

ACADEMIC LESSON PLAN OF WINTER 2024

Discipline Electronics	Semester: 3 rd	Name of the Teaching Faculty: - Sandeep Mohapatra & SANGEETA KUMARI PATRO
Subject: - Circuit Theory Lab	No of Days/per Week Class Allotted: 2p/week	Semester From: 1 st July 2024 to 08 th Nov 2024 No. of Weeks: 19 weeks
Week	Class Day	Practical Topics
1 ST	1 st	1. Measurement of Resistance, Voltage, Current in A.C & D. C. Circuit by using digital Multimeter & Clamp meter(Contd....)
	2 nd	1. Measurement of Resistance, Voltage, Current in A.C & D. C. Circuit by using digital Multimeter & Clamp meter
2 ND	1 st	2. Verification of (a) Super positions Theorem (Contd....)
	2 nd	2. Verification of (a) Super positions Theorem
3 RD	1 st	2. Verification of (b) Thevenin's Theorem(Contd....)
	2 nd	2. Verification of (b) Thevenin's Theorem
4 TH	1 st	2. Verification of (c) Norton's Theorem(Contd....)
	2 nd	2. Verification of (c) Norton's Theorem
5 TH	1 st	2. Verification of (d) Milliman's Theorem
	2 nd	2. Verification of (e) Maximum power theorem
6 TH	1 st	3. Determine resonant frequency of series R-L, R-C, R-L-C circuit and study the quality factor and bandwidth(Contd....)
	2 nd	3. Determine resonant frequency of series R-L, R-C, R-L-C circuit and study the quality factor and bandwidth
7 TH	1 st	4. Determine the resonant frequency , Q factor & Band width of parallel resonant circuit.(Contd....)
	2 nd	4. Determine the resonant frequency , Q factor & Band width of parallel resonant circuit.
8 TH	1 st	5. Determine the time constant of R-L-C circuit and analysis the transient response (rise time, overshoot, and damping factor from the oscilloscope)(Contd....)
	2 nd	5. Determine the time constant of R-L-C circuit and analysis the transient response (rise time, overshoot, and damping factor from the oscilloscope)
9 TH	1 st	6. Study of Low Pass filter and determination of cut-off frequency.
	2 nd	7. Study of High Pass filter and determination of cut-off frequency.
10 TH	1 st	8. Study of Band pass Filter and Band Elimination Filter and determination of its cut-off frequency.
	2 nd	9. Determination of Parameters of Two Port Network (T & Y)(Contd....)
11 TH	1 st	9. Determination of Parameters of Two Port Network (T & Y)(Contd....)
	2 nd	10. Design attenuator circuit (pie or T)(Contd....)
12 TH	1 st	10. Design attenuator circuit (pie or T)(Contd....)
	2 nd	11. Mini Project using P-SPICE software: To collect data of catalogues and specification sheet of all the equipment & components used for performing experiment and submit the project on P-SPICE software into Analysis and

		Plot the graph of each measurement at the end of semester e.g. Butter Worth Filter(Contd....)
13 TH	1 st	11. Mini Project using P-SPICE software: To collect data of catalogues and specification sheet of all the equipment & components used for performing experiment and submit the project on P-SPICE software into Analysis and Plot the graph of each measurement at the end of semester e.g. Butter Worth Filter (Contd...)
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15 TH	1 st	Rivision class
	2 nd	
16 TH	1 st	Rivision class
	2 nd	Rivision class
17 TH	1 st	Rivision class
	2 nd	Rivision class
18 TH	1 st	Rivision class
	2 nd	Rivision class
19 TH	1 st	Rivision class
	2 nd	Rivision class



