

**Programme Outcomes, Programme Specific Outcomes (PSO) & Course
Outcomes (CO) of B.Sc. Electronics: (Department of ELECTRONICS)**

Program Outcomes (POs)	
	<p>PO-1: Acquired the knowledge with facts and figures related to Electronic subjects.</p> <p>PO-2: Understood the basic concepts, fundamental principles, and the scientific theories related to various Electronics phenomena and their relevancies in the day-to-day life.</p> <p>PO-3: Learn the skills in handling scientific instruments, planning and performing in laboratory experiments.</p> <p>PO-4: Understand the principle and operation of real and virtual Electronic instruments.</p> <p>PO-5: The skill enhancement course will enable the students to design and troubleshoot electrical and electronic circuits.</p> <p>PO-6: Serve as programmer or hardware engineer with sound knowledge of practical and theoretical concepts.</p>
Program Specific Outcomes (PSOs)	
	<p>PSO-1: To prepare students with an academic environment, aware of excellence, leadership and the life-long learning needed for successful professional career.</p> <p>PSO-2: To create graduates with sound knowledge of fundamentals of Electronics, who can contribute towards advanced Science & Technology.</p> <p>PSO-3: To create graduates with sufficient capabilities in Electronics, who can become researchers & developers to satisfy the needs of the core Electronics industry.</p> <p>PSO-4: To produce Electronics professionals who are directly employed or start his/her own career as Electronic circuit designer, consultant, testing professional and even an Entrepreneur in Electronic industry.</p> <p>PSO-5: To train the students with good technical and scientific breadth so as to comprehend, analyze, design and create solutions for real-life problems.</p>

Course Outcomes (COs)	
<p>DSC-1A Network Analysis & Analog Electronics</p>	<p>CO-1: Study the circuit analysis using KCL, KVL and Node & Mesh.</p> <p>CO-2: Use of Network Theorems concept in the analysis of circuits.</p> <p>CO-3: Understand the principle and working various semiconducting devices.</p> <p>CO-4: Study the performance of semiconducting devices in rectification, filtering and regulation.</p> <p>CO-5: Study the working of Transistors and their characteristics.</p> <p>CO-6: Applications of Transistors in Two-Port Networks</p> <p>CO-7: Concept of feedback in amplifiers, small & large signal amplifiers.</p> <p>CO-8: In laboratory, students are familiarized with basic electronic components, study of different meters; install the components</p>

	on bread-boards with hand on experiments.
DSC-1B Linear & Digital Integrated Circuits	<p>CO-1: Study Op-Amp & their characteristics.</p> <p>CO-2: Analyze the different parameters and functions of Active filters.</p> <p>CO-3: Study different types of Number Systems & Codes.</p> <p>CO-4: Understand the concept of Logic Gates & Boolean Algebra.</p> <p>CO-5: Design & analyze Combinational Logic circuits (K-Maps).</p> <p>CO-6: Study the Data Processing circuits.</p> <p>CO-7: Learn the performance of Integrated circuits such as IC555 timer.</p> <p>CO-8: Understand the concept of Sequential circuits.</p> <p>CO-9: Study & analyze the performance of Op-Amps & Digital circuits in the laboratory.</p>
DSC-1C: Communication Electronics	<p>CO-1: Learn the concept of Electronic Communication.</p> <p>CO-2: Study the channels used in communication system and concept of SNR.</p> <p>CO-3: Analog Modulation: Study in detail the concept of AM.</p> <p>CO-4: Students will get the knowledge of FM modulation, Demodulation & generation of FM.</p> <p>CO-5: Learn the performance of Digital Communication systems.</p> <p>CO-6: Study the Digital Carrier modulation techniques.</p> <p>CO-7: Understand the satellite communication system & its advantages.</p> <p>CO-8: In the laboratory, students design and observe the performance & response of different communication systems.</p>
DSC-1D: Microprocessor and Microcontroller	<p>CO-1: Study the architecture, organization & memory concept of Microcomputer.</p> <p>CO-2: Understand the feature & functions of Microprocessor.</p> <p>CO-3: Learn the 8085 programming, timing & control circuits.</p> <p>CO-4: Study the Hardware & Software Interrupts.</p> <p>CO-5: Understand the architecture of 8051 Microcontroller.</p> <p>CO-6: Acquire the knowledge of assembly level language of 8051.</p> <p>CO-7: Study the programming of 8051.</p> <p>CO-8: Students are familiarized in developing different</p>

