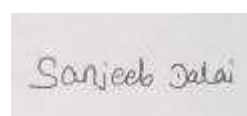


ACADEMIC LESSON PLAN OF WINTER 2025

Discipline: ELECTRICAL	Semester: 5 TH Sem (Sec- B)	Name of the Teaching Faculty: Sanjeeb Dalai and Biswanita Sahu
Subject: ELECTRICAL Machine Lab – II	No. of days/per week class allotted: 2p(6hr)/week	Semester from: 14 th July 2025 to 15 th Nov 2025 No. of Weeks: 15 weeks
1 st	1 st	Study of Direct on Line starter, Star-Delta starter, connection and running a 3-phase Induction motor and measurement of starting current (cont..)
	2 nd	Study of Direct on Line starter, Star-Delta starter, connection and running a 3-phase Induction motor and measurement of starting current
2 nd	1 st	Study of Auto transformer starter and rotor resistance starter connection and running a 3-phase induction motor and measurement of starting current(cont..)
	2 nd	Study of Auto transformer starter and rotor resistance starter connection and running a 3-phase induction motor and measurement of starting current
3 rd	1 st	Study and Practice of connection & Reverse the direction of rotation of Three Phase Induction motor(cont..)
	2 nd	Study and Practice of connection & Reverse the direction of rotation of Three Phase Induction motor
4 th	1 st	Study and Practice of connection & Reverse the direction of rotation of Single Phase Induction motor. (cont..)
	2 nd	Study and Practice of connection & Reverse the direction of rotation of Single Phase Induction motor.
5 th	1 st	Heat run test of 3-phase transformer(cont..)
	2 nd	Heat run test of 3-phase transformer
6 th	1 st	OC and SC test of alternator and determination of regulation by synchronous impedance method. (cont..)
	2 nd	OC and SC test of alternator and determination of regulation by synchronous impedance method.
7 th	1 st	Determination of regulation of alternator by direct loading (cont..)
	2 nd	Determination of regulation of alternator by direct loading
8 th	1 st	Parallel operation of two alternators and study load sharing(cont..)
	2 nd	Parallel operation of two alternators and study load sharing
9 th	1 st	Measurement of power of a 3-phase Load using two wattmeter method and verification of the result using one 3-phase wattmeter(cont..)
	2 nd	Measurement of power of a 3-phase Load using two wattmeter method and verification of the result using one 3-phase wattmeter
10 th	1 st	Connection of 3-phase energy meter to a 3-phase load (cont..)
	2 nd	Connection of 3-phase energy meter to a 3-phase load
11 th	1 st	Study of an O.C.B. (cont..)
	2 nd	Study of an O.C.B.
12 th	1 st	Study of induction type over current / reverse power relay (cont..)
	2 nd	Study of induction type over current / reverse power relay
13 th	1 st	Study of Buchholz's relay(cont..).
	2 nd	Study of Buchholz's relay.
14 th	1 st	Study of an earth fault relay (cont..)
	2 nd	Study of an earth fault relay
15 th	1 st	Dismantling of a single phase capacitor motor and study its winding connection (cont..)
	2 nd	EXP-15. Dismantling of a single phase capacitor motor and study its winding connection



