

Dr. Ambedkar College, Deekshabhoomi, Nagpur

Department of Electronics

Bachelor of Science [B.Sc Electronics] [2022-23]

Course Outcomes of B.Sc. Electronics

B.Sc. Electronics is a 6-semester course conducted by Dr. Ambedkar College, Deekshabhoomi, Nagpur as per the syllabus provided by Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur. Each semester students have to take two theory papers, two Practicum based on two theory papers. Coursework is according to theory papers, practicum conducted throughout the program.

Program Name: B.Sc in Electronics

Semesters	Papers	Course Outcome [CO]
Semester-I	Paper-I [ELE-I] Basic Circuit Components and Network Analysis	<i>Course outcome Students will be able to</i> CO1: students learn with the basic requirement of electronic circuits. CO2: Understand the theorems useful for circuit operation. CO3: To explore the use of energy sources for circuit operations. CO4: To familiarize about the use of transducers in instrumentation systems
	Paper-II [ELE-II] Fundamentals of Digital Electronics	<i>Course outcome Students will be able to</i> CO1: Students understand the basic requirement of digital electronics. CO2: Students understand the use of Boolean Algebra for circuit operations. CO3: To elaborate the use of flip flops as memory in data processing system CO4: To explore the use of binary circuits in digital system. To familiarize about the basic building blocks required for digital system.
Semester-II	Paper-I [ELE-I] Semiconductor Devices	<i>Course outcome Students will be able to</i> CO1: Students understand the semiconductors used for the fabrication of Semiconductor devices.

		<p>CO2: Students acquire the knowledge of transistor used in many electronic circuits.</p> <p>CO3: To familiarize about the field effect transistor and its operation.</p> <p>CO4: To explore the use of power devices required in electronics circuits. To Familiarize about the applications of diode, transistor and power devices.</p>
	<p>Paper-II [ELE-II]</p> <p>Advanced Digital Electronics</p>	<p><i>Course outcome Students will be able to</i></p> <p>CO1: To enrich the students with the digital ICS used in electronics circuits.</p> <p>CO2: Students understand and use of Flip-Flops in the construction of counters.</p> <p>CO3: To familiarize the use of Counters & Registers in data processing system.</p> <p>CO4: Students understand the use of binary memory in digital system. To Disseminate about the building blocks required for digital system.</p>
Semester-III	<p>Paper-I [ELE-I]</p> <p>Analog Circuits</p>	<p><i>Course outcome Students will be able to</i></p> <p>CO1: Remember and understand the applications of diode as clippers, clamper and rectifier.</p> <p>CO2: Understand the role of transistor in amplification, signal analysis and two port hybrid circuits for testing amplifier parameters.</p> <p>CO3: Learn the concept of feedback and construction of feedback amplifier and oscillators.</p> <p>CO4: Remember and understand the use of power amplifier in electronics circuits. familiarize about the applications of diode and transistor.</p>
	<p>Paper-II[ELE-II]</p> <p>Linear Integrated Circuits</p>	<p><i>Course outcome Students will be able to</i></p> <p>CO1: Remember and learn the DC & AC characteristics of operational amplifier</p> <p>CO2: Students understand the elucidate and design linear and nonlinear circuits of OP-AMP.</p> <p>CO3: Students understand the study of timer IC circuit and its applications.</p> <p>CO4: Remember and learn the role of filters in electronics circuits. To explore the Knowledge of linear integrated circuits and its uses.</p>
Semester-IV	<p>Paper-I [ELE-I]</p> <p>Basic</p>	<p><i>Course outcome Students will be able to</i></p>

	Communication Electronics	<p>CO1: Students understand functioning of basic processes in communication systems.</p> <p>CO2: Students remember and understand analogue modulation & demodulation techniques.</p> <p>CO3: Remember and Understand transmission and reception systems.</p> <p>CO4: Students understand propagation of radio waves in communication systems. Learn the process of analogue signal communication system.</p>
	Paper-II [ELE-II] Analog and Digital Circuits	<p><i>Course outcome Students will be able to</i></p> <p>CO1: Remember and study the DAC and ADC used for data conversions in Electronics system.</p> <p>CO2: Students understand and elucidate and design regulated DC power supply for operating electronic devices.</p> <p>CO3: Students understand the concept of PLL IC 565 and its applications.</p> <p>CO4: Students remember the concept of transducer and learn the role of transducers in Bioelectronics circuits. Remember the knowledge of Analogue and Digital circuits and its uses.</p>
Semester-V	Paper-I [ELE-I] Modern Communication Systems	<p><i>Course outcome Students will be able to</i></p> <p>CO1: Students understand the concept optical communication and its operation.</p> <p>CO2: Remember and understand various digital modulation and demodulation techniques.</p> <p>CO3: Students understand the performance of digital communication system in terms of error rate and spectral efficiency</p> <p>CO4: Understand the telecommunication traffic, channel and cellular capacity CO5 and remember the various application of cellular technology.</p>
	Paper-II [ELE-II] Introduction to Microprocessor	<p><i>Course outcome Students will be able to</i></p> <p>CO1: Remember and understand importance of Microprocessors as a Programmable digital system element in computer system.</p> <p>CO2: Remember and understand architecture and features of 8085 Microprocessor.</p>

		<p>CO3: Students understand and explore some basic concepts of microprocessors through assembly language programming.</p> <p>CO4: Students grown-up the in-depth understanding of the operation of microprocessors and machine language programming & interfacing Techniques. Students understand the knowledge of interfacing the peripheral to increase the flexibility of microprocessor</p>
Semester-VI	<p>Paper-I [ELE-I]</p> <p>Programming in "C"</p>	<p><i>Course outcome Students will be able to</i></p> <p>CO1: Students understand and Familiar with elements of C language.</p> <p>CO2: Remember and understand operators, Expression and Preprocessors.</p> <p>CO3: Understand different decision making and concept of looping in C.</p> <p>CO4: Remember and understand Array, Structure, Function and Pointers, their declaration and use.</p>
	<p>Paper-II [ELE-II]</p> <p>Microcontroller 8051 and its Applications</p>	<p><i>Course outcome Students will be able to</i></p> <p>CO1: Students understand the architecture and features of 8051 Microcontroller.</p> <p>CO2: Remember and learn the Programming of 8051 microcontroller.</p> <p>CO3: Students learn interfacing of 8051 Microcontroller with real world input and output devices and design some circuits.</p> <p>CO4: Students understand the coding and interfacing of 8051 with various IO devices and understand importance of Microcontrollers in atomization and control system.</p>