

P.C.I.E.T., CHHENDIPADA, DIST- ANGUL

THEORY LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 4TH
SECTION : EA

NAME OF THE FACULTY : (1) ER. BIRENDRA BAI,
(2) ER. SUGYANI SAHOO, (3) ER. SASWATI SANGHAMITRA PRADHAN
(LECT. IN ELECT. ENGG.)

SEMESTER FROM : 13.02.2023 to 23.05.2023

THEORY SUBJECT: ENERGY CONVERSION - I (TH-1)

CLASS ALLOTTED /WEEK : 04 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT - 1 D.C GENERATOR	17	FEBRUARY	
	1.1. Operating principle of generator	1		Dt. 14.02.2023
	1.2. Constructional features of DC machine.	1		Dt. 15.02.2023, Dt. 17.02.2023
	1.2.1. Yoke, Pole & field winding, Armature, Commutator.	1		Dt. 20.02.2023, Dt. 21.02.2023
	1.2.2. Armature winding, back pitch, Front pitch, Resultant pitch and commutator- pitch.	1		Dt. 23.02.2023, Dt. 24.02.2023
	1.2.3. Simple Lap and wave winding, Dummy coils.	1		Dt. 25.02.2023, Dt. 27.02.2023 Dt. 28.02.2023
	1.3. Different types of D.C. machines (Shunt, Series and Compound)	1	MARCH	Dt. 1.03.2023, Dt. 03.03.2023
	1.4. Derivation of EMF equation of DC generators. (Solve problems)	1		Dt. 04.03.2023, Dt. 06.03.2023
	1.5. Losses and efficiency of DC generator. Condition for maximum efficiency and numerical problems.	1		Dt. 7.03.2023, Dt. 10.03.2023
	1.6. Armature reaction in D.C. machine	1		Dt. 11.03.2023, Dt. 13.03.2023
	1.7. Commutation and methods of improving commutation.	1		Dt. 14.03.2023, Dt. 15.03.2023
	1.7.1. Role of inter poles and compensating winding in commutation.	1		Dt. 17.03.2023, Dt. 18.03.2023
	1.8. Characteristics of D.C. Generators.	1		Dt. 20.03.2023, Dt. 21.03.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	1.9. Application of different types of D.C. Generators.	1		Dt. 22.03.2023, Dt. 24.03.2023
	1.10. Concept of critical resistance and critical speed of DC shunt generator	1		Dt. 25.03.2023, Dt. 27.03.2023
	1.11. Conditions of Build-up of emf of DC generator.	1		Dt. 28.03.2023, Dt. 29.03.2023
	1.12. Parallel operation of D.C. Generators.	1		Dt. 31.03.2023
	1.13. Uses of D.C generators.	1	APRIL	Dt. 03.04.2023, Dt. 04.04.2023
	UNIT - 2 D. C. MOTORS	15		
	2.1. Basic working principle of DC motor	1		Dt. 05.04.2023, Dt. 08.04.2023
	2.2. Significance of back emf in D.C. Motor.	1		Dt. 10.04.2023, Dt. 11.04.2023
	2.3. Voltage equation of D.C. Motor and condition for maximum power output (simple problems)	1		Dt. 12.04.2023, Dt. 15.04.2023
	2.4. Derive torque equation (solve problems)	2		Dt. 17.04.2023, Dt. 18.04.2023
2	2.5. Characteristics of shunt, series and compound motors and their application.	1		Dt. 19.04.2023
	2.6. Starting method of shunt, series and compound motors.	2		Dt. 21.04.2023, Dt. 22.04.2023
	2.7. Speed control of D.C shunt motors by Flux control method. Armature voltage Control method. Solve problems.	1		Dt. 24.04.2023, Dt. 25.04.2023
	2.8. Speed control of D.C. series motors by Field Flux control method, Tapped field method and series-parallel method	1		Dt. 28.04.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	2.9. Determination of efficiency of D.C. Machine by Brake test method(solve numerical problems)	2		Dt. 28.04.2023, Dt. 29.04.2023
	2.10. Determination of efficiency of D.C. Machine by Swinburne's Test method(solve numerical problems)	1	MAY	Dt. 01.05.2023
	2.11. Losses, efficiency and power stages of D.C. motor(solve numerical problems)	1		Dt. 02.05.2023
	2.12. Uses of D.C. motors	1		Dt. 03.05.2023
	UNIT -3 SINGLE PHASE TRANSFORMER	20		
	3.1 Working principle of transformer.	1		Dt. 06.05.2023
	3.2 Constructional feature of Transformer.	2		Dt. 06.05.2023
	3.2.1 Arrangement of core & winding in different types of transformer.	1		Dt. 08.05.2023
	3.2.2 Brief ideas about transformer accessories such as conservator, tank, breather, and explosion vent etc.	1		Dt. 09.05.2023
3	3.2.3 Explain types of cooling methods	1		Dt. 10.05.2023
	3.3 State the procedures for Care and maintenance.	1		Dt. 12.05.2023
	3.4 EMF equation of transformer.	1		Dt. 15.05.2023
	3.5 Ideal transformer voltage transformation ratio	1		Dt. 15.05.2023
	3.6 Operation of Transformer at no load, on load with phasor diagrams.	1		Dt. 16.05.2023
	3.7 Equivalent Resistance, Leakage Reactance and Impedance of transformer.	1		Dt. 16.05.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	3.8 To draw phasor diagram of transformer on load, with winding Resistance and Magnetic leakage with using upf, leading pf and lagging pf load.	1		Dt. 17. 05. 2023
	3.9 To explain Equivalent circuit and solve numerical problems.	1		Dt. 17. 05. 2023
	3.10 Approximate & exact voltage drop calculation of a Transformer.	1		Dt. 17. 05. 2023
	3.11 Regulation of transformer.	1		Dt. 20. 05. 2023
	3.12 Different types of losses in a Transformer. Explain Open circuit and Short Circuit test. (Solve numerical problems)	1		Dt. 20. 05. 2023
	3.13 Explain Efficiency, efficiency at different loads and power factors, condition for maximum efficiency (solve problems)	1		Dt. 20. 05. 2023
	3.14 Explain All Day Efficiency (solve problems)	1		Dt. 20. 05. 2023
	3.15 Determination of load corresponding to Maximum efficiency.	1		Dt. 20. 05. 2023
	3.16 Parallel operation of single phase transformer.	1		Dt. 22. 05. 2023
	UNIT-4 AUTO TRANSFORMER	3		
4	4.1. Constructional features of Auto transformer.	1		Dt. 22. 05. 2023
	4.2. Working principle of single phase Auto Transformer.	1		Dt. 22. 05. 2023
	4.3. Comparison of Auto transformer with an two winding transformer (saving of Copper).	1		Dt. 22. 05. 2023
	4.4. Uses of Auto transformer.	1		Dt. 22. 05. 2023
	4.5. Explain Tap changer with transformer (on load and off load condition)	1		Dt. 22. 05. 2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
5	UNIT-5 INSTRUMENT TRANSFORMERS	5		
	1.1 Explain Current Transformer and Potential Transformer	1		Dt. 23.05.2023
	1.2 Define Ratio error, Phase angle error, Burden.	1		Dt. 23.05.2023
	1.3 Uses of C.T. and P.T.	1		Dt. 23.05.2023

B.B. / S.S. / H.P.

SIGNATURE OF THE CONCERNED FACULTY

S. Pradhan

SIGNATURE OF THE H.O.D.

P. Chandra

PRINCIPAL
P.C.I.E.T., CHHENDIPADA
PRINCIPAL
Purna Chandra Institute of
Engineering & Technology
CHHENDIPADA, ANGUL

P.C.I.E.T., CHHENDIPADA, DIST- ANGUL

THEORY LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 4TH, SECTION : EA
 NAME OF THE FACULTY : (1) ER. SUBHASHREE PRADHAN (H.O.D. ELECT. ENGG.), (2) ER. SHAKTIDATTA PRADHAN (LECT. IN ELECT. ENGG.)