Signature of Teaching Faculty

ACADEMIC LESSON PLAN OF WINTER 2025

Discipline: Electrical	Semester: 3 rd	Name of the Teaching Faculty: SANJEEB DALAI, BISWANITA SAHU
Subject: ELECTRICAL & ELECTRONIC MEASUREME NTS LAB (G2)	No. of days/per week class allotted: 2p (2 hour each)/week	Semester from: 14.07.2025 to 15.11.2025 No. of weeks: 15 weeks
Week	Class/week	LAB Topics
1 st	1 st	Identify measuring instruments on the basis of symbols on dial, type, accuracy, class position and scale (Contd.)
	2 nd	Identify measuring instruments on the basis of symbols on dial, type, accuracy, class position and scale
2 nd	1 st	Identify the components of PMMC and MI instruments (Contd.)
	2 nd	Identify the components of PMMC and MI instruments
3 rd	1 st	Use electro-dynamic watt-meter for measurement of power in a single-phase circuit (Contd.)
	2 nd	Use electro-dynamic watt-meter for measurement of power in a single-phase circuit
4 th	1 st	Use single three phase wattmeter for measurement of active and reactive power of three phase-balanced load (contd.)
	2 nd	Use single three phase wattmeter for measurement of active and reactive power of three phase-balanced load (Contd)
5 th	1 st	Use single three phase wattmeter for measurement of active and reactive power of three phase-balanced load
	2 nd	Use two wattmeter for measuring active power of three-phase balanced load (Contd.)
6 th	1 st	Use two watt meters for measuring active power of three-phase balanced load (Contd.).
	2 nd	Use two-watt meters for measuring active power of three-phase balanced load.
7 th	1 st	Calibrate single-phase electronic energy meter by direct loading (Contd.).
	2 nd	Calibrate single-phase electronic energy meter by direct loading.
8 th	1 st	Use Kelvin's double bridge for measurement of low resistance (Contd.)
	2 nd	Use Kelvin's double bridge for measurement of low resistance
9 th	1 st	Use voltmeter and ammeter method for measurement of medium resistance (Contd.).
	2 nd	Use voltmeter and ammeter method for measurement of medium resistance (Contd.)
10 th	1 st	Use voltmeter and ammeter method for measurement of medium resistance
	2 nd	Use Megger for insulation resistance measurements (Contd.).
11 th	1 st	Use Megger for insulation resistance measurements (Contd.).
	2 nd	Use Megger for insulation resistance measurements
12 th	1 st	Measure the unknown frequency and phase angle, using CRO by Lissajous figure (Contd.).
	2 nd	Measure the unknown frequency and phase angle, using CRO by Lissajous figure (Contd.).
13 th	1 st	Measure the unknown frequency and phase angle, using CRO by Lissajous figure.
	2 nd	Revision Class
14 th	1 st	Revision Class
	2 nd	Revision Class
15 th	1 st	Revision Class
	2 nd	Revision Class

Sanjeeb Dalai

Signature of Teaching Faculty

ACADEMIC LESSON PLAN OF WINTER 2025

Discipline: Electrical	Semester:3 rd	Name of the Teaching Faculty: SANJEEB DALAI BISWANITA SAHU
Subject: DC MACHINE AND TRANSFORMER LAB	No. of days/per week class allotted:4p/week	Semester from: 14.07.2025 to 15.11.2025 No. of weeks:15 weeks
Week	Class/week	Theory Topics
1 st	1 st	Dismantle a DC machine
	2 nd	Dismantle a DC machine
2 nd	1 st	Dismantle a DC machine
	2 nd	Reverse the direction of rotation of the DC shunt motor
3 rd	1 st	Reverse the direction of rotation of the DC shunt motor
	2 nd	Reverse the direction of rotation of the DC shunt motor
4 th	1 st	Control the speed of DC shunt motor by field flux and armature voltage control methods
	2 nd	Control the speed of DC shunt motor by field flux and armature voltage control methods
5 th	1 st	Control the speed of DC shunt motor by field flux and armature voltage control methods
	2 nd	Perform the brake test on DC series motor
6 th	1 st	Perform the brake test on DC series motor
	2 nd	Perform the brake test on DC series motor
7 th	1 st	Check the functioning of single-phase transformer
	2 nd	Check the functioning of single-phase transformer
8 th	1 st	Check the functioning of single-phase transformer
	2 nd	Determine regulation and efficiency of single-phase transformer by direct loading
9 th	1 st	Determine regulation and efficiency of single-phase transformer by direct loading
	2 nd	Determine regulation and efficiency of single-phase transformer by direct loading
10 th	1 st	Perform open circuit and short circuit test on single phase transformer to determine equivalent circuit constants, voltage regulation and efficiency
	2 nd	Perform open circuit and short circuit test on single phase transformer to determine equivalent circuit constants, voltage regulation and efficiency
11 th	1 st	Perform open circuit and short circuit test on single phase transformer to determine equivalent circuit constants, voltage regulation and efficiency
	2 nd	Perform parallel operation of two single-phase transformers to determine the load current sharing
12 th	1 st	Perform parallel operation of two single-phase transformers to determine the load current sharing
	2 nd	Perform parallel operation of two single-phase transformers to determine the load current sharing
13 th	1 st	Perform polarity test on a single-phase transformer whose polarity markings are masked.
	2 nd	Perform polarity test on a single-phase transformer whose polarity markings are masked.
14 th	1 st	Perform polarity test on a single-phase transformer whose polarity markings are masked.
	2 nd	Perform phasing out test on a three-phase transformer whose phase markings are masked
15 th	1 st	Perform phasing out test on a three-phase transformer whose phase markings are masked
	2 nd	Perform phasing out test on a three-phase transformer whose phase markings are masked