Signature of Teaching Faculty

ACADEMIC LESSON PLAN OF WINTER 2024

Discipline: ELECTRICAL	Semester: 3 rd Sem (Sec A)	Name of the Teaching Faculty: Sandeep Mohapatra
Subject: Electrical Engineering Material	No. of days/per week class allotted: 4p/week	Semester From: 1 st July 2024 to 08 th Nov 2024 No. of Weeks: 19 weeks
1 st	1 st	Unit-1: CONDUCTING MATERIALS 1.1 Introduction, Resistivity, factors affecting resistivity, Classification of conducting materials into low-resistivity and high resistivity materials.
	2 nd	1.2 Low Resistivity Materials and their Applications. (Copper, Silver, Gold, Aluminium, Steel)
	3 rd	1.3 Stranded Conductors
	4 th	1.4 Bundle Conductors
2 nd	1 st	1.5 Low resistivity copper alloys
	2 nd	1.6 High Resistivity Materials and their Applications (Tungsten, Carbon, Platinum, Mercury)
	3 rd	1.7 Super conductivity, Superconducting Materials
	4 th	1.8 Application of Super Conductor materials
3 rd	1 st	UNIT-2: SEMICONDUCTING MATERIALS 2.1 Introduction, Semiconductors
	2 nd	2.2 Electron Energy and Energy band theory
	3 rd	2.3 Excitation of atoms
	4 th	2.4 Insulators, semiconductors and conductors
4 th	1 st	2.4 Insulators, semiconductors and conductors
	2 nd	2.5 Semiconductor Materials
	3 rd	2.6 Co-valent bonds
	4 th	2.7 Intrinsic semiconductors, Extrinsic semiconductors
5 th	1 st	2.8 N-Type materials, P-Type materials
	2 nd	2.9 Minority and Majority carriers
	3 rd	2.10 Semiconductor materials, Application of semiconductor materials
	4 th	Application of Semiconducting materials
6 th	1 st	UNIT-3: INSULATING MATERIALS 3.1 Introduction, General properties of insulating materials (contd.)
	2 nd	3.2 General properties of insulating materials
	3 rd	3.3 Insulating materials – classification, properties and application
	4 th	3.3 introduction, Classification of insulating materials based on physical and chemical properties
7 th	1 st	3.3 Classification of insulating materials based on physical and chemical properties
	2 nd	3.4 Insulating Gases
	3 rd	3.4 Commonly used insulating gases
	4 th	UNIT-4: DIELECTRIC MATERIAL 4.1 Introduction
8 th	1 st	4.2 Dielectric constant of permittivity
	2 nd	4.3 Polarization
	3 rd	4.3 Polarization
	4 th	4.4 Dielectric loss
9 th	1 st	4.5 Electric Conductivity of Dielectrics and their breakdown
	2 nd	4.5 Electric Conductivity of Dielectrics and their breakdown
	3 rd	4.6 properties of Dielectrics
	4 th	4.7 Application of Dielectrics
10 th	1 st	UNIT-5: MAGNETIC MATERIALS 5.1 Introduction
	2 nd	5.2 Classification
	3 rd	5.2 Diamagnetism
	4 th	5.2 Paramagnetism

11 th	1 st	5.2 Ferromagnetism
	2 nd	5.3 Magnetization Curve
	3 rd	5.4 Hysteresis
	4 th	5.4 Hysteresis(contd.)
12 th	1 st	5.5 Eddy currents
	2 nd	5.6 Curie point, Magnetostriction
	3 rd	5.7 Soft magnetic materials
	4 th	5.7 Soft magnetic materials
13 th	1 st	5.8 Hard magnetic materials
	2 nd	5.8 Hard magnetic materials
	3 rd	UNIT-6:MATERIALS FOR SPECIAL PURPOSES 6.1 Introduction
	4 th	6.2 structural materials
14 th	1 st	6.3 protective materials: lead
	2 nd	6.3 steel tapes
	3 rd	6.3 wires and strips
	4 th	6.4 Other Materials: Thermocouple materials
15 th	1 st	6.4 Bimetals
	2 nd	6.4 soldering materials
	3 rd	6.4 Fuse and fuse materials
	4 th	6.4 Dehydrating materials
16 th	1 st	REVISION
	2 nd	REVISION
	3 rd	REVISION
	4 th	REVISION
17 th	1 st	REVISION
	2 nd	REVISION
	3 rd	REVISION
	4 th	REVISION
18 th	1 st	REVISION
	2 nd	REVISION
	3 rd	REVISION
	4 th	REVISION
19 th	1 st	REVISION
	2 nd	REVISION
	3 rd	REVISION
	4 th	REVISION



Signature of Teaching Faculty