

## DIGITAL SIGNAL PROCESSING LAB LABORATORY MANUAL

B.TECH. Semester -V

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### DRONACHARYA GROUP OF INSTITUTIONS DEPARTMENT OF ECE

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# **Ece 5th Sem Lab Manual**

F Rizvi

#### **Ece 5th Sem Lab Manual:**

ECE 311 and ECE 316 Lab Manual Wayne M. Hope, 1999 **Experiments in Analog and Digital Electronics** A Laboratory Manual for ECE 489 and ECE 499 University of Tennessee, Knoxville. Thomas E. Brewer, 2004-07-09 Department of Electrical and Computer Engineering. Electro-optics Laboratory, 1988 Lab Manual for Meade's Foundations of Electronics, 5th Russell Meade, Robert Diffenderfer, 2006-05 The Lab Manual for FOUNDATIONS OF ELECTRONICS CIRCUITS DEVICES 5th Edition is a valuable tool designed to enhance your classroom experience Lab activities objectives materials lists step by step procedures illustrations review questions and more are all included Science Citation Index ,1994 Vols for 1964 have guides and journal lists Laboratory Manual ECE 3111 Electronics Florida Institute of Technology. Division of Electrical and Computer Science and Engineering, 1996 **ECE 2031** Tyson Lab Manual for Electronic Devices, Global Edition THOMAS L. FLOYD, 2018-06-19 This laboratory Hall-Twigg, 2004-01-01 manual is carefully coordinated to the text Electronic Devices Tenth edition Global edition by Thomas L Floyd The seventeen experiments correspond to the chapters in the text except the first experiment references Chapters 1 and the first part of Chapter 2 All of the experiments are subdivided into two or three Parts With one exception Experiment 12 B the Parts for the all experiments are completely independent of each other The instructor can assign any or all Parts of these experiments and in any order This format provides flexibility depending on the schedule laboratory time available and course objectives In addition experiments 12 through 16 provide two options for experiments These five experiments are divided into two major sections identified as A or B The A experiments continue with the format of previous experiments they are constructed with discrete components on standard protoboards as used in most electronic teaching laboratories. The A experiments can be assigned in programs where traditional devices are emphasized Each B experiment has a similar format to the corresponding A experiment but uses a programmable Analog Signal Processor ASP that is controlled by free Computer Aided Design CAD software from the Anadigm company www anadigm com These experiments support the Programmable Analog Design feature in the textbook The B experiments are also subdivided into independent Parts but Experiment 12 B Part 1 is a software tutorial and should be performed before any other B experiments This is an excellent way to introduce the ASP technology because no other hardware is required other than a computer running the downloaded software In addition to Experiment 12 B the first 13 steps of Experiment 15 B Part 2 are also tutorial in nature for the AnadigmFilter program This is an amazing active filter design tool that is easy to learn and is included with the AnadigmDesigner2 AD2 CAD software The ASP is part of a Programmable Analog Module PAM circuit board from the Servenger company www servenger com that

interfaces to a personal computer The PAM is controlled by the AD2 CAD software from the Anadigm company website Except for Experiment 12 B Part 1 it is assumed that the PAM is connected to the PC and AnadigmDesigner2 is running Experiment 16 B Part 3 also requires a spreadsheet program such as Microsoft Excel The PAM is described in detail in the

