

## ELECTRONICS DEPARTMENT

**Table 3:** Course Outcomes, **Program:** Three Year (Six Semester) Multidisciplinary under graduate courses of studies (General),  
**Program code: ELTG**

S.I. No	Course	Semester	Course Code	Credit	Course outcome			Skill Development related to employability and Entrepreneurship development	
					Theory	Practical	Total		
1	Network Analysis and Analog Electronics (theory)	1	ELT-MD-CC-1-1-TH	3	75		100	After completion of this course, students will Apply knowledge of Voltage and Current sources, AC and DC Circuits, Network theorems (Thevenin, Norton, Superposition, Maximum Power Transfer), develop the ability to understand the design and working of BJT/ FET amplifiers. Develop the skill to build, and troubleshoot Analog Circuits, further study in science, and in the professional world.	The course focuses to develop the basic knowledge in circuits. The basic knowledge and conception of circuits is essential to understand the higher-level design of analog and digital circuits and engineering. The content of course is also important to qualify the NET, SET, GATE and other job-oriented examinations for Electronics students.
2	Network Analysis and (Practical)	1	ELT-G-CC-1-1-P	1		25		On completion of this course <del>students</del> will have hands on experience In BJT I-V characteristics, in Rectifiers half wave and full wave rectifiers related practical, I-V characteristics of JFET, BJT, P-N junction diode, Zener Diode. Verification of Network Theorems.	Analog Circuits related basic instruments handling capabilities are developed. That knowledge is essential for the experiments in higher analog and digital circuits.

3	Linear and Digital Integrated Circuits (theory)	2	ELT-MD-CC-2-2-TH 3	3	75	100	Having successfully completed this course student will learn The detailed description of Operational Amplifiers, Applications of Operational Amplifiers, Knowledge of Boolean algebra and detailed analysis of logic gates, Analysis of combinational circuits to design registers and counters, Conversion of analog to digital and digital to analog circuits.	Basic knowledge of Boolean algebra, logic gates, operational amplifiers is essential to realize the higher digital circuits. The content of course is also important to qualify the NET, SET, GATE and other job-oriented examinations for Electronics students.
4	Linear and Digital Integrated Circuits (practical)	2	ELT-MD-CC-2-2-P 1	1	25		Operational amplifiers related experiment is learnt, in digital circuits design of Adder, Subtractor, flip-flop, registers related experiment are learnt.	Operational Amplifiers related basic instruments handling capabilities are developed. That knowledge is essential for the experiments of hardware related experiment for future applications.
5	Fundamental of Electronics	1	ELT-IDC-TH	2	75	100	After completion of this course, students will Apply knowledge of Voltage and Current sources, AC and DC Circuits, Network theorems (Thevenin, Norton, Superposition, Maximum Power Transfer). Understand the characteristics and applications of OP-AMP. Develop the ability to understand the design and working of BJT/ FET amplifiers. Develop the skill to build, and troubleshoot communication	The course focuses to develop the basic knowledge in circuits. The basic knowledge and conception of circuits is essential to understand the higher-level design of analog and digital circuits and engineering. The content of course is also important to qualify the NET, SET, GATE and other job-oriented examinations for Electronics students.

								electronics that we can further study in science, and in the professional world.	
6	Circuit Simulation with PSPICE	2	ELT-MD-SEC-TH	3	75		100	After completion of this course, students will learn about basic introduction to PSpice Software, circuit descriptions, DC operation and Circuit analysis. They can understand the transient analysis, AC circuit analysis. Develop the ability to understand the design and working of BJT and FET amplifiers.	The course focuses to develop the basic knowledge in PSpice Software, circuit descriptions, DC operation and Circuit analysis. The basic knowledge and conception of circuits is essential to understand the higher-level design of analog and digital circuits and engineering. The content of course is also important to qualify the NET, SET, GATE and other job-oriented examinations for Electronics students.
7	Circuit Simulation with PSPICE Lab	2	ELT-MD-SEC-P	1		25		On completion of this course students will have hands on experience in BJT, I-V characteristics, in Rectifiers half wave and full wave rectifiers related practical, I-V characteristics of JFET, BJT, P-N junction diode, Zener Diode using PSPICE software.	By using PSPICE software many circuit experiments can be solved easily. That knowledge is essential for the experiments in higher analog and digital circuits.

## **Programme Outcomes of B. Sc Electronics**

- 1. Critical Thinking:** Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
- 2. Effective Communication:** Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.
- 3. Social Interaction:** Elicit views of others, mediate disagreements and help reach conclusions in group settings.
- 4. Effective Communication:** Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.
- 5. Effective Citizenship:** Demonstrate empathetic social concern and equity-centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
- 6. Ethics:** Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
- 7. Environment and Sustainability:** Understand the issues of environmental contexts and sustainable development.
- 8. Self-directed and Life-long Learning:** Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes.

## **Programme Specific Outcomes (PSO) B. Sc Electronics**

1. Students will acquire a comprehensive knowledge and sound understanding of fundamentals of Electronics.
2. Students will develop practical, analytical and mathematical skills in Electronics.
3. Students will be prepared to acquire a range of general skills, to solve problems, to evaluate information, to use computers productively, to communicate with society effectively and learn independently.
4. Students will acquire a job efficiently in diverse fields such as Science and Engineering, Education, Banking, Public Services, Business etc.