LESSON PLAN

Discipline : Electrical Engg.	Semester : 3rd	Name of the Teachnig Faculty : MRS. MONALISA PANI
Subject : ELECTRICAL ENGINEERING MATERIAL	No.of days/Per weeks Class Alloted Weeks :4	Semester :3rd No.of Weeks : 4
Weeks	Class day	Theory
1st	1st	Conducting Materials
	2nd	Introduction
	3rd	Stranded conductors
	4th	Resistivity, factors affecting resistivity
2nd	1st	Classification of conducting materials into low-resistivity and high resistivity materials
	2nd	Low Resistivity Materials and their Applications. (Copper, Silver, Gold, Aluminum, Steel)
	3rd	Bundled conductors
	4th	Low resistivity copper alloys
3rd	1st	High Resistivity Materials and their Applications(Tungsten, Carbon, Platinum, Mercury)
	2nd	Superconductivity
	3rd	Superconducting materials
	4th	Application of superconductor materials
4th	1st	Class Test
	2nd	Semiconducting Materials
	3rd	Introduction
	4th	Electron Energy and Energy Band Theory
5th	1st	Excitation of Atoms
	2nd	Insulators, Semiconductors and Conductors
	3rd	Semiconductor Materials , Covalent Bonds
	4th	Intrinsic Semiconductors, Extrinsic Semiconductors
6th	1st	N-Type Materials , P-Type Materials
	2nd	Minority and Majority Carriers
	3rd	Applications of Semiconductor materials
	4th	Rectifiers , Temperature-sensitive resisters or thermistors,Photoconductive cells
7th	1st	Photovoltaic cells, Varisters,Transistors,Hall effect generators,Solar power
	2nd	Insulating Materials : Introduction
	3rd	General properties of Insulating Materials, Electrical properties
	4th	Visual properties,Mechanical properties
8th	1st	Thermal properties,Chemical properties,Ageing
	2nd	Insulating Materials – Classification, properties, applications ,Introduction
	3rd	Classification of insulating materials on the basis physical and chemical structure

	4th	Insulating Gases : Introduction
9th	1st	Commonly used insulating gases
	2nd	Dielectric Materials
	3rd	Introduction
	4th	Dielectric Constant of Permittivity
10th	1st	Polarization,Dielectric Loss
	2nd	Internal Assessment
	3rd	Electric Conductivity of Dielectrics and their Break Down
	4th	Properties of Dielectrics
11th	1st	Applications of Dielectrics
	2nd	Magnetic Materials : Introduction
	3rd	Classification,Diamagnetism
	4th	Para magnetism, Ferromagnetism
12th	1st	Magnetization Curve
	2nd	Hysteresis ,Eddy Currents
	3rd	Curie Point , Magneto-striction
	4th	Soft and Hard magnetic Materials
13th	1st	Materials for Special Purposes: Introduction
	2nd	Structural Materials
	3rd	Protective Materials
	4th	Lead,Steel tapes, wires and strips
14th	1st	Class Test
	2nd	Bimetals,Other Materials:Thermocouple materials
	3rd	Soldering Materials
	4th	Fuse and Fuse materials
15th	1st	Dehydrating material
	2nd	Revision of Previous Topics
	3rd	Revision of Previous Topics
	4th	Revision of Previous Topics

Monalisa Pani
Lect. (Electrical)
15/09/22

LESSON PALN 2022(WINTER)		
Discipline: Electrical Engg.	semester: 3rd sem	Name of the Teaching Faculty: Mrs. Jayashree Mohanty,Sr. Lect. Electrical Engg
Subject: Circuit and Network Theory	Theory Periods: 5P/Week	Semester From Date:-15.09.22 to Date:- 22.12.22 No. of Weeks:18
1st Week	1st	MAGNETIC CIRCUITS, Introduction
	2nd	Magnetizing force, Intensity, MMF, flux and their relations
2nd Week	1st	Permeability, reluctance and permeance
	2nd	Analogy between electric and Magnetic Circuits
	3rd	B-H Curve
	4th	Series & parallel magnetic circuit
	5th	Hysteresis loop
3rd Week	1st	COUPLED CIRCUITS,Self Inductance and Mutual Inductance,Conductively coupled circuit and mutual impedance
	2nd	Dot convention,Coefficient of coupling,Series and parallel connection of coupled inductors.
	3rd	Solve numerical problems.
	4th	Solve numerical problems
	5th	Class Test 1
4th Week	1st	Circuit Elements And Analysis:Active, Passive, Unilateral & bilateral, Linear & Non linear element,Mesh Analysis, Mesh Equations by inspection
6th Week	1st	Super mesh Analysis,Solve numerical problems (With Independent Sources Only)
	2nd	Nodal Analysis, Nodal Equations by inspection,Solve numerical problems
	3rd	Super node Analysis,Solve numerical problems
	4th	Source Transformation Technique,
	5th	Solve numerical problems
7th Week	1st	Network Theorems: Star to delta and delta to star transformation
	2nd	Solve numerical problems
	3rd	Super position Theorem,Solve numerical problems
	4th	Thevenin's Theorem,Solve numerical problems
	5th	Norton's Theorem,Solve numerical problems
8th Week	1st	Maximum power Transfer Theorem,Solve numerical problems
	2nd	Solve numerical problems
	3rd	Solve numerical problems
	4th	Ac Circuit And Resonance: A.C. through R-L, R-C & R-L-C Circuit
9th Week	1st	Solution of problems of A.C. through R-L, R-C & R-L-C series Circuit by complex algebra method

