Fundamentals of Electric Theory and Circuits

by
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Recommended books for libraries

Given below is a list of books the author recommends for Engineering and Science College Libraries. These carefully selected books are meant to serve as a ready reference for both faculty and students and contain some of the foremost theories of Electricity and Magnetism and are written by authors who have done pioneering research on the subject. Their presentation of some of the advanced topics related to Electricity and Magnetism are simple, accurate and the descriptions are crisp and lucid. Among the authors is Nobel Laureate, Edward Purcell.

A few of the books/notes and one article by L. Page listed are available online and these may be printed and copies made available in book form in libraries.

The author recommends that selected articles/books available online with url indicated "Available" in the list below and from articles listed in the "Links_to_animations_articles" pdf file also be printed and made available in libraries in book form.

List of Books

1) Andre Koch Torres Assis, *The Experimental and Historical Foundations of Electricity*, 2010, C. Roy Keys Inc., Quebec, Canada.
Publisher: Apeiron; ISBN 978-0-9864926-3-1
Available: Volume 1: http://www.ifi.unicamp.br/~assis/Electricity.pdf
          Volume 2: http://www.ifi.unicamp.br/~assis/Electricity-Vol-2.pdf

2) Andre Koch Torres Assis and J. P. M. C. Chaib, *Ampère's Electrodynamics-Analysis of the Meaning and Evolution of Ampère's Force between Current Elements, together with a Complete Translation of His Masterpiece: Theory of Electrodynamic Phenomena, Uniquely Deduced from Experience*, 2015, C. Roy Keys Inc., Quebec, Canada.
Publisher: Apeiron; ISBN-10: 1987980034
ISBN-13: 978-1987980035
Available: http://www.ifi.unicamp.br/~assis/Amperes-Electrodynamics.pdf

3) Andre Koch Torres Assis and Julio Akashi Hernandes, *The Electric Force of a Current - Weber and the surface charges of resistive conductors carrying steady currents*, 2007, C. Roy Keys Inc., Quebec, Canada.
Publisher: Aperion

ISBN-10: 097329115X
ISBN-13: 978-0973291155
Available: http://www.ifi.unicamp.br/~assis/The-Electric-Force-of-a-Current.pdf

4) Ruth W. Chabay and Bruce A. Sherwood, *Matter and Interactions, Volume II: Electric and Magnetic Interactions 4th Edition*.
Publisher: Wiley; 4 edition
ISBN-10: 1118914503
ISBN-13: 978-1118914502

5) Andre Koch Torres Assis, *Relational Mechanics and Implementation of Mach's Principle with Weber's Gravitational Force*, 2014, C. Roy Keys Inc., Quebec, Canada
Publisher: Apeiron
ISBN-10: 0992045630
ISBN-13: 978-0992045630
Available: http://www.ifi.unicamp.br/~assis/Relational-Mechanics-Mach-Weber.pdf

6) Page, L., *The Emission Theory of Electromagnetism*, Connecticut Academy of Arts and Science, Vol.26, p.213-243.
Available:
https://gsjournal.net/Science-Journals/Historical%20Papers-Mechanics%20/%20Electrodynamics/Download/3434

7) Edward Purcell, *Electricity and Magnetism*, Tata McGraw-Hill, India
Publisher: McGraw Hill Education; 2 edition
ISBN-10: 0070702144
ISBN-13: 978-0070702141

8) M. d. A. Bueno and A. K. T. Assis, *Inductance and Force Calculations in Electrical Circuits*, Nova Science Publishers, Hauppauge, NY, USA.
Publisher: Nova Biomedical
ISBN-10: 1560729171
ISBN-13: 978-1560729174

9) A. K. T. Assis, *Weber's Electrodynamics*
Publisher: Springer; Softcover reprint of hardcover 1st ed. 1994 edition ISBN-10: 904814471X; ISBN-13: 978-9048144716

10) Ruth W. Chabay and Bruce A. Sherwood, *Modern Mechanics*, John Wiley, USA, 2014.
Publisher: John Wiley & Sons; 4th Revised edition
ISBN-10: 111891449X
ISBN-13: 978-1118914496

11) Leigh Page, *An Introduction to Electrodynamics from the standpoint of the electron theory*.
Publisher: Hardpress Publishing, 2012
ISBN-10: 1290193711
ISBN-13: 978-1290193719
Publisher: Forgotten Books, 2012
ISBN-10: 1440095876, ISBN1163934976
ISBN-13: 978-1440095870
Publisher: Kessinger Publishing, 2010
ISBN-10: 1164229745
ISBN-13: 978-1164229742
Available:
https://ia800304.us.archive.org/34/items/anintroductiont03pagegoog/anintroductiont03pagegoog.pdf

