

Discipline: Electrical Engineering	Semester : 1st Semester-2020- 21	Name of the Teaching Faculty: Miss Swati Sharma Lect.Electrical Engineering
Subject: Basic Electrical and Electronics	No. of Days/week Class Allotted: 60	Date:- No of weeks: 18
Week	Class Day	Theory Topics
1st	1st	Concept of current flow and Concept of source and load and State Ohm's law and concept of resistance
	2nd	Relation of V, I & R in series circuit and Relation of V, I & R in parallel circuit
	3rd	Division of current in parallel circuit and Effect of power in series & parallel circuit.
	4th	Kirchhoff's Law and Simple problems on Kirchhoff's law.
2nd	1st	Generation of alternating emf and Difference between D.C. & A.C.
	2nd	Define Amplitude, instantaneous value, cycle, Time period, frequency, phase angle, phase difference
	3rd	State & Explain RMS value, Average value, Amplitude factor & Form factor with Simple problems
	4th	Represent AC values in phasor diagrams and AC through pure resistance, inductance & capacitance
3rd	1st	AC through RL, RC, RLC series circuits
	2nd	Simple problems on RL, RC & RLC series circuits.
	3rd	Concept of Power and Power factor, Impedance triangle and power triangle
	4th	Generation of electricity in Thermal power plant with its block diagram
4th	1st	Generation of electricity in Hydro power plant with its block diagram
	2nd	Generation of electricity in Nuclear power plant with its block diagram
	3rd	Introduction of DC machines and Main parts of DC machines.
	4th	Classification of DC generator and Classification of DC motor with Uses of different types of DC generators & motors.
5th	1st	Concept of Lumen, Different types of Lamps (Filament, Fluorescent, LED bulb) its Construction and Principle
	2nd	Star rating of home appliances (Terminology, Energy efficiency, Star rating Concept
	3rd	Types of wiring for domestic installations.
	4th	Layout of household electrical wiring (single line diagram showing all the important component in the system) and basic protective devices used in house hold wiring
6th	1st	Calculate energy consumed in a small electrical installation
	2nd	Introduction to measuring instruments and Torques in instruments.
	3rd	Different uses of PMMC type of instruments (Ammeter & Voltmeter). Different uses of MI type of instruments (Ammeter & Voltmeter).
	4th	Draw the connection diagram of A.C/ D.C Ammeter, voltmeter, energy meter and wattmeter (Single phase only).

7 th	1 st	Basic Concept of Electronics and its application.
	2 nd	Basic Concept of Electron Emission & its types
	3 rd	Classification of material according to electrical conductivity (Conductor, Semiconductor & Insulator) with respect to energy band diagram only.
	4 th	Difference between Intrinsic & Extrinsic Semiconductor and Difference between vacuum tube & semiconductor
8 th	1 st	Principle of working and use of PN junction diode, Zener diode and Light Emitting Diode (LED)
	2 nd	Integrated circuits (I.C) & its advantages
	3 rd	Rectifier & its uses.
	4 th	Principles of working of different types of Rectifiers with their merits and demerits
9 th	1 st	Functions of filters and classification of simple Filter circuit(Capacitor, choke input and π)
	2 nd	Working of D.C power supply system (unregulated) with help of block diagrams only
	3 rd	Transistor, Different types of Transistor Configuration and state output and input current gain relationship in CE,CB and CC configuration
	4 th	Need of biasing and explain different types of biasing with circuit diagram.(only CE configuration)
10 th	1 st	Amplifiers(concept) , working principles of single phase CE amplifier
	2 nd	Electronic Oscillator and its classification
	3 rd	Working of Basic Oscillator with different elements through simple Block Diagram
	4 th	Basic communication system (concept & explanation with help of Block diagram)
11 th	1 st	Concept of Modulation and Demodulation, Difference between them
	2 nd	Different types of Modulation (AM, FM & PM) based on signal, carrier wave and modulated wave (only concept, No mathematical Derivation)
	3 rd	Concept of Transducer and sensor with their differences
	4 th	Different type of Transducers & concept of active and passive transducers.
12 th	1 st	Working principle of photo emissive, photoconductive, photovoltaic transducer and its application
	2 nd	Multimeter and its applications
	3 rd	Analog and Digital Multimeter and their differences.
	4 th	Working principle of Multimeter with Basic Block diagram

13th	1st	CRO, working principle of CRO with simple Block diagram.
	2nd	Revision of Chapter – 01
	3rd	Revision of Chapter – 02
	4th	Revision of Chapter – 03
14th	1st	Revision of Chapter – 04
	2nd	Revision of Chapter – 05
	3rd	Revision of Chapter – 06
	4th	Revision of Chapter – 01(BASIC ELECTRONICS)
15th	1st	Revision of Chapter – 02
	2nd	Revision of Chapter – 03
	3rd	Revision of Chapter – 04
	4th	Discussion of Probable Questions and Answers (1)
16th	1st	Discussion of Probable Questions and Answers (2)
	2nd	Discussion of Probable Questions and Answers (3)
	3rd	Discussion of Probable Questions and Answers (4)
	4th	Discussion of Probable Questions and Answers (5)
17th	1st	Discussion of Probable Questions and Answers (6)
	2nd	Discussion of Probable Questions and Answers (7)
	3rd	Discussion of Probable Questions and Answers (8)
	4th	Discussion of Probable Questions and Answers(9)
18th	1st	Discussion of Probable Questions and Answers (10)
	2nd	Discussion of Probable Questions and Answers(11)
	3rd	Discussion of Probable Questions and Answers (12)
	4th	Discussion of Probable Questions and Answers (13)