he has authored many frontline books for engineering students. besides, being the regular faculty member in technical courses for Management Trainees (Technical), he has also visited England and France on a study tour sponsored by United Nations Development Program(UNDP) to study the scope of energy conservation in steel plants in 1987.





Essentials of Metallurgical Thermodynamics

Author: R. H. Tupkary

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Product Description

Thermodynamics is the very basic science to appreciate all engineering disciplines, more particularly the chemical, metallurgical and mechanical engineering in terms of the efficiencies in various related operations that is why metallurgical thermodynamics has been developed specifically to understand the metallurgical engineering processes and their energy efficiencies. Any change is driven by the potential driving it. Thermodynamics is the tool to appreciate that potential and to assess the related energy efficiency. Hence thermodynamics is the basic tool that helps to assess finally the economics of any metallurgical process. The more one understands it the better. The present book attempts to explain the very basic thermodynamic concepts underlying metallurgical engineering operations and therefore the related economics.



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Chapter 9: Solution I.

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Chapter 11: Solution III.

Chapter 12: Equilibria in Phase Diagrams.

Chapter 13: Electrochemical Processes.

Chapter 14: Free Energy - Temperature Relationship.

Chapter 15: Kinetics of Reactions.



Author

Dr. R. H. Tupkary graduated in Met. Engg. from Bananas Hindu University in 1959 in first class and was placed at third position in merit list. He completed M.Eng.Sci. and Ph.D. from University of Melbourne in 1963 and 1966 respectively. He worked as a lecturer in Met. Egg. during 1959-62 and Reader during 1966-1970 period in BHU and then joined Visvesvaraya Regional College Engineering, Nagpur as Professor and later became head and voluntarily retired in 1994. Dr. Tupkary is a recipient of Binani Gold Medal of Indian Institute of Metals in 1972 and Distinguished Alumnus Award of BHU in 1988. He has published several technical papers and is more known for his two books, one on Steel Making and the other on Iron Making which are very popular textbooks of the subjects since 1977. Out of these two books, "Steel Making" was written when he was confined in Nagpur Central Jail during the emergency period of 1975-77. During his tenure as professor in VRCE, he was actively associated with Nagpur University, through its various academic and administrative bodies as their elected member. He has also worked as Managing Director of one Marathi daily published from Nagpur during the period 1994-97. He is committed social worker and is associated with varieties of such activities at and around Nagpur.