12) John David Jackson, *Classical Electrodynamics*
Publisher: John Wiley & Sons; 3rd Revised edition (1998)
ISBN-10: 047130932X
ISBN-13: 978-0471309321
Available:
http://www.fisica.unlp.edu.ar/materias/electromagnetismo-licenciatura-en-fisica-medica/electromagnetismo-material-adicional/Jackson%20-%20Classical%20Electrodynamics%203rd%20edition.pdf/view

https://www.scribd.com/doc/48520397/Jackson-Classical-Electrodynamics-3rd-edition

13) James Clerk Maxwell, *A Treatise on Electricity and Magnetism* in 2 Volumes
Volume 1 Publisher: Dover Publications Inc.; 3rd edition
Language: English
ISBN-10: 0486606368
ISBN-13: 978-0486606361
Volume 2 Publisher: Merchant Books
ISBN-10: 1933998997
ISBN-13: 978-1933998992
Available:
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https://ia800209.us.archive.org/28/items/electricandmagne01maxwrich/electricandmagne01maxwrich.pdf
or
https://ia802302.us.archive.org/25/items/ATreatiseOnElectricityMagnetism-Volume1/Maxwell-ATreatiseOnElectricityMagnetismVolume1.pdf

Vol 2
https://ia801404.us.archive.org/35/items/electricandmag02maxwrich/electricandmag02maxwrich.pdf
or

https://ia601501.us.archive.org/2/items/in.ernet.dli.2015.160612/2015.160612.A-Treatise-On-Electricity-And-Magnetism-vol-Ii.pdf

14) David J. Griffiths, *Introduction to Electrodynamics*, Prentice-Hall, India, 1999.
Publisher: Pearson Education India Learning Private Limited; 4 edition (2015)
ISBN-10: 9332550441; ISBN-13: 978-9332550445

15) Ben G. Streetman and Sanjay Banerjee, *Solid State Electronic Devices*, Pearson Prentice Hall, 2006.
Publisher: Pearson Prentice Hall; 7 edition
ISBN-10: 0133356035
ISBN-13: 978-0133356038

16) Albert A. Smith, *Radio Frequency Principles and Applications*, *The Generation, Propagation, and Reception of Signals and Noise*, Wiley-IEEE Press, 1998
Publisher: Wiley-Blackwell
ISBN-10: 0780334310
ISBN-13: 978-0780334311

17) David H. Staelin, *Electromagnetics and Applications*, 2011
Notes of Course 6.013, Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology Cambridge, MA
Available:
https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-013-electromagnetics-and-applications-spring-2009/readings/MIT6_013S09_notes.pdf

18) H. A. Lorentz, *The theory of electrons and its applications to the phenomena of light and radiant heat*
Publisher: Forgotten Books
ISBN-10: 1440088780
ISBN-13: 978-1440088780
Or
Publisher: Cosimo Classics
Language: English
ISBN-10: 1602063079
ISBN-13: 978-1602063075

19) Paul Malvino, *Electronic Principles*, Tata McGraw-Hill, India.
Publisher: McGraw Hill Education; 7th edition
ISBN-10: 0070634246
ISBN-13: 978-0070634244

20) David J. Griffiths, *Introduction to Elementary Particles*", 2004 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim.
Publisher: Wiley VCH; 2nd Revised edition edition
ISBN-10: 3527406018
ISBN-13: 978-3527406012

21) William R. Smythe, *Static and Dynamic Electricity*, McGraw Hill, 1950.
Available:
https://ia800209.us.archive.org/18/items/StaticAndDynamicElectricity/Smythe-StaticAndDynamicElectricity.pdf

22) A. D. Aleksandrov, A. N. Kolmogorov, M. A. Lavrent'ev, *Mathematics Its Content, Methods and Meaning*, Dover Publications, INC. Mineola, New York, 1999.
Excerpt from the Foreword
'In recent years many popular books about Mathematics have appeared in the English Language…….Although they are admirable in many other ways, they have not yet undertaken the ultimate task of mathematical exposition, namely the large-scale organization of modern mathematics in such a way that the reader is constantly delighted by the obvious economizing of his own time and effort. …….
Whether a physicist wishes to know what a Lie algebra is and how it is related to a Lie group [which model the continuous symmetries of differential equations], or an undergraduate would like to begin the study of homology, or a crystallographer is interested in Fedorov groups, or an engineer in probability, or any scientist in computing machines, he will find here a connected, lucid account'.