Power Plant Engineering, Second Edition

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About the Book

The second edition of the book proceeds to cover power plants that rely on renewable energy sources, such as geothermal, solar, wind, ocean and tide and wave energy. It terminates with the presentation of various energy storage systems, most of which are still under development and environmental aspects of electric power generation, both fossil and nuclear. All power production plants, invariably, pollute the atmosphere and the resulting imbalance on ecology has bad effect.

Power Plant Engineering is the outcome of the author's teaching the same subject to engineering students for the last 19 years. It discusses all types of power plants in entirety, detailing each one's merits and demerits, their engineering and technical aspects like the equipment required, working of the plant, scientific principles involved, their physical location, environmental hazards involved, and so on. Due emphasis has also been given to the management of waste generated by power plants, e.g. fly ash.

Apart from technical and engineering aspects, it also discusses the economics part of power plants, recent developments in the methods of power generation, and prospects for solar and magnetohydrodynamics power generation. Numerical problems, multiple choice questions and a review exercise is also appended at the end of each chapter.

This book is useful for the students and teachers of electrical and mechanical engineering.

Salient Features

The book covers all the conventional and non-conventional power plant engineering including thermal, hydro, nuclear, gas, diesel, wind, solar, geothermal and so on.
Has specific chapters on various sources of power, trends in production and economic aspects.
New edition includes a new Chapter on Environmental Aspects of Power Generation.
Expansion of Updated matter for Chapter 1 and 2 and text is supported with simple and self-explanatory figures.
Contains solved examples, review exercises and objective type questions in the chapter.

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About the Author

Harish C. Rai :- **Dr. Harish C. Rai**, formerly Controller of Examination, Director Academic Affairs and Director Research Project Monitoring Cell. He was the Advisor for All India Council of Technical Education, New Delhi; Controller of Examinations, Guru Gobind Singh Indraprastha University, Delhi and Professor in the Department of Electrical and Electronics Engineering C.R. State College of Engineering, Murthal (Sonepat) Haryana. He obtained his graduate and postgraduate degrees from Delhi College of Engineering, Delhi and Ph.D. (Electrical Engineering) from Indian Institute of Technology, New Delhi.

Dr Rai was awarded, Dr. S Radhakrishnan National Teacher's Award 1997", "Spardha Shree Award 1999" for meritorious services in Education, and "Teachers Excellence Award 2000" for valuable services rendered to the cause of education in the country. Dr. Rai has an experience of about 37 years in administration including teaching undergraduate courses in the areas of electrical machines, control engineering, power electronics and power system etc. He has presented several papers in international and national conferences. His current interest areas include Electrical Machines and Control of Electrical Machines and Biomedical Electronics.

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