



## Government Girls' Polytechnic, Bilaspur

Name of the Lab: Digital Electronics Lab

Practical: Digital Electronics Lab

Class :3<sup>rd</sup> Semester (ET&T), 3<sup>rd</sup> Semester (CS)  
FOR ET&T

Teachers Assessment: 10 End Semester Examination: 50

FOR CS

Teachers Assessment: 20 End Semester Examination: 50

### EXPERIMENT No- 1

**OBJECTIVE:** - Verify Truth Table of Logic Gates (AND, OR, NOT, NAND & NOR Gates).

**EQUIPMENT REQUIRED:** - All the basic gate mention in the fig.

**THEORY:** - There are different gates available in digital electronic filed. Which is used to perform the different tasks they are as follow:-

**AND GATE:** - This gate is used for the multiplication of two binary digits.

**OR GATE:** - This gate is used for the addition of two binary digits.

**NOT GATE:** - This gate gives the compliment of given binary digit.

**NAND GATE:** - This gate is used for giving compliment of multiplication of two binary digits.

**NOR GATE:** - This gate is used for giving compliment of the addition of two binary digits

### DAIGRAMS:-

2-input AND gate



A	B	Output
0	0	0
0	1	0
1	0	0
1	1	1

1-input NOT gate

2-input OR gate



A	B	Output
0	0	0
0	1	1
1	0	1
1	1	1

2-input NAND gate

# Polytechnic Electronics Lab Manual

**G Psacharopoulos**



## **Polytechnic Electronics Lab Manual:**

**ELECTRONICS LAB MANUAL (VOLUME 2)** NAVAS, K. A., 2018-10-01 This book is evolved from the experience of the author who taught all lab courses in his three decades of teaching in various universities in India The objective of this lab manual is to provide information to undergraduate students to practice experiments in electronics laboratories This book covers 118 experiments for linear analog integrated circuits lab communication engineering lab power electronics lab microwave lab and optical communication lab The experiments described in this book enable the students to learn Various analog integrated circuits and their functions Analog and digital communication techniques Power electronics circuits and their functions Microwave equipment and components Optical communication devices This book is intended for the B Tech students of Electronics and Communication Engineering Electrical and Electronics Engineering Biomedical Electronics Instrumentation and Control Computer Science and Applied Electronics It is designed not only for engineering students but can also be used by BSc MSc Physics and Diploma students

**KEY FEATURES** Contains aim components and equipment required theory circuit diagram pin outs of active devices design tables graphs alternate circuits and troubleshooting techniques for each experiment Includes viva voce and examination questions with their answers Provides exposure on various devices

**TARGET AUDIENCE** B Tech Electronics and Communication Engineering Electrical and Electronics Engineering Biomedical Electronics Instrumentation and Control Computer Science and Applied Electronics BSc MSc Physics Diploma Engineering

*Laboratory Manual for Introductory Electronics Experiments* L. K. Maheshwari, M. M. S. Anand, 1979

**Experiments In Basic Electrical Engineering** S.K. Bhattacharya, 2007 It Has Often Been Experienced That Students Are Required To Perform Experiments On Certain Topic Before The Relevant Theory Has Been Taught In The Class A Laboratory Manual Which In Addition To A Set Of Instructions For Performing Experiments Includes Related Theory In Brief Could Help Students Understand Experiments Better In Response Of Demand From A Large Number Of States For An Appropriate Laboratory Manual In Basic Electricity And Electrical Measurements The T T T I Chandigarh Has Prepared This Manual Which Has Been Tried Out In Various Polytechnics And Improved Based On The Feedback The Basic Objective Of The Manual Is To Encourage Students To Perform Experiments Independently And Purposefully The Manual Organises The Information To Enable The Students To Verify Known Concepts And Principles And To Follow Certain Procedures And Practices And Thereby Acquire Relevant Skills Detailed Instructions For Carrying Out Each Experiment Alongwith Relevant Theory In Brief Have Been Given The Objectives For Performing An Experiment Have Been Included At The Beginning Of Each Experiment A List Of Questions Given At The End Of Each Experiment Will Help Students Evaluate His Own Understanding The Manual Also Includes Guidelines For Students And Teachers For Its Effective Use An Assessment Proforma Given At The Beginning Of The Manual May Be Used By The Teachers In Evaluating The Students