Quick Start Guide Appendix B Instructors may choose to mix A and B experiments with no loss in continuity depending on course objectives and time We recommend that Experiment 12 B Part 1 be assigned if you want students to have an introduction to the ASP without requiring a hardware purchase A text feature is the Device Application DA at the end of most chapters All of the DAs have a related laboratory exercise using a similar circuit that is sometimes simplified to make laboratory time as efficient as possible The same text icon identifies the related DA exercise in the lab manual One issue is the trend of industry to smaller surface mount devices which are very difficult to work with and are not practical for most lab work For example almost all varactors are supplied as surface mount devices now In reviewing each experiment we have found components that can illustrate the device function with a traditional one The traditional through hole MV2109 varactor is listed as obsolete but will be available for the foreseeable future from Electronix Express www elexp com so it is called out in Experiment 3 All components are available from Electronix Express www elexp com as a kit of parts see list in Appendix A The format for each experiment has not changed from the last edition and is as follows Introduction A brief discussion about the experiment and comments about each of the independent Parts that follow Reading Reading assignment in the Floyd text related to the experiment Key Objectives A statement specific to each Part of the experiment of what the student should be able to do Components Needed A list components and small items required for each Part but not including the equipment found at a typical lab station Particular care has been exercised to select materials that are readily available and reusable keeping cost at a minimum Parts There are two or three independent parts to each experiment Needed tables graphs and figures are positioned close to the first referenced location to avoid confusion Step numbering starts fresh with each Part but figures and tables are numbered sequentially for the entire experiment to avoid multiple figures with the same number Conclusion At the end of each Part space is provided for a written conclusion Questions Each Part includes several questions that require the student to draw upon the laboratory work and check his or her understanding of the concepts Troubleshooting questions are frequently presented Multisim Simulation At the end of each A experiment except 1 one or more circuits are simulated in a Multisim computer simulation New Multisim troubleshooting problems have been added to this edition Multisim troubleshooting files are identified with the suffix f1 f2 etc in the file name standing for fault1 fault2 etc Other files with nf as the suffix include demonstrations or practice using instruments such as the Bode Plotter and the Spectrum Analyzer A special icon is shown with all figures that are related to the Multisim simulation Multisim files are found on the website www pearsonglobaledition com Floyd Microsoft PowerPoint slides are available at no cost to instructors for all experiments The slides reinforce the experiments with troubleshooting questions and a related problem and are available on the instructor's resource site Each laboratory station should contain a dual variable regulated power supply a function generator a multimeter and a dual channel oscilloscope A list of all required materials is given in Appendix A along with information on acquiring the PAM As mentioned components are also available as a kit from Electronix Express the kit

**Experiments in Analog Anddigital Electronics** Brewer,1998-01-01 number is 32DBEDFL10 Lab Manual for Modern Electronic Communication Jeffrey S. Beasley, Gary M. Miller, David Shores, Mark E. Oliver, 2021 Electrical Engineering Lab M. Riaz, 1966 <u>Lab Manual for Electronic Communications</u> Jeffrey S. Beasley, Mark E. Oliver, Jonathan D. Hymer, David Shores, Gary M. Miller, 2013-06-24 This is a student supplement associated with Electronic Communications A System Approach 1 e Jeffrey S Beasley Jonathan D Hymer Gary M Miller ISBN 0132988631 Lab. Manual for CSE/CSE-DS/ AIML/AIDS students-A Practical Manual Dr. Rajiv Chopra, 2025-02-21 Lab Manual for CSE CSE DS AIML AIDS Students By Dr Rajiv Chopra This book serves as a comprehensive lab manual for B Tech students specializing in Computer Science Data Science Artificial Intelligence and Machine Learning Designed with a practical and experiment based approach it bridges the gap between theory and real world application Covering essential programming concepts AI ML techniques and hands on exercises this manual equips students with the skills needed for modern computing challenges Ideal for CSE IT ECE and related disciplines this book encourages students to explore experiment and apply their knowledge **Experiments for Electronic Principles** Albert Paul Malvino, Gregory F. Johnson, 1984 effectively in labs and projects Electronic Concepts Unit II, 1974 Basic Electronics Lab Manual Energy Concepts, Inc,1976 **Electronics** Fundamentals Student Lab Manual Global Specialties, 2022-11-13 Electronic Concepts, Unit I Energy Concepts, Electronics Lab Manual Jawdat kasassbeh, 2013 Basic Electronics Lab Manual Wayne M. Hope, 2009-09 Inc.1975

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