## **ACADEMIC LESSON PLAN OF WINTER 2023**

	1	ACADEMIC LESSON PLAN OF WINTER 2025
Discipline: ELECTRICAL	Semester:	Name of the Teaching Faculty: LUCKY RANI BEHURIA
& AA	1 <sup>st</sup> Sem	
(SECTION –		
C&D)		
Subject:	No. of	Semester From: 16 <sup>tH</sup> August 2023 to 11 <sup>th</sup> December 2023
BASIC	days/per	No. of weeks: 15 weeks
ELECTRIC	week class	
AL	allotted:2p/	
ENGINEER	week	
ING	Week	
Week	Class Day	Theory Topics
VVCCK	1	1. FUNDAMENTALS:
1 <sup>st</sup>	1	
1	2	1.1 Concept of current flow
		1.2 concept of source and load
	4	1.2.1 concept of D.C source
and	1	1.3 state Ohm's law
2 <sup>nd</sup>		1.3.1 Resistance
	2	1.3.2 Series and parallel resistances
		1.3.3 problems on series and parallel resistances
3 <sup>rd</sup>	1	1.4 Current and Voltage division in series and parallel circuits
3	2	1.5 Kirchhoff's laws
		1.5.1 problems on kirchhoff's laws
4 <sup>th</sup>	1	2 A.C THEORY
4		2.1 Concept of AC voltage and current
	2	2.2 Generation of alternating EMF
	1	2.3. Difference between AC and DC
.41-		2.4. Define frequency, amplitude, time period, cycle, phase angle, phase
5 <sup>th</sup>		difference
	2	2.5 Explanation of RMS value, instantaneous value, average value, amplitude
	_	factor, form factor(simple problems)
6 <sup>th</sup>	1	2.6 Representation of AC values in phasor diagrams.
0	2	2.7. AC through pure resistance, inductance, capacitance
	2	2.7. AC through pure resistance, inductance, capacitance
7 <sup>th</sup>	1	2.8. AC through RL,RC, & RLC circuits
/	2	2.9. Problems on RL, RC,& RLC series circuits
	_	, ,
8 <sup>th</sup>	$\frac{1}{2}$	2.10. concept of power and power factor
	2	2.11. Impedance triangle
		2.11.1 Power triangle
a	1	3. GENERATION OF ELECTRICAL POWER
9 <sup>th</sup>		3.1 Introduction to different generating power plants
	2	3.2. Thermal power plants
		3.2.1 layout of a thermal power plant(advantages and disadvantages)
10 <sup>th</sup>	1	3.3 Hydro power plant
		3.3.1 layout of a Hydro power plant(advantages and disadvantages)
	2	3.4 Nuclear power plant (layout of nuclear power plant with advantages and
		disadvantages)
11 <sup>th</sup>	1	4. CONVERSION OF ELECTRIACAL ENERGY(Introduction to DC
		machines)
<u> </u>	<u> </u>	/

	2	4.1 main parts of DC machines(DC generator and DC motor)
12 <sup>th</sup>	1	4.2 Single phase induction motor(types) and concept of lumen
12	2	4.3 different types of lamps, filaments, LED bulbs and their construction
		4.4 star rating of home appliances(star rating concept, energy efficiency)
	1	5. WIRING AND POWER BILLING: Types of wiring for domestic
13 <sup>th</sup>		installations
13		5.1 single line diagram showing all the important components in the system
	2	5.2 list of protective devices used in household wiring
		5.3 calculation of energy consumed.
14 <sup>th</sup>	1	6. MEASURING INSTRUMENTS: introduction to measuring instruments
14	2	6.1 Torques in measurements
		6.2 Different use of PMMC type of instruments(voltmeter and ammeter)
15 <sup>th</sup>	1	6.3 different usage of MI type of instruments(voltmeter and ammeter)
	2	6.3 different usage of MI type of instruments(voltmeter and ammeter)
16 <sup>th</sup>	1	Extra class
	2	Extra class
17 <sup>th</sup>	1	Extra class
	2	Extra class