Sanjeeb Dalai

Signature of Teaching Faculty

ACADEMIC LESSON PLAN OF WINTER 2025

Discipline: Electrical	Semester: 5 th	Name of the Teaching Faculty: SANJEEB DALAI
Subject: UEET (SEC-A)	No. of days/per week class allotted: 4p/week	Semester from: 14.07.2025 to 15.11.2025 No. of weeks: 15 weeks
Week	Class/week	Theory Topics
1 st	1 st	1. ELECTROLYTIC PROCESS: 1.1. Definition and Basic principle of Electro Deposition
	2 nd	1.2. Important terms regarding electrolysis. 1.3. Faradays Laws of Electrolysis
	3 rd	1.4. Definitions of current efficiency, Energy efficiency. 1.5. Principle of Electro Deposition.
	4 th	1.6. Factors affecting the amount of Electro Deposition.
2 nd	1 st	1.7. Factors governing the electro deposition. 1.8. State simple example of extraction of metals.
	2 nd	1.9. Application of Electrolysis
	3 rd	2. ELECTRICAL HEATING: 2.1. Advantages of electrical heating.
	4 th	2.2. Mode of heat transfer and Stephen's Law.
3 rd	1 st	2.3. Principle of Resistance heating (Direct resistance and indirect resistance heating.)
	2 nd	2.4. Discuss working principle of direct arc furnace and indirect arc furnace
	3 rd	2.5. Principle of Induction heating. 2.5.1. Working principle of direct core type, vertical core type and indirect core type Induction furnace
	4 th	2.5.2. Principle of coreless induction furnace and skin effect
4 th	1 st	2.6. Principle of dielectric heating and its application.
	2 nd	2.7. Principle of Microwave heating and its application
	3 rd	3. PRINCIPLES OF ARC WELDING: 3.1. Explain principle of arc welding
	4 th	3.2. Discuss D. C. & A. C. Arc phenomena. 3.3. D.C. & A. C. arc welding plants of single and multi-operation type.
5 th	1 st	3.4. Types of arc welding. 3.5. Explain principles of resistance welding
	2 nd	3.6. Descriptive study of different resistance welding methods
	3 rd	3.6. Descriptive study of different resistance welding methods
	4 th	3.6. Descriptive study of different resistance welding methods
6 th	1 st	4. ILLUMINATION: 4.1. Nature of Radiation and its spectrum.
	2 nd	4.2. Terms used in Illuminations. [Lumen, Luminous intensity, Intensity of illumination, MHCP, MSCP, MHSCP, Solid angle, Brightness, Luminous efficiency.]
	3 rd	4.3. Explain the inverse square law and the cosine law
	4 th	4.3. Explain the inverse square law and the cosine law
7 th	1 st	4.4. Explain polar curves.
	2 nd	4.5. Describe light distribution and control. Explain related definitions like maintenance factor and depreciation factors
	3 rd	4.5. Describe light distribution and control. Explain related definitions like maintenance factor and depreciation factors

	4 th	4.6. Design simple lighting schemes and depreciation factor.
8 th	1 st	4.7. Constructional feature and working of Filament lamps, effect of variation of voltage on working of filament lamps
	2 nd	4.8. Explain Discharge lamps
	3 rd	4.9. State Basic idea about excitation in gas discharge lamps
	4 th	4.10. State constructional factures and operation of fluorescent lamp. (PL and PLL Lamps).
9 th	1 st	4.11. Sodium vapor lamps
	2 nd	4.12. High pressure mercury vapor lamps
	3 rd	4.13. Neon sign lamps
	4 th	4.14. High lumen output & low consumption fluorescent lamps
10 th	1 st	4.14. High lumen output & low consumption fluorescent lamps
	2 nd	5. INDUSTRIAL DRIVES: 5.1. State group and individual drive.
	3 rd	5.2. Method of choice of electric drives.
	4 th	5.3. Explain starting and running characteristics of DC and AC motor.
11 th	1 st	5.3. Explain starting and running characteristics of DC and AC motor.
	2 nd	5.4. State Application of: 5.4.1. DC motor. 5.4.2. 3-phase induction motor
	3 rd	5.4.3. 3 phase synchronous motors. 5.4.4. Single phase induction, series motor, universal motor and repulsion motor.
	4 th	5.4.3. 3 phase synchronous motors. 5.4.4. Single phase induction, series motor, universal motor and repulsion motor.
12 th	1 st	6. ELECTRIC TRACTION: 6.1. Explain system of traction
	2 nd	6.2. System of Track electrification.
	3 rd	6.3. Running Characteristics of DC and AC traction motor.
	4 th	6.3. Running Characteristics of DC and AC traction motor.
13 th	1 st	6.4. Explain control of motor: 6.4.1. Tapped field control.
	2 nd	6.4.2. Rheostatic control. 6.4.3. Series parallel control.
	3 rd	6.4.4. Multi-unit control.
	4 th	6.4.5. Metadyne control
14 th	1 st	6.5. Explain Braking of the following types: 6.5.1. Regenerative Braking.
	2 nd	6.5.2. Braking with 1-phase series motor.
	3 rd	6.5.3. Magnetic Braking.
	4 th	REVISION
15 th	1 st	REVISION
	2 nd	REVISION
	3 rd	REVISION
	4 th	REVISION

