

# Learning and Teaching Resources for All Modules

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## 1. Fundamentals of Electrical Engineering

- Required Text: Fundamentals of Electric Circuits – C.K. Alexander & M.N.O. Sadiku
- Recommended: Electric Circuits – Schaum's Outline Series

## 2. Computer Applications (IC3)

- Required Text: Internet and Computing Core Certification
- Websites:
  - <https://alison.com/tag/microsoft>
  - <https://www.slideshare.net/>
  - <https://support.microsoft.com/en-us/training>
  - <https://support.google.com/a/users>
  - <https://edu.gcfglobal.org/en/topics/googleapps/>
  - <https://chat.openai.com>

## 3. Differential Mathematics

- Required Text: Engineering Mathematics I (PDF)
- Recommended: Thomas' Calculus – 14th Edition
- Websites:
  - <http://dl.konkur.in/post/Book/Paye/Thomas-Calculus-14th-Edition-%5Bkonkur.in%5D.pdf>
  - <https://elearningatria.files.wordpress.com/2013/10/differential-calculus-1-23.pdf>

## 4. Engineering Drawing

- Required Text: Engineering Drawing by N.D. Bhatt

## 5. Human Rights and Democracy

- Required Text: Human Rights: A Very Short Introduction – Andrew Clapham

## 6. English Language (Beginner)

- Required Text: English Grammar in Use – Raymond Murphey

## **7. Medical Physics**

- Required Text: Introduction to Medical Physics – Stephen Keevil

## **8. Medical Chemistry**

- Required Text: General, Organic, and Biological Chemistry – H. Stephen Stoker

## **9. Mechanics**

- Required Text: Engineering Mechanics – J.L. Meriam & L.G. Kraige

## **10. Integral Mathematics**

- Required Text: Notes on Calculus II – Miguel A. Lerma
- Recommended: Thomas' Calculus – 14th Edition
- Websites: <https://sites.math.northwestern.edu/~mlerma/courses/math214-2-02f/notes/c2-all.pdf>

## **11. Engineering Workshops**

- Required Text: Workshop Technology – Hajra Choudhury

## **12. Arabic Language**

- Required Text: Arabic Grammar and Composition – Dr. Fawzi Al-Samarrai

## **13. Laboratory Medical Instrumentation I**

- Required Text: Biomedical Device Technology – Anthony Y. K. Chan
- Recommended: A Textbook of Medical Instruments – Ananthi (2005)

## **14. Electronics Circuits I**

- Required Text: Electronic Devices and Circuit Theory – Boylestad & Nashelsky

## **15. Electrical Machines**

- Required Text: Electrical Machines and Drives – Jan A. Melkebeek
- Recommended: Electrical Machines Drives and Power Systems – Theodore Wildi

## 16. Engineering Mathematics

- Required Text: Engineering Mathematics – K.A. Stroud
- Recommended: BAU University PDF

## 17. Anatomy & Physiology

- Required Text: Essentials of Anatomy and Physiology – Martini et al.
- Recommended:
  - Human Physiology Study Guide
  - Human Anatomy & Physiology: Help and Review

## 18. Computer Programming and Applications (MATLAB - Beginner)

- Required Text: MATLAB for Engineers – Holly Moore

## 19. Laboratory Medical Instrumentation II

- Required Text: Biomedical Device Technology – Anthony Y. K. Chan
- Recommended: A Textbook of Medical Instruments – Ananthi (2005)

## 20. Electronics Circuits II

- Required Text: Electronic Devices and Circuit Theory – Boylestad & Nashelsky

## 21. Digital Electronics

- Required Text: Digital Fundamentals – Floyd
- Recommended: Digital Logic Design – Holdsworth

## 22. Clinical Chemistry Instrumentation

- Required Text: Clinical Chemistry Handbook – N.T. Coleman
- Recommended: Laboratory Instrumentation and Techniques – Dr. Mathew Folaranmi Olaniyan
- Websites:
  - <https://byjus.com/chemistry/spectrophotometer-principle/>
  - [https://www.bosterbio.com/media/pdf/ELISA\\_Handbook.pdf](https://www.bosterbio.com/media/pdf/ELISA_Handbook.pdf)

## 23. Biomedical Transducers and Sensors

- Required Text: Biomedical Sensors – Deric P. Jones

## **24. English Language (Intermediate)**

- Required Text: English Grammar in Use – Raymond Murphy

## **25. Medical Communication Systems**

- Required Text: Medical Instrumentation: Application and Design – John G. Webster

## **26. Microprocessors**

- Required Text: Microprocessor Architecture, Programming and Applications with the 8085 – Ramesh S. Gaonkar

## **27. Electrical Technology**

- Required Text: Basic Electrical Engineering – V.K. Mehta

## **28. Signals and Systems**

- Required Text: Signals and Systems – Alan V. Oppenheim
- Websites: [http://www.tutorialspoint.com/dip/signals\\_and\\_system\\_introduction.htm](http://www.tutorialspoint.com/dip/signals_and_system_introduction.htm)

## **29. Digital Image Processing**

- Required Text: Digital Image Processing – Rafael C. Gonzalez & Richard E. Woods

## **30. Control Systems**

- Required Text: Modern Control Engineering – Katsuhiko Ogata

## **31. Biomedical Equipment Maintenance**

- Required Text: Introduction to Biomedical Equipment Technology – Carr & Brown

## **32. Graduation Project**

- Required Text: Supervised research and project documentation

## **33. Hospital Management**

- Required Text: Hospital Administration and Management – C.M. Francis & Mario C. de Souza

### **34. Medical Informatics**

- Required Text: Medical Informatics: Practical Guide – Robert Hoyt

### **35. English Language (Advanced)**

- Required Text: Academic Writing for Graduate Students – Swales & Feak

### **36. Professional Ethics**

- Required Text: Engineering Ethics – Charles E. Harris

### **37. Medical Therapeutic Instrumentation I**

- Required Text: Webster, John G., ed. medical instrumentation: application and design. John Wiley & Sons, 2009.

### **38. Medical Laser Systems**

- Required Text: An introduction to the Laser theory and applications By M. N. Avadhanulu and Dr. P. S. Hemne.
- Optical Fiber Communications By Gerd Keiser, second edition.
- Laser Principles and Applications By J. Wilson. 39. 40. Control System
- Modern Control Engineering, Ogata Katsuhiko, 5th Edition, Prentice-Hall, 2010.

### **41. Biomedical Signal Processing**

- Required Text: John G. Proakis & Dimitris G. Manolakis, Digital Signal Processing, Principles, Algorithms and Applications, 2007, 4th Edition, Pearson Prentice Hall. 42.

### **43. Microcontrollers**

- Required Text: Arduino Cookbook, by Michael Margolis, March 2011: First Edition. Michael Margolis and Nicholas Weldin. Printed in the United States of America.

### **43. Artificial Neural Engineering**

- Required Text: Neural Network Design By HAGAN 43. Microcontrollers