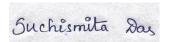
Lucky Pani Behneis

Signature of Teaching Faculty

## **ACADEMIC LESSON PLAN OF WINTER 2023**

Semester: 1st Sem   Sem   Semester: 1st Sem   Sem   Semester: 1st Sem   Sem			ACADEMIC LESSON PLAN OF WINTER 2023
Subject: BASIC   Glass Day   Semester From: 16 <sup>th</sup> August 2023 to 11 <sup>th</sup> December 2023   No. of weeks:15 weeks	ELECTRONICS		Name of the Teaching Faculty: SUCHISMITA DAS
TECHNOLOGY (SECTION - E&C)   Subject   Somester From: 16 <sup>th</sup> August 2023 to 11 <sup>th</sup> December 2023   No. of weeks:15 weeks   No. of weeks:15 weeks		1 Sem	
Subject: BASIC ELECTRICAL ENGINEERING  Week  Class Day  Theory Topics  1. FUNDAMENTALS: 1.1 Concept of current flow 1.2 concept of D.C source  1.3.3 state Ohm's law 1.3.1 Resistance 2 1.3.2 Series and parallel resistances 1.3.3 problems on series and parallel circuits  2 1.5 Kirchhoff's laws 1.5.1 problems on kirchhoff's laws 1.5.1 problems on kirchhoff's laws 2 2.2 Generation of alternating EMF  5th  6th  1 2.6 Representation of RMS value , instantaneous value, average value, amplitude factor, form factor(simple problems) 2 2.7. AC through pure resistance, inductance, capacitance			
Subject: BASIC BASIC ELECTRICAL ENGINEERING   Semester From: 16th August 2023 to 11th December 2023   No. of weeks:15 weeks	(SECTION –		
BASIC ELECTRICAL ENGINEERING  Week  Class Day  Theory Topics  1			
ELECTRICAL ENGINEERING  Week  Class Day  Theory Topics  1st  1st  1st  2			Semester From: 16 <sup>tH</sup> August 2023 to 11 <sup>th</sup> December 2023
ENGINEERING   allotted:2p/we ek   Class Day   Theory Topics			No. of weeks: 15 weeks
Week   Class Day   Theory Topics			
1		ek	
1.1 Concept of current flow 1.2 concept of source and load 1.2.1 concept of D.C source  1 1.3 state Ohm's law 1.3.1 Resistance 2 1.3.2 Series and parallel resistances 1.3.3 problems on series and parallel resistances 1.4 Current and Voltage division in series and parallel circuits 2 1.5 Kirchhoff's laws 1.5.1 problems on kirchhoff's laws 1.5.1 problems on kirchhoff's laws  4th 1 2 A.C THEORY 2.1 Concept of AC voltage and current 2 2.2 Generation of alternating EMF  1 2.3. Difference between AC and DC 2.4. Define frequency, amplitude, time period, cycle, phase angle, phase difference 2 2.5 Explanation of RMS value, instantaneous value, average value, amplitude factor, form factor(simple problems)  6th 1 2.6 Representation of AC values in phasor diagrams. 2 2.7. AC through pure resistance, inductance, capacitance	Week	Class Day	
1.2 concept of source and load 1.2.1 concept of D.C source  1 1.3 state Ohm's law 1.3.1 Resistance 2 1.3.2 Series and parallel resistances 1.3.3 problems on series and parallel resistances 1.4 Current and Voltage division in series and parallel circuits 2 1.5 Kirchhoff's laws 1.5.1 problems on kirchhoff's laws 1.5.1 problems on kirchhoff's laws 2 1. Concept of AC voltage and current 2 2.2 Generation of alternating EMF 1 2.3. Difference between AC and DC 2.4. Define frequency, amplitude, time period, cycle, phase angle, phase difference 2 2.5 Explanation of RMS value, instantaneous value, average value, amplitude factor, form factor(simple problems)  6th 1 2.6 Representation of AC values in phasor diagrams. 2 2.7. AC through pure resistance, inductance, capacitance	,	1	
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2 1.3.1 Resistance 2 1.3.2 Series and parallel resistances 1.3.3 problems on series and parallel resistances  1.4 Current and Voltage division in series and parallel circuits 2 1.5 Kirchhoff's laws 1.5.1 problems on kirchhoff's laws 1.5.1 problems on kirchhoff's laws  4th 2 A.C THEORY 2.1 Concept of AC voltage and current 2 2.2 Generation of alternating EMF  1 2.3. Difference between AC and DC 2.4. Define frequency, amplitude, time period, cycle, phase angle, phase difference 2 2.5 Explanation of RMS value, instantaneous value, average value, amplitude factor, form factor(simple problems)  6th 1 2.6 Representation of AC values in phasor diagrams. 2 2.7. AC through pure resistance, inductance, capacitance			1.2.1 concept of D.C source