SEMESTER FROM : 13.02.2023 to 23.05.2023

THEORY SUBJECT: ANALOG ELECTRONICS & OP-AMP (TH-2)

CLASS ALLOTTED /WEEK : 04 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT -1 P-N JUNCTION DIODE:	6	FEBRUARY	
	1.1 P-N Junction Diode	1		Dt. 14.02.2023
	1.2 Working of Diode	1		Dt. 15.02.2023
	1.3 V-I characteristic of PN junction Diode.	1		Dt. 16.02.2023
	1.4 DC load line	1		Dt. 17.02.2023
	1.5 Important terms such as Ideal Diode, Knee voltage	1		Dt. 20.02.2023
	1.6 Junctions break down.	1		Dt. 21.02.2023
	1.6.1 Zener breakdown	1		Dt. 23.02.2023
	1.6.2 Avalanche breakdown	1		Dt. 24.02.2023
	1.7 P-N Diode clipping Circuit.	1		Dt. 27.02.2023
	1.8 P-N Diode clamping Circuit	1		Dt. 28.02.2023
2	UNIT- 2 SPECIAL SEMICONDUCTOR DEVICES:	5	MARCH	
	2.1 Thermistors, Sensors & barretters	2		Dt. 01.03.2023
	2.2 Zener Diode	1		Dt. 02.03.2023
	2.3 Tunnel Diode	1		Dt. 03.03.2023
	2.4 PIN Diode	1		Dt. 06.03.2023
				Dt. 07.03.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	UNIT -3 RECTIFIER CIRCUITS & FILTERS:	7		
	3.1 Classification of rectifiers	1		Dt. 09.03.2023
	3.2 Analysis of half wave, full wave centre tapped and Bridge rectifiers and calculate:	1		Dt. 10.03.2023
	3.2.1 DC output current and voltage	1		Dt. 13.03.2023
	3.2.2 RMS output current and voltage	1		Dt. 14.03.2023
	3.2.3 Rectifier efficiency	1		Dt. 15.03.2023
3	3.2.4 Ripple factor	1		Dt. 16.03.2023
	3.2.5 Regulation	1		Dt. 17.03.2023
	3.2.6 Transformer utilization factor	1		Dt. 20.03.2023
	3.2.7 Peak inverse voltage	1		Dt. 21.03.2023
	3.3 Filters:	1		Dt. 22.03.2023
	3.3.1 Shunt capacitor filter	1		Dt. 23.03.2023
	3.3.2 Choke input filter	1		Dt. 24.03.2023
	3.3.3 π filter	1		Dt. 27.03.2023
	UNIT - 4 TRANSISTORS	7		
	4.1 Principle of Bipolar junction transistor	1		Dt. 28.03.2023
	4.2 Different modes of operation of transistor	1		Dt. 29.03.2023
	4.3 Current components in a transistor	1		Dt. 31.03.2023
4	4.4 Transistor as an amplifier	1	APRIL	Dt. 03.04.2023
	4.5 Transistor circuit configuration & its characteristics	1		Dt. 04.04.2023
	4.5.1 CB Configuration	1		Dt. 05.04.2023
	4.5.2 CE Configuration	1		Dt. 06.04.2023
	4.5.3 CC Configuration	1		Dt. 10.04.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
5	UNIT - 5 TRANSISTOR CIRCUITS	7		
	5.1 Transistor biasing	1		Dt. 11.04.2023
	5.2 Stabilization	1		Dt. 12.04.2023
	5.3 Stability factor	1		Dt. 13.04.2023
	5.4 Different method of Transistors Biasing	1		Dt. 17.04.2023
	5.4.1 Base resistor method	1		Dt. 18.04.2023
	5.4.2 Collector to base bias	1		Dt. 19.04.2023
	5.4.3 Self bias or voltage divider method	1		Dt. 20.04.2023
6	UNIT - 6 TRANSISTOR AMPLIFIERS & OSCILLATORS:	13		
	6.1 Practical circuit of transistor amplifier	1		Dt. 21.04.2023
	6.2 DC load line and DC equivalent circuit	1		Dt. 24.04.2023
	6.3 AC load line and AC equivalent circuit	1		Dt. 25.04.2023
	6.4 Calculation of gain	1		Dt. 26.04.2023
	6.5 Phase reversal	1		Dt. 27.04.2023
	6.6 H-parameters of transistors	1		Dt. 28.04.2023
	6.7 Simplified H-parameters of transistors	1	MAY	Dt. 01.05.2023
	6.8 Generalised approximate model	1		Dt. 01.05.2023
	6.9 Analysis of CB, CE, CC amplifier using generalised approximate model	1		Dt. 01.05.2023
	6.10 Multi stage transistor amplifier	1		Dt. 01.05.2023
	6.10.1 R.C. coupled amplifier	1		Dt. 01.05.2023

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	6.10.2 Transformer coupled amplifier	1		Dt. 02.05.2023
	6.11 Feed back in amplifier	1		Dt. 02.05.2023
	6.11.1 General theory of feed back	1		Dt. 02.05.2023
	6.11.2 Negative feedback circuit	1		Dt. 04.05.2023
	6.11.3 Advantage of negative feed back	1		Dt. 01.05.2023
	6.12 Power amplifier and its classification	1		Dt. 01.05.2023
	6.12.1 Difference between voltage amplifier and power amplifier	1		Dt. 06.05.2023
	6.12.2 Transformer coupled class A power amplifier	1		Dt. 06.05.2023
	6.12.3 Class A push – pull amplifier	1		Dt. 06.05.2023
	6.12.4 Class B push – pull amplifier	1		Dt. 08.05.2023
	6.13 Oscillators	1		Dt. 08.05.2023
	6.13.1 Types of oscillators	1		Dt. 08.05.2023
	6.13.2 Essentials of transistor oscillator	1		Dt. 09.05.2023
	6.13.3 Principle of operation of tuned collector, Hartley, colpitt, phase shift, wein-bridge oscillator (no mathematical derivations)	1		Dt. 09.05.2023
	UNIT - 7 FIELD EFFECT TRANSISTOR	6		
7	7.1 Classification of FET	1		Dt. 09.05.2023
	7.2 Advantages of FET over BJT	1		Dt. 10.05.2023
	7.3 Principle of operation of BJT	1		Dt. 10.05.2023
	7.4 FET parameters (no mathematical derivation)	1		Dt. 10.05.2023
	7.4.1 DC drain resistance	1		Dt. 11.05.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	7.4.2 AC drain resistance	1		Dt. 11.05.2023
	7.4.3 Trans-conductance	1		Dt. 11.05.2023
	7.5 Biasing of FET	1		Dt. 12.05.2023
	UNIT - 8 OPERATIONAL AMPLIFIERS	9		12.05.2023
	8.1 General circuit simple of OP-AMP and IC - CA - 741 OP AMP	1		Dt. 12.05.2023
	8.2 Operational amplifier stages	1		Dt. 12.05.2023
	8.3 Equivalent circuit of operational amplifier	1		Dt. 15.05.2023
	8.4 Open loop OP-AMP configuration	1		Dt. 15.05.2023
8	8.5 OPAMP with fed back	1		Dt. 15.05.2023
	8.6 Inverting OP-AMP	1		Dt. 17.05.2023
	8.7 Non inverting OP-AMP	1		Dt. 17.05.2023
	8.8 Voltage follower & buffer	1		Dt. 17.05.2023
	8.9 Differential amplifier	1		Dt. 18.05.2023
	8.9.1 Adder or summing amplifier	1		Dt. 18.05.2023
	8.9.2 Sub tractor	1		Dt. 18.05.2023
	8.9.3 Integrator	1		Dt. 18.05.2023
	8.9.4 Differentiator	1		Dt. 22.05.2023
	8.9.5 Comparator	1		Dt. 23.05.2023

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THEORY LESSON PLAN FOR THE SESSION 2022 - 23

**BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 4TH
SECTION :- EA**

**NAME OF THE FACULTY : (1) ER. SASWATI SANGHAMITRA
PRADHAN, (2) ER. SUVENDU SEKHAR BEHERA, (LECT. IN
ELECT. ENGG.)**

SEMESTER FROM : 13.02.2023 to 23.05.2023

THEORY SUBJECT: ELECTRICAL MEASUREMENT & INSTRUMENTATION (TH-3)