10th Week	1st	Solution of problems of A.C. through R-L, R-C & R-L-C parallel & Composite Circuits
	2nd	Power factor & power triangle
	3rd	Deduce expression for active, reactive, apparent power
	4th	Derive the resonant frequency of series resonance and parallel resonance circuit
11th Week	1st	Define Bandwidth, Selectivity & Q-factor in series circuit
	2nd	Internal
	3rd	Poly-phase Circuit: Concept of poly-phase system and phase sequence
	4th	Relation between phase and line quantities in star & delta connection
12th Week	1st	Power equation in 3-phase balanced circuit
	2nd	Solve numerical problems
	3rd	Measurement of 3-phase power by two wattmeter method
	4th	Solve numerical problems
	5th	Transients: Steady state & transient state response
13th Week	1st	Response to R-L circuit under DC condition
	2nd	Response to R-C circuit under DC condition
	3rd	Response to R-L-C circuit under DC condition
	4th	Solve numerical problems
	5th	Solve numerical problems
14th Week	1st	Two-Port Network: Open circuit impedance (z) parameters
	2nd	Short circuit admittance (y) parameters
	3rd	Transmission (ABCD) parameters
15th Week	1st	Hybrid (h) parameters
	2nd	Inter relationships of different parameters
16th Week	1st	T and π representation
	2nd	Solve numerical problems
	3rd	Solve numerical problems
	4th	FILTERS:Define filter,Classification of pass Band, stop Band and cut-off frequency
	5th	Classification of filters,Constant – K low pass filter
17th Week	1st	Constant – K high pass filter
	2nd	Constant – K Band pass filter.
	3rd	Constant – K Band elimination filter.
	4th	Class Test 2
	5th	Tutorial
18th Week	1st	Tutorial
	2nd	Tutorial
	3rd	Tutorial

Shohanty
SR. LECT. Elec

Discipline:- **ELECTRICAL ENGG.**	Semester:- **3rd**	NameoftheTeachingFaculty:- **TUSHAR RANJAN MOHANTA** Sr. Lect. Math & Sc. (CHEMISTRY)
Subject:- **ENVIRONMENTAL STUDIES**	No of Days/per WeekClass Allotted :-4	Semester From date :15/09/2022 ToDate:22/12/2022 No of Weeks:-**15**
Week	**Class Day**	**Theory/PracticalTopics**
1st	1st	Definition, scope of Environmental studies
	2nd	Multidisciplinary nature of environment
	3rd	Importance
	4th	Need for public awareness
2nd	1st	Natural resources and associated problems.
	2nd	Forest resources: Use and over-exploitation, deforestation, casestudies, Timber extraction mining
	3rd	Forest resources: dams and their effects on forests and tribal people.
	4th	Water resources: Use and over-utilization of surface and groundwater, floods, drought, conflicts over water
3rd	1th	Water resources: dam's benefits and problems
	2nd	Mineral Resources: Use and exploitation, environmental effects of Extracting and using mineral resources
	3rd	Food Resources: World food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizers-pesticides problems, water logging, salinity
	4th	Energy Resources: Growing energy need, renewable and non renewable energy sources, use of alternate energy sources, case studies
4th	1st	Land Resources: Land resource, land degradation, man induced land slides, soil erosion and desertification
	2nd	Role of individual in conservation of natural resources. Equitable use of Resources for sustainable lifestyles
	3rd	Concept of an ecosystem, Structure and function of an ecosystem.
	4th	Producers, consumers, decomposers
5th	1st	Energy flow in the ecosystems
	2nd	Ecological succession
	3rd	Food chains, food webs and ecological pyramids
	4th	Introduction, types, characteristic features, structure and function of Forest ecosystem
6th	**CLASS TEST-1**	
	1st	Introduction, types, characteristic features, structure and function of Aquatic ecosystems (ponds, streams)
	2nd	Introduction, types, characteristic features, structure and function of Aquatic ecosystems (rivers, oceans, estuaries)
	3rd	Introduction: Biodiversity and it's Conservation
	4th	Definition: genetics, species and ecosystem diversity
7th	1st	Biogeographically classification of India
	2nd	Value of biodiversity: consumptive use, productive use
	3rd	Value of biodiversity: social ethical, aesthetic and optin values
	4th	Biodiversity at global, national and local level

8th	1st	Threats to biodiversity: Habitats loss, poaching of wildlife
	2nd	Threats to biodiversity: man wildlife conflicts.
	3rd	Air pollution: Causes, effects
	4th	Air pollution: Control measures
9th	1st	Water pollution: Causes, effects
	2nd	Water pollution: Control measures
	3rd	Soil pollution
	4th	Marine pollution
10th	1st	Noise pollution
	2nd	Thermal pollution
	3rd	Nuclear hazards
	4th	Solid waste Management: Causes, effects and control measures of Urban and industrial wastes.
11th	1st	Role of an individual in prevention of pollution
	2nd	Disaster management: Floods, earthquake, cyclone and landslides
		INTERNAL ASSESSMENT
	3rd	Form unsustainable to sustainable development
	4th	Urban problems related to energy
12th	1st	Water conservation, rain water harvesting, watershed management
	2nd	Resettlement and rehabilitation of people; its problems and concern
	3rd	Environmental ethics: issue and possible solutions.
	4th	Climate change, global warming, acid rain
13th		**CLASS TEST-2**
	1st	Ozone layer depletion, nuclear accidents and holocaust, case studies.
	2nd	Air(prevention and control of pollution) Act
	3rd	Water(prevention and control of pollution) Act
	4th	Public awareness
14th	1st	Population growth
	2nd	Population explosion-family welfare program.
	3rd	Environment and human health.
	4th	Human rights.
15th	1st	Value education
	2nd	Role of information technology in environment
	3rd	Role of information technology in Human health
	4th	Previous Year Question paper discussion

T.R. Mohanta
Sr. Lect. Math & Sc. (Chemistry)