	<p>Microprocessor and Microcontroller based systems.</p> <p>CO-9: In the laboratory, students will perform some basic experiments related to Microprocessor and Microcontroller.</p>
<p>SEC-1: Electrical Circuits and Network Skills</p>	<p>CO-1: Students will learn basic electricity principles.</p> <p>CO-2: Acquire the knowledge of various meters used in circuit testing.</p> <p>CO-3: Familiarized with electric motors.</p> <p>CO-4: Study the different types of switches, Relays & fuses.</p> <p>CO-5: In laboratory experiments, students will study in detail the construction of meters and other electronic components and troubleshoots in electrical circuits through hand-on mode.</p>
<p>SEC-2: Analog, Digital & Electronic communication skills</p>	<p>CO-1: Students will get the knowledge of Analog & Digital devices which helps in design and development of communication systems.</p> <p>CO-2: Study the performance of different circuits such as oscillators, registers, counters etc...</p> <p>CO-3: Understand the mobile telephone system.</p> <p>CO-4: Acquire the ideas of GSM, CDMA, TDMA & FDMA technologies.</p> <p>CO-5: In laboratory, students will perform experiments on oscillators, counters and registers.</p>
<p>DSE-1: Electronic Instrumentation</p>	<p>CO-1: Understand the principles and operations of real & virtual electronic instruments which help in measuring physical parameters.</p> <p>CO-2: Study DC measurements of analog & digital meters.</p> <p>CO-3: Familiarization with Oscilloscope and its functions.</p> <p>CO-4: Study of Lock-in amplifier in PLL, Phase detector & VCO.</p> <p>CO-5: Basic idea & techniques for sum and average of signals in IC565/4046.</p> <p>CO-6: Study of signal generators.</p> <p>CO-7: Classification of transducers and description of their characteristics</p> <p>CO-8: Laboratory experiments help in measurement, conversion and stud the characteristics of different transducers, Lock-in</p>

	amplifier, etc...
SEC-3: Consumer Electronics and Embedded system skills	<p>CO-1: Students will be able to differentiate between consumer electronic and embedded system products.</p> <p>CO-2: Able to design regulated power supplies, SMPS, UPS etc...</p> <p>CO-3: Understand the control of AC voltage using SCR & TRIAC.</p> <p>CO-4: Acquire the knowledge of embedded system architecture and interfacing.</p> <p>CO-5: In the laboratory, students will learn the design of different voltage power supplies and interfacing of 8051 with different devices.</p>
SEC-4: Electronic projects	<p>CO-1: Students will be given simple projects which enable them to gain the skills in design, develop and troubleshoot the various electronic products.</p>
DSE-4: Photonic Devices and Power Electronics	<p>CO-1: Study the classification and characteristics of photonic devices.</p> <p>CO-2: Learn the classification and characteristics of optical devices used in communication.</p> <p>CO-3: Understanding the different types of display devices.</p> <p>CO-4: Study the evolution of fiber optic system, fiber modes and configurations.</p> <p>CO-5: Learn in brief about wave-guides.</p> <p>CO-6: Study different types of power electronic devices useful for the construction of high power electronic systems.</p> <p>CO-7: Use of semiconductor power devices in construction of high power electronic systems.</p> <p>CO-8: In the laboratory, the students will study the performances of photonic, optical and power electronic devices.</p>