CLASS A!LOTTED /WEEK : 04 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	UNIT - 1 MEASURING INSTRUMENTS	5	FEBRUARY	
1	1.1 Define Accuracy, precision, Errors, Resolutions Sensitivity and tolerance.	1		Dt. 14.02.2023
	1.2 Classification of measuring instruments.	1		Dt. 15.02.2023
	1.3 Explain Deflecting, controlling and damping arrangements in indicating type of INSTRUMENT	2		Dt. 17.02.2023
	1.4 Calibration of instruments	1		Dt. 20.02.2023
	UNIT- 2 ANALOG AMMETERS AND VOLTMETERS	10		
2	2.1. Describe Construction, principle of operation, errors, ranges merits and demerits of:	1		Dt. 21.02.2023
	2.1.1 Moving iron type instruments.	1		Dt. 22.02.2023
	2.1.2 Permanent Magnet Moving coil type instruments.	1		Dt. 23.02.2023
	2.1.3 Dynamometer type instruments	1		Dt. 24.02.2023
	2.1.4 Rectifier type instruments	1		Dt. 27.02.2023
	2.1.5 Induction type instruments	1		Dt. 28.02.2023
3	2.2 Extend the range of instruments by use of shunts and Multipliers.	2	MARCH	Dt. 01.03.2023
	2.3 Solve Numerical.	2		Dt. 03.03.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
3	UNIT - 3 WATTMETERS AND MEASUREMENT OF POWER	8		
	3.1 Describe Construction, principle of working of Dynamometer type wattmeter. (LPF and UPF type)	3		Dt. 06.03.2023
	3.2 The Errors in Dynamometer type wattmeter and methods of their correction.	3		Dt. 07.03.2023
	3.3 Discuss Induction type watt meters.	2		Dt. 10.03.2023
4	UNIT - 4 ENERGY METERS AND MEASUREMENT OF ENERGY	8		
	4.1 Introduction	1		Dt. 13.03.2023
	4.2 Single Phase Induction type Energy meters – construction, working principle and their compensation & adjustments.	4		Dt. 14.03.2023
	4.3 Testing of Energy Meters.	3		Dt. 15.03.2023
5	UNIT - 5 MEASUREMENT OF SPEED, FREQUENCY AND POWER FACTOR	7		
	5.1 Tachometers, types and working principles	1		Dt. 17.03.2023
	5.2 Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters.	3		Dt. 20.03.2023
	5.3 Principle of operation and working of Dynamometer type single phase and three phase power factor meters.	3		Dt. 21.03.2023
6	UNIT - 6 MEASUREMENT OF RESISTANCE, INDUCTANCE & CAPACITANCE	8		
	6.1 Classification of resistance	1		Dt. 22.03.2023
	6.1.1. Measurement of low resistance by potentiometer method.	1		Dt. 24.03.2023

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	6.1.2. Measurement of medium resistance by wheat Stone bridge method.	1		Dt-27.03.2023
	6.1.3. Measurement of high resistance by loss of charge method.	1		Dt-28.03.2023
	6.2 Construction, principle of operations of Megger & Earth tester for insulation resistance and earth resistance measurement respectively.	2		Dt-29.03.2023, Dt-31.03.2023
	6.3 Construction and principles of Multimeter. (Analog and Digital)	1	APRIL	Dt-03.04.2023, Dt-04.04.2023
	6.4 Measurement of inductance by Maxewell's Bridge method.	1		Dt-05.04.2023
	6.5 Measurement of capacitance by Schering Bridge method	1		Dt-10.04.2023
	UNIT - 7 SENSORS AND TRANSDUCER	9		
	7.1. Define Transducer, sensing element or detector element and transduction elements.	1		Dt-11.04.2023, Dt-12.04.2023
	7.2. Classify transducer. Give examples of various class of transducer.	1		Dt-17.04.2023
	7.3. Resistive transducer	1		Dt-18.04.2023, Dt-19.04.2023
7	7.3.1 Linear and angular motion potentiometer.	1		Dt-21.04.2023, Dt-24.04.2023
	7.3.2 Thermistor and Resistance thermometers.	1		Dt-25.04.2023
	7.3.3 Wire Resistance Strain Gauges	1		Dt-26.04.2023
	7.4. Inductive Transducer	2	MAY	Dt-01.05.2023, Dt-02.05.2023
	7.4.1 Principle of linear variable differential Transformer (LVDT)	1		Dt-03.05.2023
	7.4.2 Uses of LVDT.	1		Dt-4.05.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	7.5. Capacitive Transducer.	1		Dt. 09.05.2023
	7.5.1 General principle of capacitive transducer.	1		Dt. 10.05.2023
	7.5.2 Variable area capacitive transducer.	1		Dt. 12.05.2023
	7.5.3 Change in distance between plate capacitive transducer.	1		Dt. 15.05.2023
	7.6. Piezo electric Transducer and Hall Effect Transducer with their applications.	1		Dt. 16.05.2023
	UNIT - 8 OSCILLOSCOPE	5		
8	8.1. Principle of operation of Cathode Ray Tube.	1		Dt. 17.05.2023
	8.2. Principle of operation of Oscilloscope (with help of block diagram).	2		Dt. 22.05.2023
	8.3. Measurement of DC Voltage & current.	1		Dt. 22.05.2023
	8.4. Measurement of AC Voltage, current, phase & frequency.	1		Dt. 23.05.2023

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SIGNATURE OF THE CONCERNED FACULTY

S. Pradhan

SIGNATURE OF THE H.O.D.

P. Pradhan

PRINCIPAL
P.C.I.E.T., CHHENDIPADA
PRINCIPAL

Purna Chandra Institute of
Engineering & Technology

CHHENDIPADA, PIN - 751005

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THEORY LESSON PLAN FOR THE SESSION 2022 - 23

**BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 4TH
SECTION : EA**

**NAME OF THE FACULTY : (1) ER. BIRENDRA BAI,
(2) ER. SUSHIL SAHOO (LECT. IN ELECT. ENGG.)**

SEMESTER FROM : 13.02.2023 to 23.05.2023

THEORY SUBJECT: GENERATION, TRANSMISSION & DISTRIBUTION (TH-4)

