No	Course Information (2019-2020)	
1	Unit name:	Fundamental of Electronics Circuits I
2	Code:	EcE -11011
3	Classification:	Engineering subject
4	Credit value:	2.5 (2-0-1)
5	Semester/ Year Offered:	1/1
6	Pre-requisite:	NA
7	Mode of delivery:	Lecture, Demonstration
8	Assessment system and breakdown of marks:	Tutorial, Lab Report, Lab activity Exam
9	Tutorial	10%
	Practical	20%
	Mid-term/ final Examination	70%
10	Academic staff teaching unit:	Electronic Engineering
11	Course outcomes of unit: In this course students will be able (1) To recognize the concepts of electrical and electronic fundamentals (2) To calculate the electrical properties of passive components and solve the complex DC circuits using several techniques (3) To explain the working principles, characteristics and the basic properties of electronic fundamental components (4) To measure the operations of basic electronic components (R,L,C) and perform fundamental circuits by using hardware	
12	Synopsis of unit: This course covers the electronic circuits with the characteristic of fundamental components, operations and applications. The course introduces to the students electrical fundamentals. And then it introduces characteristic of resistor, capacitor and inductor. Series and parallel combinations of resistors, capacitors and inductors are	

	also introduced. The characteristic of C-R and L-R DC circuits are also described. Kirchhoff's Laws, Wheatstone bridge and Thevenin's Theorem are mentioned in this course. The course also introduces the relation of voltage, resonant frequency, power factor, quality factor and transformers. Different types of power supply are described to understand their characteristics.
13	Topic: Chapter Title 1 Electrical Fundamentals 2 Passive Components 3 D.C Circuits
14	Main references: 1. Mike Tooley, Electronic Circuits Fundamentals and Applications, Third Edition, ELsivier Ltd, 2006
15	Additional references: 1. Jacob Millman, Christors C Halkias, Satyabata Jit, Millman's Electronic Devices and Circuits, Third Edition, Tata McGraw Hill Education Private Limited, 2007 2. THOMAS L. FLOYD, ELECTRONIC DEVICES (Seventh Edition)

Information on Lab Practical (Fundamental of Electronics Circuits)

Lab	Activity
1	**Experiment**: **1 Determining the Resistance Values** **Objectives**: • To distinguish the 4 band resistors • To describe and measure the resistance values • To select the electronic components and instruments **Requirements**: • Different types of Resistor • Multi-meter
2	**Experiment: 2 Series Combination of Resistors** **Objectives**: • To describe the resistor series circuits • To measure and calculate the total resistance values of the circuits • To select the electronic components and instruments **Requirements**: • Different types of resistor • Multi-meter
3	**Experiment: 3 Parallel Combination of Resistors** **Objectives**: • To describe the resistor parallel circuits • To measure and calculate the total resistance values of the circuits • To select the electronic components and instruments **Requirements**: • Different types of resistor • Multi-meter

4	**Experiment**: **4 Ohm's Law** **Objectives**: • To distinguish the ohm' law • To measure the voltage, current and resistance using Multi-meter **Requirements**: • Resistors • Battery • Multi-meter • Bread-board
5	**Experiment: 5 Determining the Capacitance values** **Objectives**: • To describe the capacitance values from digit code • To select the electronic components and instruments **Requirements**: • Different types of capacitor • Multi-meter