

SWITCHGEAR PROTECTION AND POWER SYSTEMS

Sunil S. RAO

The book presents in-depth knowledge about the principles and practices of Modern Power System Engineering. It gives an integrated approach to the complex phenomena related with Switchgear, Protection, Fault-Calculations, Power System Analysis-Operation-Control-Automation, Digital Relays, Micro-processor based Relays and Microprocessor based Integrated Control and Protection Systems, Energy Systems, Electrical Safety and Applications of Switchgear.

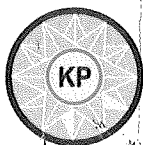
With many advancement taking place in the field, old conventional protection and switching devices have been retained in brief alongwith new type of devices and techniques.

The technology of protection and automation have been revolutionised by the introduction of microprocessor based combined protection, control, monitoring systems. Such systems have been introduced for substation protection, generator protection, HVDC protection. This book covers the principles and applications of this latest technology, alongwith the Principles of Artificial Intelligence and Expert Systems.

A Section covering the important topics in Interconnected Power Systems is also given.

The book gives detailed overview of EHV-AC Transmission, HVDC Transmission Systems, Interconnections, Power System Automation with SCADA Systems, Power System Planning, Latest Power map in India, Microprocessor based Protection, alongwith chapter on Energy Technology-Renewable and Non-conventional and Conventional. The corelation between Energy sector and Power sector has also been illustrated. Apart from this the book covers Power System Calculations and Load Flow Studies to give wide coverage to the subject in a single volume. The principles and procedures of network calculations and load flow studies have been simplified and explained by a few solved examples. New chapters on Applications on Switchgear, Electrical Safety, Recent Advances' in Intelligent Circuit Breakers, Fiber-optics Cable Applications, Compact Intelligent Substations, ISO-9000 and TQMI have been added to make book more useful.

This book will serve as source material cum reference and benefit the students pursuing their B.E., B.Tech., M.E. (Electrical), Technical Teacher's Training, Power Engineering Training Courses. It is also a ready reference book for Engineers in Electricity Boards, Projects, Consultants, Switchgear Industry, Power Sector covering every topic on Switchgear Protection and Power System Operation and Automation.



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