CLASS ALLOTTED /WEEK : 04 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT- 1 GENERATION OF ELECTRICITY	7	FEBRUARY	
	1.1 Elementary idea on generation of electricity from Thermal, Hydel, Nuclear, Power station.	2		Dt. 14.02.2023, Dt. 15.02.2023
	1.2 Introduction to Solar Power Plant (Photovoltaic cells).	2		Dt. 17.02.2023, Dt. 20.02.2023
	1.3 Layout diagram of generating stations.	3		Dt. 21.02.2023
2	UNIT - 2 TRANSMISSION OF ELECTRIC POWER	5		
	2.1 Layout of transmission and distribution scheme.	1		Dt. 22.02.2023
	2.2 Voltage Regulation & efficiency of transmission.	1		Dt. 24.02.2023
	2.3 State and explain Kelvin's law for economical size of conductor.	2		Dt. 27.02.2023
	2.4 Corona and corona loss on transmission lines.	1		Dt. 28.02.2023
3	UNIT - 3 OVER HEAD LINES	7	MARCH	
	3.1 Types of supports, size and spacing of conductor.	1		Dt. 01.03.2023
	3.2 Types of conductor materials.	1		Dt. 02.03.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	3.3 State types of insulator and cross arms.	2		Dt. 06.03.2023
	3.4 Sag in overhead line with support at same level and different level. (approximate formula effect of wind, ice and temperature on sag)	2		Dt. 07.03.2023
	3.5 Simple problem on sag.	1		Dt. 9.03.2023
4	UNIT - 4 PERFORMANCE OF SHORT & MEDIUM LINES	7		
	4.1. Calculation of regulation and efficiency.	7		Dt. 10.03.2023, Dt. 13.03.2023
	UNIT - 5 EHV TRANSMISSION	7		
	5.1 EHV AC transmission.	2		Dt. 14.03.2023
5	5.1..1. Reasons for adoption of EHV AC transmission.	1		Dt. 15.03.2023
	5.1..2. Problems involved in EHV transmission.	1		Dt. 17.03.2023
	5.2 HV DC transmission.	1		Dt. 20.03.2023
	5.2..1. Advantages and Limitations of HVDC transmission system.	2		Dt. 21.03.2023, Dt. 22.03.2023
	UNIT - 6 DISTRIBUTION SYSTEMS	7		
6	6.1 Introduction to Distribution System.	1		Dt. 24.03.2023
	6.2 Connection Schemes of Distribution System: (Radial, Ring Main and Inter connected system)	1		Dt. 27.03.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	6.3 DC distributions.	1		Dt. 28. 03. 2023
	6.3.1 Distributor fed at one End.	1		Dt. 29. 03. 2023
	6.3.2 Distributor fed at both the ends.	1		Dt. 31. 03. 2023
	6.3.3 Ring distributors.	1	April	Dt. 03. 04. 2023
	6.4 AC distribution system.	1		Dt. 04. 04. 2023
	6.4.1. Method of solving AC distribution problem.	1		Dt. 05. 04. 2023
	6.4.2. Three phase four wire star connected system arrangement.	1		Dt. 10. 04. 2023
	UNIT - 7 UNDERGROUND CABLES	6		
	7.1 Cable insulation and classification of cables.	2		Dt. 11. 04. 2023
7	7.2 Types of L. T. & H.T. cables with constructional features.	1		Dt. 12. 04. 2023
	7.3 Methods of cable laying.	1		Dt. 17. 04. 2023
	7.4 Localization of cable faults: Murray and Varley loop test for short circuit fault / Earth fault.	2		Dt. 18. 04. 2023
	UNIT - 8 ECONOMIC ASPECTS	6		
8	8.1 Causes of low power factor and methods of improvement of power factor in POWER SYSTEM	1		Dt. 19. 04. 2023
	8.2 Factors affecting the economics of generation: (Define and explain)	1		Dt. 21. 04. 2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	8.2.1 Load curves.			Dt. 24.04.2023, Dt. 25.04.2023
	8.2.2 Demand factor.	1		Dt. 26.04.2023, Dt. 28.04.2023
	8.2.3 Maximum demand.	2	MAY	Dt. 01.05.2023, Dt. 02.05.2023
	8.2.4 Load factor.	1		Dt. 03.05.2023
	8.2.5 Diversity factor.	2		Dt. 08.05.2023, Dt. 09.05.2023
	8.2.6 Plant capacity factor.	1		Dt. 10.05.2023
	8.3 Peak load and Base load on power station	1		Dt. 12.05.2023
	UNIT - 9 TYPES OF TARIFF	3		
9	9.1. Desirable characteristic of a tariff.	1		Dt. 15.05.2023
	9.2. Explain flat rate, block rate, two part and maximum demand tariff. (Solve Problems)	2		Dt. 16.05.2023
	UNIT - 10 SUBSTATION	5		
10	10.1 Layout of LT, HT and EHT substation.	2		Dt. 17.05.2023
	10.2 Earthing of Substation, transmission and distribution lines.	3		Dt. 22.05.2023, Dt. 23.05.2023

B.B. NS

SIGNATURE OF THE CONCERNED FACULTY

S. Prasadhan

SIGNATURE OF THE H.O.D.

P. Prasadhan

PRINCIPAL
P.C.I.E.T., CHHENDIPADA
PRINCIPAL
Purna Chandra Institute of
Engineering & Technology
CHHENDIPADA

P.C.I.E.T., CHHENDIPADA, DIST- ANGUL

THEORY LESSON PLAN FOR THE SESSION 2022- 23

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 4TH
SECTION : EB

NAME OF THE FACULTY : (1)) ER. SUGYANI SAHOO,
(2) ER. BISWA RANJAN JENA (LECT. IN ELECT. ENGG.)

SEMESTER FROM : 13.02.2023 to 23.05.2023

THEORY SUBJECT: ENERGY CONVERSION - I (TH-1)

CLASS ALLOTTED /WEEK : 04 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT - 1 D.C GENERATOR	17	FEBRUARY	
	1.1. Operating principle of generator	1		Dt. 14. 02. 2023
	1.2. Constructional features of DC machine.	1		Dt. 16. 02. 2023
	1.2.1. Yoke, Pole & field winding, Armature, Commutator.	1		Dt. 17. 02. 2023
	1.2.2. Armature winding, back pitch, Front pitch, Resultant pitch and commutator- pitch.	1		Dt. 20. 02. 2023
	1.2.3. Simple Lap and wave winding, Dummy coils.	1		Dt. 21. 02. 2023
	1.3. Different types of D.C. machines (Shunt, Series and Compound)	1		Dt. 23. 02. 2023
	1.4. Derivation of EMF equation of DC generators. (Solve problems)	1		Dt. 24. 02. 2023
	1.5. Losses and efficiency of DC generator. Condition for maximum efficiency and numerical problems.	1		Dt. 25. 02. 2023
	1.6. Armature reaction in D.C. machine	1		Dt. 27. 02. 2023
	1.7. Commutation and methods of improving commutation.	1		Dt. 28. 02. 2023
	1.7.1. Role of inter poles and compensating winding in commutation.	1	MARCH	Dt. 02. 03. 2023
1.8. Characteristics of D.C. Generators	1		Dt. 03. 03. 2023	

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	1.9. Application of different types of D.C. Generators.	1		Dt. 03.03.2023
	1.10. Concept of critical resistance and critical speed of DC shunt generator	1		Dt. 04.03.2023
	1.11. Conditions of Build-up of emf of DC generator.	1		Dt. 06.03.2023
	1.12. Parallel operation of D.C. Generators.	1		Dt. 07.03.2023
	1.13. Uses of D.C generators.	1		Dt. 09.03.2023
	UNIT - 2 D. C. MOTORS	15		
	2.1. Basic working principle of DC motor	1		Dt. 10.03.2023
	2.2. Significance of back emf in D.C. Motor.	1		Dt. 11.03.2023
	2.3. Voltage equation of D.C. Motor and condition for maximum power output(simple problems)	1		Dt. 13.03.2023
	2.4. Derive torque equation (solve problems)	2		Dt. 14.03.2023
2	2.5. Characteristics of shunt, series and compound motors and their application.	1		Dt. 16.03.2023
	2.6. Starting method of shunt, series and compound motors.	2		Dt. 17.03.2023
	2.7. Speed control of D.C shunt motors by Flux control method. Armature voltage Control method. Solve problems	1		Dt. 18.03.2023
	2.8. Speed control of D.C. series motors by Field Flux control method, Tapped field method and series-parallel method	1		Dt. 20.03.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	2.9. Determination of efficiency of D.C. Machine by Brake test method(solve numerical problems)	2		Dt. 21.03.2023, Dt. 23.03.2023
	2.10. Determination of efficiency of D.C. Machine by Swinburne's Test method(solve numerical problems)	1		Dt. 24.03.2023
	2.11. Losses, efficiency and power stages of D.C. motor(solve numerical problems)	1		Dt. 25.03.2023
	2.12. Uses of D.C. motors	1		Dt. 27.03.2023
	UNIT -3 SINGLE PHASE TRANSFORMER	20		
	3.1 Working principle of transformer.	1		Dt. 28.03.2023
	3.2 Constructional feature of Transformer.	2		Dt. 31.03.2023,
	3.2.1 Arrangement of core & winding in different types of transformer.	1	APRIL	Dt. 03.04.2023, Dt. 04.04.2023
	3.2.2 Brief ideas about transformer accessories such as conservator, tank, breather, and explosion vent etc.	1		Dt. 06.04.2023
3	3.2.3 Explain types of cooling methods	1		Dt. 08.04.2023
	3.3 State the procedures for Care and maintenance.	1		Dt. 10.04.2023
	3.4 EMF equation of transformer.	1		Dt. 11.04.2023
	3.5 Ideal transformer voltage transformation ratio	1		Dt. 13.04.2023
	3.6 Operation of Transformer at no load, on load with phasor diagrams.	1		Dt. 15.04.2023
	3.7 Equivalent Resistance, Leakage Reactance and Impedance of transformer.	1		Dt. 17.04.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	3.8 To draw phasor diagram of transformer on load, with winding Resistance and Magnetic leakage with using upf, leading pf and lagging pf load.	1		Dt. 18.04.2023
	3.9 To explain Equivalent circuit and solve numerical problems.	1		Dt. 20.04.2023
	3.10 Approximate & exact voltage drop calculation of a Transformer.	1		Dt. 21.04.2023
	3.11 Regulation of transformer.	1		Dt. 22.04.2023
	3.12 Different types of losses in a Transformer. Explain Open circuit and Short Circuit test. (Solve numerical problems)	1		Dt. 24.04.2023
	3.13 Explain Efficiency, efficiency at different loads and power factors, condition for maximum efficiency (solve problems)	1		Dt. 25.04.2023
	3.14 Explain All Day Efficiency (solve problems)	1		Dt. 27.04.2023
	3.15 Determination of load corresponding to Maximum efficiency.	1		Dt. 28.04.2023
	3.16 Parallel operation of single phase transformer.	1		Dt. 29.04.2023
	UNIT-4 AUTO TRANSFORMER	3	MAY	
4	4.1. Constructional features of Auto transformer.	1		Dt. 01.05.2023
	4.2. Working principle of single phase Auto Transformer.	1		Dt. 02.05.2023
	4.3. Comparison of Auto transformer with an two winding transformer (saving of Copper).	1		Dt. 04.05.2023
	4.4. Uses of Auto transformer.	1		Dt. 06.05.2023
	4.5. Explain Tap changer with transformer (on load and off load condition)	1		Dt. 08.05.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
5	UNIT-5 INSTRUMENT TRANSFORMERS	5		
	1.1 Explain Current Transformer and Potential Transformer	1		Dt. 09.05.2023, Dt. 11.05.2023
	1.2 Define Ratio error, Phase angle error, Burden.	1		Dt. 12.05.2023, Dt. 15.05.2023 Dt. 16.05.2023, Dt. 18.05.2023
	1.3 Uses of C.T. and P.T.	1		Dt. 20.05.2023, Dt. 22.05.2023 Dt. 23.05.2023