Sanjeeb Dalai

Signature of Teaching Faculty

ACADEMIC LESSON PLAN OF WINTER 2025

Discipline: Electrical	Semester: 5 th	Name of the Teaching Faculty: SANJEEB DALAI
Subject: POWER ELECTRO NICS AND PLC (SEC- B)	No. of days/per week class allotted: 4p/week	Semester from: 14.07.2025 to 15.11.2025 No. of weeks: 15 weeks
Week	Class/week	Theory Topics
1 st	1 st	1. UNDERSTAND THE CONSTRUCTION AND WORKING OF POWER ELECTRONIC DEVICES 1.1 Construction, Operation, V-I characteristics & application of power diode, SCR, DIAC, TRIAC, Power MOSFET, GTO & IGBT
	2 nd	1.1 Construction, Operation, V-I characteristics & application of power diode, SCR, DIAC, TRIAC, Power MOSFET, GTO & IGBT (contd.)
	3 rd	1.1 Construction, Operation, V-I characteristics & application of power diode, SCR, DIAC, TRIAC, Power MOSFET, GTO & IGBT (contd.)
	4 th	1.1 Construction, Operation, V-I characteristics & application of power diode, SCR, DIAC, TRIAC, Power MOSFET, GTO & IGBT (contd.)
2 nd	1 st	1.2 Two transistor analogy of SCR. 1.3 Gate characteristics of SCR.
	2 nd	1.4 Switching characteristic of SCR during turn on and turn off. 1.5 Turn on methods of SCR.
	3 rd	1.5 Turn on methods of SCR (Contd.) 1.6 Turn off methods of SCR (Line commutation and Forced commutation)
	4 th	1.6 Turn off methods of SCR (Line commutation and Forced commutation) (Contd.) 1.6.1 Load Commutation
3 rd	1 st	1.6.2 Resonant pulse commutation 1.7 Voltage and Current ratings of SCR 1.8 Protection of SCR
	2 nd	1.8.1 Over voltage protection 1.8.2 Over current protection 1.8.3 Gate protection
	3 rd	1.9 Firing Circuits 1.9.1 General layout diagram of firing circuit
	4 th	1.9.2 R firing circuits 1.9.3 R-C firing circuit
4 th	1 st	1.9.4 UJT pulse trigger circuit 1.9.5 Synchronous triggering (Ramp Triggering)
	2 nd	1.9.5 Synchronous triggering (Ramp Triggering)(Contd.) 1.10 Design of Snubber Circuits
	3 rd	2. UNDERSTAND THE WORKING OF CONVERTERS, AC REGULATORS AND CHOPPERS. 2.1 Controlled rectifiers Techniques (Phase Angle, Extinction Angle control), Single quadrant semi converter, two quadrant full converter and dual Converter.
	4 th	2.2 Working of single-phase half wave controlled converter with Resistive and R-L loads.
5 th	1 st	2.2 Working of single-phase half wave controlled converter with Resistive and R-L loads. (Contd.) 2.3 Understand need of freewheeling diode.
	2 nd	2.4 Working of single phase fully controlled converter with resistive and R- L loads.
	3 rd	2.5 Working of three-phase half wave controlled converter with Resistive load
	4 th	2.6 Working of three phase fully controlled converter with resistive load.

