

# GANDHI INSTITUTE OF TECHNOLOGY AND MANAGEMENT

## Lesson Plan

<b>Name of the Program</b>	Diploma in Electrical Engineering				
<b>Course Name</b>	Basic Electrical & Electronics Engineering		<b>Course Code</b>	C112	
<b>Course Year</b>	First	<b>Semester</b>	1st	<b>Academic Period</b>	2022-23
<b>No. of Classes allotted per Week</b>		04	<b>Planned Classes Required to Complete the Course</b>		60

Sl. No.	Topics to be covered	Module	No. of hours Required	Mode of Teaching
1	Concept of current flow & Concept of source and load.	I	01	LM/ IM
2	State Ohm's law and concept of resistance	I	01	LM/ IM
3	Relation of V, I & R in series circuit & relation of V, I & R in parallel circuit.	I	01	LM/ IM
4	Division of current in parallel circuit & effect of power in series & parallel circuit.	I	01	LM/ IM/ ICT
5	Kirchhoff's Law with Simple problems on Kirchhoff's law.	I	01	LM/ IM
6	Generation of alternating emf. & Difference between D.C. & A.C	II	01	LM/ IM
7	Define Amplitude, instantaneous value, cycle, Time period, frequency, phase angle, phase difference.	II	01	LM/ IM
8	State & Explain RMS value, Average value, Amplitude factor & Form factor with Simple problems.	II	01	LM/ IM/ ICT
9	Represent AC values in phasor diagrams.	II	01	LM/ IM
10	AC through pure resistance, inductance & capacitance	II	01	LM/ IM
11	AC through RL, RC, RLC series circuits	II	01	LM/ IM
12	Simple problems on RL, RC & RLC series circuits.	II	01	LM/ IM
13	Concept of Power and Power factor. Impedance triangle and power triangle	II	01	LM/ IM
14	Give elementary idea on generation of electricity from thermal power station with block diagram	III	01	LM/ IM
15	Give elementary idea on generation of electricity from hydro power station with block diagram	III	01	LM/ IM
16	Give elementary idea on generation of electricity from nuclear power station with block diagram	III	01	LM/ IM/ ICT
17	Introduction of DC machines & Main parts of DC machines	IV	01	LM/ IM
18	Classification of DC generator	IV	01	LM/ IM/ ICT
19	Classification of DC motor	IV	01	LM/ IM
20	Uses of different types of DC generators & motors.	IV	01	LM/ IM
21	Types and uses of single- phase induction motors	IV	01	LM/ IM

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22	Concept of Lumen	IV	01	LM/ IM/ ICT
23	Different types of Lamps (Filament, Fluorescent, LED bulb) its Construction and Principle	IV	01	LM/ IM
24	Types of wiring for domestic installations.	V	01	LM/ IM
25	Layout of household electrical wiring (single line diagram showing all the important component in the system)	V	01	LM/ IM
26	List out the basic protective devices used in house hold wiring	V	01	LM/ IM/ ICT
27	Calculate energy consumed in a small electrical installation	V	01	LM/ IM
28	Introduction to measuring instruments. Torques in instruments	VI	01	LM/ IM
29	Different uses of PMMC type of instruments (Ammeter & Voltmeter).	VI	01	LM/ IM
30	Different uses of MI type of instruments (Ammeter & Voltmeter). Draw the connection diagram of A.C/ D.C Ammeter, voltmeter, energy meter and wattmeter. (Single phase only).	VI	01	LM/ IM/ ICT
31	Basic Concept of Electronics and its application. Basic Concept of Electron Emission & its types.	I	01	LM/ IM
32	Classification of material according to electrical conductivity (Conductor, Semiconductor & Insulator) with respect to energy band diagram only.	I	01	LM/ IM
33	Difference between Intrinsic & Extrinsic Semiconductor.	I	01	LM/ IM
34	Difference between vacuum tube & semiconductor.	I	01	LM/ IM/ ICT
35	Principle of working and use of PN junction diode.	I	01	LM/ IM
36	Principle of working and use of Zener diode.	I	01	LM/ IM
37	Principle of working and use of Light Emitting Diode (LED).	I	01	LM/ IM
38	Integrated circuits (I.C) & its advantages.	I	01	LM/ IM
39	Rectifier & its uses.	II	01	LM/ IM
40	Principles of working of different types of Rectifiers with their merits and demerits	II	01	LM/ IM
41	Functions of filters and classification of simple Filter circuit (Capacitor, choke input and $\pi$ )	II	01	LM/ IM/ ICT
42	Working of D.C power supply system (unregulated) with help of block diagrams only	II	01	LM/ IM
43	Transistor, Different types of Transistor Configuration and state output and input current gain relationship in CE, CB and CC configuration( No mathematical derivation)	II	01	LM/ IM

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44	Need of biasing and explain different types of biasing with circuit diagram.( only CE configuration)	II	01	LM/ IM
45	Amplifiers(concept) , working principles of single phase CE amplifier	II	01	LM/ IM
46	Electronic Oscillator and its classification	II	01	LM/ IM/ ICT
47	Working of Basic Oscillator with different elements through simple Block Diagram	II	01	LM/ IM
48	Basic communication system (concept & explanation with help of Block diagram)	III	01	LM/ IM
49	Concept of Modulation and Demodulation, Difference between them	III	01	LM/ IM
50	Different types of Modulation (AM, FM & PM) based on signal, carrier wave and modulated wave (only concept, No mathematical Derivation)	III	01	LM/ IM
51	Concept of Transducer and sensor with their differences.	IV	01	LM/ IM
52	Different type of Transducers & concept of active and passive transducer.	IV	01	LM/ IM/ ICT
53	Working principle of photo emissive transducer and its application	IV	01	LM/ IM
54	Working principle of photoconductive transducer and its application	IV	01	LM/ IM
55	Working principle of photovoltaic transducer and its application	IV	01	LM/ IM
56	Multimeter and its applications	IV	01	LM/ IM
57	Analog and Digital Multimeter and their differences	IV	01	LM/ IM/ ICT
58	Working principle of Multimeter with Basic Block diagram	IV	01	LM/ IM
59	Basic concept of CRO.	IV	01	LM/ IM
60	Working principle of CRO with simple Block diagram.	IV	01	LM/ IM

Signature of the Faculty

Signature of the HoD