S. S. B. T.

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S. Prasad

SIGNATURE OF THE H.O.D.

P. S. L.

PRINCIPAL
P.C.I.E.T., CHHENDIPADA
~~PRINCIPAL~~
Purna Chandra Institute of
Engineering & Technology
CHHENDIPADA, ANGUL

P.C.I.E.T., CHHENDIPADA, DIST- ANGUL

THEORY LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 4TH, SECTION :
EB

NAME OF THE FACULTY : (1) ER. SUBHASHREE PRADHAN (H.O.D. ELECT. ENGG.), (2) ER. SHAKTIDATTA PRADHAN, (3) ER. PRADYUMNA GARNAIK, (4) ER. SUVENDU SEKHAR BEHERA (LECT. IN ELECT. ENGG.)

SEMESTER FROM : 13.02.2023 to 23.05.2023

THEORY SUBJECT: ANALOG ELECTRONICS & OP-AMP (TH-2)

CLASS ALLOTTED /WEEK : 04 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT -1 P-N JUNCTION DIODE:	6	FEBRUARY	
	1.1 P-N Junction Diode	1		Dt. 14.02.2023
	1.2 Working of Diode	1		Dt. 15.02.2023
	1.3 V-I characteristic of PN junction Diode.	1		Dt. 16.02.2023
	1.4 DC load line	1		Dt. 20.02.2023
	1.5 Important terms such as Ideal Diode, Knee voltage	1		Dt. 21.02.2023
	1.6 Junctions break down.	1		Dt. 22.02.2023
	1.6.1 Zener breakdown	1		Dt. 23.02.2023
	1.6.2 Avalanche breakdown	1		Dt. 25.02.2023
	1.7 P-N Diode clipping Circuit.	1		Dt. 27.02.2023
	1.8 P-N Diode clamping Circuit	1		Dt. 28.02.2023
2	UNIT- 2 SPECIAL SEMICONDUCTOR DEVICES:	5	MARCH	1
	2.1 Thermistors, Sensors & barretters	2		Dt. 01.03.2023
	2.2 Zener Diode	1		Dt. 02.03.2023
	2.3 Tunnel Diode	1		Dt. 04.03.2023
	2.4 PIN Diode	1		Dt. 06.03.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	UNIT -3 RECTIFIER CIRCUITS & FILTERS:	7		
3	3.1 Classification of rectifiers	1		Dt. 07. 03. 2023
	3.2 Analysis of half wave, full wave centre tapped and Bridge rectifiers and calculate:	1		Dt. 09. 03. 2023
	3.2.1 DC output current and voltage	1		Dt. 11. 03. 2023
	3.2.2 RMS output current and voltage			Dt. 13. 03. 2023
	3.2.3 Rectifier efficiency	1		Dt. 14. 03. 2023
	3.2.4 Ripple factor			Dt. 15. 03. 2023
	3.2.5 Regulation	1		Dt. 16. 03. 2023
	3.2.6 Transformer utilization factor			Dt. 18. 03. 2023
	3.2.7 Peak inverse voltage	1		Dt. 20. 03. 2023
	3.3 Filters:	1		Dt. 21. 03. 2023
	3.3.1 Shunt capacitor filter			Dt. 22. 03. 2023
	3.3.2 Choke input filter			Dt. 23. 03. 2023
	3.3.3 π filter			Dt. 25. 03. 2023
		UNIT - 4 TRANSISTORS	7	
4	4.1 Principle of Bipolar junction transistor	1		Dt. 24. 03. 2023
	4.2 Different modes of operation of transistor	1		Dt. 26. 03. 2023
	4.3 Current components in a transistor	1		Dt. 29. 03. 2023
	4.4 Transistor as an amplifier	1	APRIL	Dt. 03. 04. 2023
	4.5 Transistor circuit configuration & its characteristics	1		Dt. 04. 04. 2023
	4.5.1 CB Configuration	1		Dt. 05. 04. 2023
	4.5.2 CE Configuration			Dt. 06. 04. 2023
	4.5.3 CC Configuration	1		Dt. 08. 04. 2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
5	UNIT - 5 TRANSISTOR CIRCUITS	7		
	5.1 Transistor biasing	1		Dt. 10.04.2023
	5.2 Stabilization	1		Dt. 11.04.2023
	5.3 Stability factor	1		Dt. 12.04.2023
	5.4 Different method of Transistors Biasing	1		Dt. 13.04.2023
	5.4.1 Base resistor method	1		Dt. 15.04.2023
	5.4.2 Collector to base bias	1		Dt. 17.04.2023
	5.4.3 Self bias or voltage divider method	1		Dt. 18.04.2023
6	UNIT - 6 TRANSISTOR AMPLIFIERS & OSCILLATORS:	13		
	6.1 Practical circuit of transistor amplifier	1		Dt. 19.04.2023
	6.2 DC load line and DC equivalent circuit	1		Dt. 20.04.2023
	6.3 AC load line and AC equivalent circuit	1		Dt. 22.04.2023
	6.4 Calculation of gain	1		Dt. 24.04.2023
	6.5 Phase reversal	1		Dt. 25.04.2023
	6.6 H-parameters of transistors	1		Dt. 26.04.2023
	6.7 Simplified H-parameters of transistors	1		Dt. 27.04.2023
	6.8 Generalised approximate model	1		Dt. 29.04.2023
	6.9 Analysis of CB, CE, CC amplifier using generalised approximate model	1	MAY	Dt. 01.05.2023
	6.10 Multi stage transistor amplifier	1		Dt. 02.05.2023
	6.10.1 R.C. coupled amplifier	1		Dt. 03.05.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	6.10.2 Transformer coupled amplifier	1		Dt. 04.05.2023
	6.11 Feed back in amplifier	1		Dt. 04.05.2023
	6.11.1 General theory of feed back	1		Dt. 06.05.2023
	6.11.2 Negative feedback circuit.	1		Dt. 06.05.2023
	6.11.3 Advantage of negative feed back	1		Dt. 08.05.2023
	6.12 Power amplifier and its classification	1		Dt. 08.05.2023
	6.12.1 Difference between voltage amplifier and power amplifier	1		Dt. 09.05.2023
	6.12.2 Transformer coupled class A power amplifier	1		Dt. 10.05.2023
	6.12.3 Class A push – pull amplifier	1		Dt. 10.05.2023
	6.12.4 Class B push – pull amplifier	1		Dt. 11.05.2023
	6.13 Oscillators	1		Dt. 11.05.2023
	6.13.1 Types of oscillators	1		Dt. 11.05.2023
	6.13.2 Essentials of transistor oscillator	1		Dt. 15.05.2023
	6.13.3 Principle of operation of tuned collector, Hartley, colpitt, phase shift, wein-bridge oscillator (no mathematical derivations)	1		Dt. 15.05.2023
	UNIT - 7 FIELD EFFECT TRANSISTOR	6		
7	7.1 Classification of FET	1		Dt. 15.05.2023
	7.2 Advantages of FET over BJT	1		Dt. 16.05.2023
	7.3 Principle of operation of BJT	1		Dt. 16.05.2023
	7.4 FET parameters (no mathematical derivation)	1		Dt. 16.05.2023
	7.4.1 DC drain resistance	1		Dt. 16.05.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	7.4.2 AC drain resistance	1		Dt. 17.05.2023
	7.4.3 Trans-conductance	1		Dt. 17.05.2023
	7.5 Biasing of FET	1		Dt. 17.05.2023
	UNIT - 8 OPERATIONAL AMPLIFIERS	9		
8	8.1 General circuit simple of OP-AMP and IC - CA - 741 OP AMP	1		Dt. 17.05.2023
	8.2 Operational amplifier stages	1		Dt. 18.05.2023
	8.3 Equivalent circuit of operational amplifier	1		Dt. 18.05.2023
	8.4 Open loop OP-AMP configuration	1		Dt. 18.05.2023
	8.5 OPAMP with fed back	1		Dt. 20.05.2023
	8.6 Inverting OP-AMP	1		Dt. 20.05.2023
	8.7 Non inverting OP-AMP	1		Dt. 20.05.2023
	8.8 Voltage follower & buffer	1		Dt. 20.05.2023
	8.9 Differential amplifier	1		Dt. 22.05.2023
	8.9.1 Adder or summing amplifier	1		Dt. 22.05.2023
	8.9.2 Sub tractor	1		Dt. 22.05.2023
	8.9.3 Integrator	1		Dt. 23.05.2023
	8.9.4 Differentiator	1		Dt. 23.05.2023
	8.9.5 Comparator	1		Dt. 23.05.2023

