1.	Title of the course	Basic Electrical Engineering
2.	Course number	ES102L
3.	Structure of credits	3-1-0-4
4.	Offered to	UG
5.	New course/modification to	Modification To ES1201/8
6.	To be offered by	Department of Electrical Engineering
7.	To take effect from	July 2022
8.	Prerequisite	Nil
9.	**Course Objective(s):** The objective of this course is to introduce the basic concepts of Electrical engineering to all UG students. The course is aimed at providing an overview and working knowledge of basic electronics to all UG students. The course also serves as the foundation course for all Electrical Engineering students for their subsequent core courses in 3rd semester	
10.	**Course Content:** 1. Introduction –Resistors, Capacitors, etc., Thevenin's Norton's and Superposition theorems, Diodes, Types of diodes, Transistors, BJT, FET, etc.,Characteristics, Integrated Circuits 2. Operational Amplifiers, Feedback, Mathematical Operations, Application circuits, Active Filters, Non-linear circuits, Comparators, Relaxation Oscillator, etc. 3. Fundamentals of Digital Circuits binary arithmetics, Logic Gates, Combinational Logic and Code Converters, Flipflops, Registers, Counters, 7-Segment Displays, AD and DA converters 4. Arduino UnoFeatures, Programming and applications	
11.	**Textbook(s):** 1. Malvino A P, *Electronic Principles*, McGraw-Hill (1998). 2. Floyd T L, *Digital Fundamentals*, Pearson (2014).	
12.	**Reference(s):** 1. Boylestad R and Nashelsky L, Electronic Devices and Circuits, Pearson Education (2015). 2. Mano M M and Ciletti M D, Digital Design, Pearson Education (1989). 3. Floyd T L, Digital Fundamentals, Pearson (2014). 4. Francis B, Arduino: The Complete Beginner's Guide - Step By Step Instructions, Kindle Edition (2016).	