**Basic Electrical and Electronics Engineering Laboratory Manual** Jaspreet Singh, 2021-05-19 basic electrical and electronics

laboratory manual for engineering and diploma in engineering courses      *Fundamentals of Electrical and Electronics Engineering* | AICTE Prescribed Textbook - English Susan S. Mathew, Saji T. Chacko, 2021-11-01 Fundamentals of Electrical Electronics Engineering is a compulsory paper for the first year Diploma course in Engineering Technology Syllabus of this book is strictly aligned as per model curriculum of AICTE and academic content is amalgamated with the concept of outcome based education Books covers six topics Overview of Electronics Components and Signals Overview of Analog Circuits Overview of Digital Electronics Electric and magnetic Circuits A C Circuits and Transformer and Machines Each topic is written in easy and lucid manner A set of exercises at the end of each unit to test the student's comprehension is provided Some salient features of the book | Content of the book aligned with the mapping of Course Outcomes Programs Outcomes and Unit Outcomes | The practical applications of the topics are discussed along with micro projects and activities for generating further curiosity as well as improving problem solving capacity | Book provides lots of vital facts concepts principles and other interesting information | QR Codes of video resources and websites to enhance use of ICT for relevant supportive knowledge have been provided | Student and teacher centric course materials included in book in balanced manner | Figures tables equations and comparative charts are inserted to improve clarity of the topics | Objective questions and subjective questions are given for practices of students at the end of each unit Solved and unsolved problems including numerical examples are solved with systematic steps      **Handbook Of Experiments In Electronics** A B Sasikala, 2003 Well written handy and comprehensive this laboratory experiments manual caters to the requirements of students of Electronics and Communication Engineering Each experiment in the book provides essential theory aim scope statement equipment required procedure complete circuit diagram tabulation model graphs and results A complete laboratory manual for students of electronics and communication engineering Also useful for EEE EIE CSE IT ICE mechanical and polytechnic students      *Fundamentals of Power Electronics* Bhattacharya S.K., 2009-11-01 The Application Of Power Electronics Is Increasingly Being Seen In Residential Commercial Industrial Transportation Aerospace And Telecommunication Systems An Electrical Electronics Or Control Systems Engineer Needs To Understand The Basic Devices      **ELECTRONICS LAB MANUAL Volume I, FIFTH EDITION** NAVAS, K. A., 2015-09-11 This lab manual is intended to support the students of undergraduate engineering in the related fields of electronics engineering for practicing laboratory experiments It will also be useful to the undergraduate students of electrical science branches of engineering and applied science This book begins with an introduction to the electronic components and equipment and the experiments for electronics workshop Further it covers experiments for basic electronics lab electronic circuits lab and digital electronics lab A separate chapter is devoted to the simulation of electronics experiments using PSpice Each experiment has aim components and equipment required theory circuit diagram tables graphs alternate circuits answered questions and troubleshooting techniques Answered viva voce questions and solved examination questions given at the end of each experiment will be very helpful for the students The

purpose of the experiments described here is to acquaint the students with Analog and digital devices Design of circuits Instruments and procedures for electronic test and measurement      **Title Announcement Bulletin** ,1957      **American Book Publishing Record** ,1984      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      **Popular Electronics** ,1974      **Great Careers with a High School Diploma** Deborah Porterfield,2008 An introduction to such healthcare and medical related jobs as dental assistant nurse aide or veterinary assistant      Scientific and Technical Aerospace Reports ,1994 Lists citations with abstracts for aerospace related reports obtained from world wide sources and announces documents that have recently been entered into the NASA Scientific and Technical Information Database      **Government-wide Index to Federal Research & Development Reports** ,1967-05      **American Book Publishing Record Cumulative, 1950-1977** R.R. Bowker Company. Department of Bibliography,1978      Technical Publications Announcements with Indexes United States. National Aeronautics and Space Administration,1962      Subject Index to Unclassified ASTIA Documents Defense Documentation Center (U.S.),1960      Resources in Education ,1994      **European Electronics Directory 1994** C.G. Wedgwood,2013-10-22 Companion volume to Components and Sub Assemblies Directory providing access to 8000 manufacturers agents and representatives of electronics systems and equipment Entries include names of key managers addresses fax telephone numbers and pocket descriptions of manufacturing and sales programmes There is also a product index to track the companies involved in any given business lines

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