S. Pradhan SP PL SSB
SIGNATURE OF THE CONCERNED FACULTY

S. Pradhan
SIGNATURE OF THE H.O.D.

W. Pradhan
PRINCIPAL
Pune Chandra Institute of Engineering & Technology
P.C.I.E.T., CHHENDIPADA, NIIPADA, ANGUL

P.C.I.E.T., CHHENDIPADA, DIST- ANGUL

THEORY LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 4TH
SECTION :- EB

NAME OF THE FACULTY : (1) ER. SASWATI SANGHAMITRA
PRADHAN, (2) ER. SUVENDU SEKHAR BEHERA,
(3) ER. SUSHIL KUMAR MAJHI (LECT. IN ELECT. ENGG.)

SEMESTER FROM : 13.02.2023 to 23.05.2023

THEORY SUBJECT: ELECTRICAL MEASUREMENT & INSTRUMENTATION (TH-3)

CLASS ALLOTTED /WEEK : 04 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT - 1 MEASURING INSTRUMENTS	5	FEBRUARY	
	1.1 Define Accuracy, precision, Errors, Resolutions Sensitivity and tolerance.	1		Dt. 14.02.2023
	1.2 Classification of measuring instruments.	1		Dt. 16.02.2023
	1.3 Explain Deflecting, controlling and damping arrangements in indicating type of INSTRUMENT	2		Dt. 20.02.2023, Dt. 21.02.2023
	1.4 Calibration of instruments	1		Dt. 23.02.2023
2	UNIT- 2 ANALOG AMMETERS AND VOLTMETERS	10		
	2.1. Describe Construction, principle of operation, errors, ranges merits and demerits of:	1		Dt. 25.02.2023
	2.1.1 Moving iron type instruments.	1		Dt. 27.02.2023
	2.1.2 Permanent Magnet Moving coil type instruments.	1		Dt. 28.02.2023
	2.1.3 Dynamometer type instruments	1	MARCH	Dt. 02.03.2023
	2.1.4 Rectifier type instruments	1		Dt. 04.03.2023
	2.1.5 Induction type instruments	1		Dt. 06.03.2023
3	2.2 Extend the range of instruments by use of shunts and Multipliers.	2		Dt. 07.03.2023, Dt. 09.03.2023
	2.3 Solve Numerical	2		Dt. 11.03.2023, Dt. 13.03.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
3	UNIT - 3 WATTMETERS AND MEASUREMENT OF POWER	8		
	3.1 Describe Construction, principle of working of Dynamometer type wattmeter. (LPF and UPF type)	3		Dt. 14.03.2023, Dt. 16.03.2023
	3.2 The Errors in Dynamometer type wattmeter and methods of their correction.	3		Dt. 18.03.2023, Dt. 20.03.2023
	3.3 Discuss Induction type watt meters.	2		Dt. 21.03.2023, Dt. 23.03.2023
4	UNIT - 4 ENERGY METERS AND MEASUREMENT OF ENERGY	8		
	4.1 Introduction	1		Dt. 25.03.2023, Dt. 27.03.2023
	4.2 Single Phase Induction type Energy meters – construction, working principle and their compensation & adjustments.	4		Dt. 28.03.2023.
	4.3 Testing of Energy Meters.	3	APRIL	Dt. 09.04.2023, Dt. 04.04.2023 Dt. 06.04.2023
5	UNIT - 5 MEASUREMENT OF SPEED, FREQUENCY AND POWER FACTOR	7		
	5.1 Tachometers, types and working principles	1		Dt. 04.04.2023
	5.2 Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters.	3		Dt. 10.04.2023, Dt. 11.04.2023 Dt. 13.04.2023
	5.3 Principle of operation and working of Dynamometer type single phase and three phase power factor meters.	3		Dt. 15.04.2023
6	UNIT - 6 MEASUREMENT OF RESISTANCE, INDUCTANCE & CAPACITANCE	8		1
	6.1 Classification of resistance	1		Dt. 15.04.2023
	6.1.1. Measurement of low resistance by potentiometer method.	1		Dt. 17.04.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	6.1..2. Measurement of medium resistance by wheat Stone bridge method.	1		Dt. 17. 04. 2023
	6.1..3. Measurement of high resistance by loss of charge method.	1		Dt. 18. 04. 2023
	6.2 Construction, principle of operations of Megger & Earth tester for insulation resistance and earth resistance measurement respectively.	2		Dt. 20. 04. 2023
	6.3 Construction and principles of Multimeter. (Analog and Digital)	1		Dt. 20. 04. 2023
	6.4 Measurement of inductance by Maxewell's Bridge method.	1		Dt. 20. 04. 2023
	6.5 Measurement of capacitance by Schering Bridge method	1		Dt. 22. 04. 2023
	UNIT - 7 SENSORS AND TRANSDUCER	9		
	7.1. Define Transducer, sensing element or detector element and transduction elements.	1		Dt. 24. 04. 2023
	7.2. Classify transducer. Give examples of various class of transducer.	1		Dt. 25. 04. 2023
	7.3. Resistive transducer	1		Dt. 27. 04. 2023
	7.3.1 Linear and angular motion potentiometer.	1		Dt. 28. 04. 2023
	7.3.2 Thermistor and Resistance thermometers.	1	MAY	Dt. 01. 05. 2023
	7.3.3 Wire Resistance Strain Gauges	1		Dt. 02. 05. 2023
	7.4. Inductive Transducer	2		Dt. 04. 05. 2023
	7.4.1 Principle of linear variable differential Transformer (LVDT)	1		Dt. 06. 05. 2023
	7.4.2 Uses of LVDT.	1		Dt. 08. 05. 2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	7.5. Capacitive Transducer,	1		Dt. 09.05.2023
	7.5.1 General principle of capacitive transducer.	1		Dt. 10.05.2023
	7.5.2 Variable area capacitive transducer.	1		Dt. 11.05.2023
	7.5.3 Change in distance between plate capacitive transducer.	1		Dt. 15.05.2023
	7.6. Piezo electric Transducer and Hall Effect Transducer with their applications.	1		Dt. 16.05.2023
	UNIT - 8 OSCILLOSCOPE	5		
8	8.1. Principle of operation of Cathode Ray Tube.	1		Dt. 18.05.2023
	8.2. Principle of operation of Oscilloscope (with help of block diagram).	2		Dt. 20.05.2023
	8.3. Measurement of DC Voltage & current.	1		Dt. 22.05.2023
	8.4. Measurement of AC Voltage, current, phase & frequency.	1		Dt. 23.05.2023