6 th	1 st	2.7 Working of single phase AC regulator
	2 nd	2.8 Working principle of step up & step down chopper
	3 rd	2.8 Working principle of step up & step down chopper (Contd)
	4 th	2.9 Control modes of chopper
7 th	1 st	2.10 Operation of chopper in all four quadrants.
	2 nd	3. UNDERSTAND THE INVERTERS AND CYCLO-CONVERTERS
	3 rd	3.1 Classify inverters
	4 th	3.2 Explain the working of series inverter
8 th	1 st	3.3 Explain the working of parallel inverter
	2 nd	3.4 Explain the working of single-phase bridge inverter
	3 rd	3.5 Explain the basic principle of Cyclo-converter.
	4 th	3.6 Explain the working of single-phase step up & step down Cyclo-converter
9 th	1 st	3.6 Explain the working of single-phase step up & step down Cyclo-converter (Contd.)
	2 nd	3.7 Applications of Cyclo-converter.
	3 rd	4. UNDERSTAND APPLICATIONS OF POWER ELECTRONIC CIRCUITS
	4 th	4.1 List applications of power electronic circuits.
10 th	1 st	4.2 List the factors affecting the speed of DC Motors.
	2 nd	4.3 Speed control for DC Shunt motor using converter
	3 rd	4.4 Speed control for DC Shunt motor using chopper
	4 th	4.5 List the factors affecting speed of the AC Motors.
11 th	1 st	4.6 Speed control of Induction Motor by using AC voltage regulator.
	2 nd	4.7 Speed control of induction motor by using converters and inverters (V/F control).
	3 rd	4.8 Working of UPS with block diagram.
	4 th	4.9 Battery charger circuit using SCR with the help of a diagram
12 th	1 st	4.10 Basic Switched mode power supply (SMPS) - explain its working & applications
	2 nd	4.10 Basic Switched mode power supply (SMPS) - explain its working & applications (Contd.)
	3 rd	5. PLC AND ITS APPLICATIONS
	4 th	5.1 Introduction of Programmable Logic Controller(PLC)
13 th	1 st	5.2 Advantages of PLC
	2 nd	5.3 Different parts of PLC by drawing the Block diagram and purpose of each part of PLC
	3 rd	5.4 Applications of PLC
	4 th	5.5 Ladder diagram
14 th	1 st	5.6 Description of contacts and coils in the following states i) Normally open ii) Normally closed iii) Energized output iv) latched Output v) branching
	2 nd	5.7 Ladder diagrams for i) AND gate ii) OR gate and iii) NOT gate
	3 rd	5.8 Ladder diagrams for combination circuits using NAND, NOR, AND, OR and NOT
	4 th	5.9 Timers-i) T ON ii) T OFF and iii) Retentive timer
15 th	1 st	5.10 Counters-CTU, CTD
	2 nd	5.11 Ladder diagrams using Timers and counters
	3 rd	5.12 PLC Instruction set
	4 th	5.13 Ladder diagrams for following (i) DOL starter and STAR-DELTA starter (ii) Stair case lighting (iii) Traffic light Control (iv) Temperature Controller
16 th	1 st	5.13 Ladder diagrams for following (i) DOL starter and STAR-DELTA starter (ii) Stair case lighting (iii) Traffic light Control (iv) Temperature Controller (Contd.)
	2 nd	5.14 Special control systems- Basics DCS & SCADA systems
	3 rd	5.14 Special control systems- Basics DCS & SCADA systems (Contd.)
	4 th	5.15 Computer Control–Data Acquisition, Direct Digital Control System (Basics only)
17 th	1 st	Revision Class 1
	2 nd	Revision Class 2