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1.3.3 problems on series and parallel resistances  1.4 Current and Voltage division in series and parallel circuits  2.1.5 Kirchhoff's laws 1.5.1 problems on kirchhoff's laws  4th  2.1 Concept of AC voltage and current 2.2 Generation of alternating EMF  1.2.3. Difference between AC and DC 2.4. Define frequency, amplitude, time period, cycle, phase angle, phase difference  2.5 Explanation of RMS value, instantaneous value, average value, amplitude factor, form factor(simple problems)  6th  1.2.6 Representation of AC values in phasor diagrams.  2.7. AC through pure resistance, inductance, capacitance		2	1.3.2 Series and parallel resistances
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4 <sup>th</sup> 2 A.C THEORY 2.1 Concept of AC voltage and current 2 2.2 Generation of alternating EMF 1 2.3. Difference between AC and DC 2.4. Define frequency, amplitude, time period, cycle, phase angle, phase difference 2 2.5 Explanation of RMS value, instantaneous value, average value, amplitude factor, form factor(simple problems)  6 <sup>th</sup> 1 2.6 Representation of AC values in phasor diagrams. 2 2.7. AC through pure resistance, inductance, capacitance			1.5.1 problems on kirchhoff's laws
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2 2.2 Generation of alternating EMF  1 2.3. Difference between AC and DC 2.4. Define frequency, amplitude, time period, cycle, phase angle, phase difference  2 2.5 Explanation of RMS value, instantaneous value, average value, amplitude factor, form factor(simple problems)  6th  1 2.6 Representation of AC values in phasor diagrams.  2 2.7. AC through pure resistance, inductance, capacitance	$4^{\rm tn}$	1	
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difference  2		1	
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factor, form factor(simple problems)  6th 1 2.6 Representation of AC values in phasor diagrams. 2 2.7. AC through pure resistance, inductance, capacitance		2	
6 <sup>th</sup> 1 2.6 Representation of AC values in phasor diagrams. 2 2.7. AC through pure resistance, inductance, capacitance		2	
2 2.7. AC through pure resistance, inductance, capacitance	6 <sup>th</sup>	1	, 1 1 ,
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7 <sup>th</sup> 1 2.8. AC through RL,RC, & RLC circuits		2	2.7. AC through pure resistance, inductance, capacitance
, and the discount of the circuit	7 <sup>th</sup>	1	2.8. AC through RL RC. & RLC circuits
2 2.9. Problems on RL, RC,& RLC series circuits	,	2	
1 2.10 concent of power and power factor			
8 <sup>th</sup> 2.10. Concept of power and power factor 2 2.11. Impedance triangle	8 <sup>th</sup>		
		<u> </u>	
2.11.1 Power triangle 1 3. GENERATION OF ELECTRICAL POWER		1	
	9 <sup>th</sup>	1	
,		2	
2 3.2. Thermal power plants		2	1 1
3.2.1 layout of a thermal power plant(advantages and disadvantages)		4	
1 3.3 Hydro power plant	10 <sup>th</sup>	1	
2 3.4 Nuclear power plant( layout of nuclear power plant with advantages and		2	
disadvantages)			
1 4. CONVERSION OF ELECTRIACAL ENERGY(Introduction to DC	11 <sup>th</sup>	1	
machines)			<u>'</u>
2 4.1 main parts of DC machines(DC generator and DC motor)		2	4.1 main parts of DC machines(DC generator and DC motor)

12 <sup>th</sup>	1	4.2 Single phase induction motor(types) and concept of lumen
	2	4.3 different types of lamps, filaments, LED bulbs and their construction
		4.4 star rating of home appliances(star rating concept, energy efficiency)
	1	5. WIRING AND POWER BILLING: Types of wiring for domestic
13 <sup>th</sup>		installations
13		5.1 single line diagram showing all the important components in the system
	2	5.2 list of protective devices used in household wiring
		5.3 calculation of energy consumed.
14 <sup>th</sup>	1	6. MEASURING INSTRUMENTS: introduction to measuring instruments
	2	6.1 Torques in measurements
		6.2 Different use of PMMC type of instruments(voltmeter and ammeter)
15 <sup>th</sup>	1	6.3 different usage of MI type of instruments(voltmeter and ammeter)
	2	6.3 different usage of MI type of instruments(voltmeter and ammeter)
16 <sup>th</sup>	1	Extra class
	2	Extra class
17 <sup>th</sup>	1	Extra class
	2	Extra class



Signature of Teaching Faculty