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THEORY LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 4TH
SECTION : EB

NAME OF THE FACULTY : (1) ER. BIRENDRA BAI,
(2) ER. SUSHIL SAHOO (LECT. IN ELECT. ENGG.)

SEMESTER FROM : 13.02.2023 to 23.05.2023

THEORY SUBJECT: GENERATION, TRANSMISSION & DISTRIBUTION (TH-4)

CLASS ALLOTTED /WEEK : 04 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT- 1 GENERATION OF ELECTRICITY	7	FEBRUARY	
	1.1 Elementary idea on generation of electricity from Thermal, Hydal, Nuclear, Power station.	2		Dt. 14.02.2023, Dt. 16.02.2023
	1.2 Introduction to Solar Power Plant (Photovoltaic cells).	2		Dt. 20.02.2023, Dt. 21.02.2023
	1.3 Layout diagram of generating stations.	3		Dt. 23.02.2023
2	UNIT - 2 TRANSMISSION OF ELECTRIC POWER	5		
	2.1 Layout of transmission and distribution scheme.	1		Dt. 25.03.2023
	2.2 Voltage Regulation & efficiency of transmission.	1		Dt. 27.03.2023
	2.3 State and explain Kelvin's law for economical size of conductor.	2		Dt. 28.03.2023
	2.4 Corona and corona loss on transmission lines.	1	MARCH	Dt. 02.03.2023
3	UNIT - 3 OVER HEAD LINES	7		
	3.1 Types of supports, size and spacing of conductor.	1		Dt. 04.03.2023
	3.2 Types of conductor materials.	1		Dt. 06.03.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	3.3 State types of insulator and cross arms.	2		Dt. 07.03.2023, Dt. 09.03.2023
	3.4 Sag in overhead line with support at same level and different level. (approximate formula effect of wind, ice and temperature on sag)	2		Dt. 11.03.2023, Dt. 13.03.2023
	3.5 Simple problem on sag.	1		Dt. 14.03.2023, Dt. 16.03.2023
4	UNIT - 4 PERFORMANCE OF SHORT & MEDIUM LINES	7		
	4.1. Calculation of regulation and efficiency.	7		Dt. 18.03.2023, Dt. 20.03.2023 Dt. 21.03.2023, Dt. 23.03.2023
5	UNIT - 5 EHV TRANSMISSION	7		
	5.1 EHV AC transmission.	2		Dt. 25.03.2023, Dt. 27.03.2023
	5.1..1. Reasons for adoption of EHV AC transmission.	1		Dt. 28.03.2023
	5.1..2. Problems involved in EHV transmission.	1	APRIL	Dt. 03.04.2023
	5.2 HV DC transmission.	1		Dt. 04.04.2023
	5.2..1. Advantages and Limitations of HVDC transmission system.	2		Dt. 06.04.2023, Dt. 08.04.2023
6	UNIT - 6 DISTRIBUTION SYSTEMS	7		
	6.1 Introduction to Distribution System.	1		Dt. 10.04.2023
	6.2 Connection Schemes of Distribution System: (Radial, Ring Main and Inter connected system)	1		Dt. 11.04.2023

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	6.3 DC distributions.	1		Dt. 13.04.2023
	6.3.1 Distributor fed at one End.	2		Dt. 15.04.2023, Dt. 17.04.2023
	6.3.2 Distributor fed at both the ends.	1		Dt. 20.04.2023
	6.3.3 Ring distributors.	1		Dt. 22.04.2023
	6.4 AC distribution system.	2		Dt. 24.04.2023, Dt. 25.04.2023
	6.4.1. Method of solving AC distribution problem.	1		Dt. 27.04.2023
	6.4.2. Three phase four wire star connected system arrangement.	1		Dt. 29.04.2023
	UNIT - 7 UNDERGROUND CABLES	6	MAY	
7	7.1 Cable insulation and classification of cables.	2		Dt. 01.05.2023
	7.2 Types of L. T. & H.T. cables with constructional features.	1		Dt. 01.05.2023
	7.3 Methods of cable lying.	1		Dt. 02.05.2023
	7.4 Localization of cable faults: Murray and Varley loop test for short circuit fault / Earth fault.	2		Dt. 02.05.2023
	UNIT - 8 ECONOMIC ASPECTS	6		
8	8.1 Causes of low power factor and methods of improvement of power factor in POWER SYSTEM	1		Dt. 04.05.2023
	8.2 Factors affecting the economics of generation; (Define and explain)	1		Dt. 04.05.2023.

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	8.2.1 Load curves.	1		Dt. 06.05.2023
	8.2.2 Demand factor.	1		Dt. 06.05.2023
	8.2.3 Maximum demand.	1		Dt. 08.05.2023
	8.2.4 Load factor.	1		Dt. 08.05.2023
	8.2.5 Diversity factor.	1		Dt. 09.05.2023
	8.2.6 Plant capacity factor.	1		Dt. 09.05.2023
	8.3 Peak load and Base load on power station	1		Dt. 11.05.2023
	UNIT - 9 TYPES OF TARIFF	3		
9	9.1. Desirable characteristic of a tariff.	1		Dt. 15.05.2023
	9.2. Explain flat rate, block rate, two part and maximum demand tariff. (Solve Problems)	2		Dt. 16.05.2023, Dt. 18.05.2023
	UNIT - 10 SUBSTATION	5		
10	10.1 Layout of LT, HT and EHT substation.	2		Dt. 20.05.2023, Dt. 22.05.2023
	10.2 Earthing of Substation, transmission and distribution lines.	3		Dt. 22.05.2023, Dt. 23.05.2023.

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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:-ELECTRICAL ENGG.

SEMESTER: 4TH

SECTION : EA1

NAME OF THE FACULTY : (1) ER. ER. RAMESH CH. PRADHAN (LECT. IN ELECT. ENGG.), (2) ER. KRUTIBASA BEHERA (T.A., ELECT. ENGG.)

SEMESTER FROM DT.13.02.2023 TO 23.05.2023


PRACTICAL SUBJECT: ELECTRICAL MACHINE LAB-I (PR-1)


CLASS ALLOTTED /WEEK : 06 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
1	Identification of different terminals of a DC machine by test lamp method and multi-meter method & to measure insulation resistance by megger.	FEBRUARY	3	Dt. 20.02.2023, Dt. 25.02.2023 Dt. 27.02.2023.
2	Dimensional and material study of various parts of a DC machine.	MARCH	2	Dt. 04.03.2023 Dt. 06.03.2023
3	Plot OCC of a DC shunt generator at constant speed and determine critical resistance from the graph.		2	Dt. 11.03.2023 Dt. 13.03.2023
4	Plot External Characteristics of a DC shunt generator at constant speed.		2	Dt. 18.03.2023 Dt. 20.03.2023
5	Study of Three point starter, connect and run a DC shunt motor & measure the no load current.		2	Dt. 25.03.2023 Dt. 27.03.2023
6	Study of Four point starter, connect and run a DC compound motor & measure no load current.	APRIL	2	Dt. 03.04.2023 Dt. 08.04.2023
7	Control the speed of a DC shunt motor by field flux control method & armature voltage control method.		2	Dt. 10.04.2023 Dt. 15.04.2023

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOB TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
8	Determine the armature current vs. speed characteristic of a DC motor		2	Dt. 17.04.2023 Dt. 22.04.2023
9	Determine the efficiency of a DC machine by brake test method.		2	Dt. 24.04.2023 Dt. 29.04.2023
10	Identification of terminals, determination of voltage transformation ratio of a single phase transformer.	May	2	Dt. 01.05.2023 Dt. 06.05.2023
11	Perform OC Test and SC test of a single phase transformer.		2	Dt. 08.05.2023 Dt. 15.05.2023
12	Determine the voltage regulation of a single phase transformer at different loads.		1	Dt. 20.05.2023
13	Polarity Test of Single Phase Transformer & Parallel operation of two Single Phase Transformers		1	Dt. 21.05.2023


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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:-ELECTRICAL ENGG.