15 th	2 nd	Revision Class 3
	3 rd	Revision Class 4
	4 th	Revision

Sanjeeb Dalai

Signature of Teaching Faculty

ACADEMIC LESSON PLAN OF WINTER 2025

Discipline: Electrical	Semester: 3 rd	Name of the Teaching Faculty: SANJEEB DALAI
Subject: RENEWABLE ENERGY POWER PLANT	No. of days/per week class allotted: 3p/week	Semester from: 10.09.2025 to 15.11.2025 No. of weeks: 15 weeks
Week	Class/week	Theory Topics
1 st	1 st	Solar PV and Concentrated Solar Power Plants 1.1 Solar Map of India: Global solar power radiation, Solar PV
	2 nd	1.2 Concentrated Solar Power (CSP) plants, construction and working of: Power Tower, Parabolic Trough, Parabolic Dish, Fresnel Reflectors
	3 rd	1.2 Concentrated Solar Power (CSP) plants, construction and working of: Power Tower, Parabolic Trough, Parabolic Dish, Fresnel Reflectors
2 nd	1 st	1.3 Solar Photovoltaic (PV) power plant: components layout, construction, working. Roof top solar PV power system
	2 nd	1.3 Solar Photovoltaic (PV) power plant: components layout, construction, working. Roof top solar PV power system
	3 rd	Large Wind Power Plants 2.1 Wind Map of India: Wind power density in watts per square meter Lift and drag principle; long path theory.
3 rd	1 st	2.1 Wind Map of India: Wind power density in watts per square meter Lift and drag principle; long path theory.
	2 nd	2.2 Geared type wind power plants: components, layout and working. Direct drive type wind power plants: components, layout and working
	3 rd	2.2 Geared type wind power plants: components, layout and working. Direct drive type wind power plants: components, layout and working
4 th	1 st	2.3 Constant Speed Electric Generators: Squirrel Cage Induction Generators (SCIG),
	2 nd	2.4 Wound Rotor Induction Generator (WRIG)
	3 rd	2.4 Variable Speed Electric Generators: Doubly-fed induction generator (DFIG), wound rotor synchronous generator (WRSG)
5 th	1 st	2.4 permanent magnet synchronous generator (PMSG).
	2 nd	Small Wind Turbines 3.1 Horizon axis small wind turbine: direct drive type, components and working Horizontal axis small wind turbine: geared type, components and working
	3 rd	3.1 Horizon axis small wind turbine: direct drive type, components and working Horizontal axis small wind turbine: geared type, components and working
6 th	1 st	3.1 Horizon axis small wind turbine: direct drive type, components and working Horizontal axis small wind turbine: geared type, components and working
	2 nd	3.2 Vertical axis small wind turbine: direct drive and geared, components and Working Types of towers and installation of small wind turbines on rooftops and open fields
	3 rd	3.2 Vertical axis small wind turbine: direct drive and geared, components and Working Types of towers and installation of small wind turbines on rooftops and open fields
7 th	1 st	3.2 Vertical axis small wind turbine: direct drive and geared, components and Working Types of towers and installation of small wind turbines on rooftops and open fields
	2 nd	3.3 Electric generators used in small wind power plants
	3 rd	3.3 Electric generators used in small wind power plants
8 th	1 st	3.3 Electric generators used in small wind power plants
	2 nd	Biomass-based Power Plants 4.1 Properties of solid fuel for biomass power plants: bagasse, wood chips, rice husk, municipal waste
	3 rd	4.1 Properties of solid fuel for biomass power plants: bagasse, wood chips, rice husk, municipal waste
9 th	1 st	4.1 Properties of solid fuel for biomass power plants: bagasse, wood chips, rice husk, municipal waste

	2 nd	4.2 Properties of liquid and gaseous fuel for bio mass power plants: Jatropha, biodiesel gobar gas
	3 rd	4.2 Properties of liquid and gaseous fuel for bio mass power plants: Jatropha, biodiesel gobar gas
10 th	1 st	4.2 Properties of liquid and gaseous fuel for bio mass power plants: Jatropha, biodiesel gobar gas
	2 nd	4.3 Layout of a Bio-chemical based (e.g. biogas) power plant:
	3 rd	4.3 Layout of a Bio-chemical based (e.g. biogas) power plant:
11 th	1 st	4.3 Layout of a Bio-chemical based (e.g. biogas) power plant:
	2 nd	4.4 Layout of a Thermo-chemical based (e.g. Municipal waste) power plant
	3 rd	4.4 Layout of a Thermo-chemical based (e.g. Municipal waste) power plant
12 th	1 st	4.4 Layout of a Thermo-chemical based (e.g. Municipal waste) power plant
	2 nd	4.5 Layout of a Agro-chemical based (e.g. Bio-diesel) power plant
	3 rd	4.5 Layout of a Agro-chemical based (e.g. Bio-diesel) power plant
13 th	1 st	4.5 Layout of a Agro-chemical based (e.g. Bio-diesel) power plant
	2 nd	REVISION
	3 rd	REVISION
14 th	1 st	REVISION
	2 nd	REVISION
	3 rd	REVISION
15 th	1 st	REVISION
	2 nd	REVISION
	3 rd	REVISION

Sanjeeb Dalai

Signature of Teaching Faculty