SEMESTER: 4TH

SECTION : EA1

NAME OF THE FACULTY : (1) ER. SAKTIDATTA PRADHAN (LECT. INELECT. ENGG.)

SEMESTER FROM DT.13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: ANALOG ELECTRONICS LAB (PR-2)

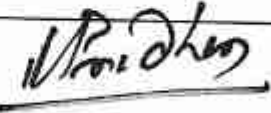
CLASS ALLOTTED /WEEK :- 03 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
1	Determine the input and output Characteristics of CE & CB transistor configuration	FEBRUARY	1	Dt. 17.02.2023
2	2. Determine Drain & Transfer Characteristics of JFET		1	Dt. 24.02.2023
3	3. Construct Bridge Rectifier using different filter circuit and to determine Ripple factor & analyze wave form with filter & without filter.	MARCH	1	Dt. 03.03.2023
4	4. Construct Bridge Rectifier using different filter and to determine Ripple factor.		1	Dt. 10.03.2023
5	5. Construct & test the regulator using Zener diode		1	Dt. 17.03.2023
6	6. Construct different types of biasing circuit and analyze the wave form (i) Fixed bias (ii) Emitter bias (iii) Voltage divider bias		1	Dt. 17.03.2023
7	7. Study the single stage CE amplifier & find Gain		1	Dt. 24.03.2023

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
8	8. Study multi stage R-C coupled amplifier & to determine frequency- response & gain.		1	Dt. 31. 03. 2023
9	9. Construct & Find the gain (i) Class A. Amplifier (ii) Class B. Amplifier (iii) Class C Tuned Amplifier	APRIL	1	Dt. 21. 04. 2023
10	10. Construct & test push pull amplifier & observe the wave form		1	Dt. 21. 04. 2023
11	11. Construct & calculate the frequency of (i) Hartly Oscillator (ii) Colpitt's Oscillator (iii) Wein Bridge Oscillator (iv) R-C phase shift oscillator and draw wave form & calculate the frequency		1	Dt. 28. 04. 2023
12	Construct & Test Differentiator and Integrator using R-C Circuit		1	Dt. 28. 04. 2023
13	Study Multivibrator (Astable, Bistable, Monstable) Circuit & Draw its Wave forms	MAY	1	Dt. 12. 05. 2023
14	Mini Project: To collect data like base configuration. Operational Characteristics, applications and critical factor etc. On all semiconductor devices studied in theory and compile a Project report throughout and submit at the end of the semester. To assemble and test simple circuit using above components with test Points. (e.g. Series Regulator / Oscillators etc)		1	Dt. 12. 05. 2023


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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:-ELECTRICAL ENGG.

SEMESTER: 4TH

SECTION : EA1

NAME OF THE FACULTY : (1) ER. SASWATI SANGHAMITRA PRADHAN, (2) ER. BIJAYA KUMAR BEHERA (LECT. IN ELECT. ENGG.)

SEMESTER FROM DT. 13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: SIMULATION PRACTICE ON MAT LAB (PR-3)

CLASS ALLOTTED /WEEK : 03 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
	INTRODUCTION TO MAT LAB. PROGRAMMING	FEBRUARY		
1	Functions and operation using variables and arrays		1	Dt. 14.02.2023
2	To learn algebraic, trigonometric and exponential manipulation		1	Dt. 21.02.2023
3	To learn Arithmetic, Relational and Logic operator.		1	Dt. 28.02.2023
4	Matrix formation and its manipulation.	MARCH	1	Dt. 07.03.2023
5	Use of linspace to create vectors.		1	Dt. 14.03.2023
6	To create, add and multiply vectors.		1	Dt. 14.03.2023
7	Use of sin and sqrt functions with vector arguments.		1	Dt. 21.03.2023
9	Two dimensional Plots and sub.plots		1	Dt. 21.03.2023
10	Label the plot and printing		1	Dt. 28.03.2023

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOB TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
11	Write and execute a file to plot a circle, impulse, step, ramp, sine and cosine functions.	APRIL	1	Dt. 04. 04. 2023
12	Use of Commonly used blocks, Math operation block and Display block from SIMULINK library.		1	Dt. 11. 04. 2023
13	Use of logical and relational operator block.		1	Dt. 18. 04. 2023
14	Use of Sim-Power system block to use Electrical sources, elements and Power electronics devices		1	Dt. 25. 04. 2023
	SIMULATION	MAY		
15	1. Verification of Network Theorems		1	Dt. 02. 05. 2023
	2. Simulation of a half wave uncontrolled rectifier		1	Dt. 09. 05. 2023
	3. Simulation of 1-phase full bridge controlled rectifier		1	Dt. 16. 05. 2023
	4. Simulation of step-down chopper		1	Dt. 23. 05. 2023

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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:-ELECTRICAL ENGG.

SEMESTER : 4TH

SECTION : EA1

NAME OF THE FACULTY : (1) ER. PRAKASH CH. MOHARANA, (2) ER. BIBHUTI BHUSAN SAHU, (3) ER. BISWA RANJAN JENA (LECT. IN ELECT. ENGG.), (4) ER. KRUTIBASA BEHERA (T.A., ELECT. ENGG.)

SEMESTER FROM DT. 13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: ELECTRICAL DRAWING (PR-4)

CLASS ALLOTTED /WEEK :- 06 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
(I)	WIRING DIAGRAM & CONTROL CIRCUIT	FEBRUARY		
1	1.1 3 point D. C. motor starter.		1	Dt. 15.02.2023
2	1.2 4 point D.C. motor starter.		1	Dt. 16.02.2023
3	1.3 DOL starter		1	Dt. 22.02.2023
4	1.4 Star delta starter.		1	Dt. 23.02.2023
5	1.5 Auto Transformer Starter.	MARCH	1	Dt. 01.03.2023
6	1.6 Rotor resistance starter		1	Dt. 02.03.2023
(II)	DRAW D.C. M/C PARTS (DIMENSIONAL DRAWING)			
7	2.1 Pole with pole shoes.		1	Dt. 09.03.2023
8	2.2. Commutator		1	Dt. 15.03.2023
9	2.3. Armature		1	Dt. 16.03.2023
10	2.4. DC. armature winding		1	Dt. 22.03.2023
11	(a) Simple lap winding		1	Dt. 23.03.2023
12	(b) Simple wave winding.		1	Dt. 29.03.2023

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
(III)	DRAW 1-PHASE & 3-PHASE TRANSFORMER (ASSEMBLING DRAWING)	APRIL		
13	3.1 Stepped core type.		1	Dt. 05.04.2023
14	3.2 Plane shell type.		1	Dt. 06.04.2023
(IV)	DRAW SKETCHES OF THE FOLLOWING AS PER B.I.S. & REC SPECIFICATIONS			
15	4.1 Earthing installation.		2	Dt. 12.04.2023, Dt. 13.04.2023
16	4.2 Double pole structure for LT and HT distribution lines.		2	Dt. 19.04.2023, Dt. 20.04.2023
(V)	DRAW SINGLE LINE DIAGRAM OF SUB-STATION			
17	5.1 Single line diagram of 33/11kV distribution substation.		2	Dt. 26.04.2023, Dt. 27.04.2023
18	5.2 Single line diagram of a 11/0.4 kV distribution substation	MAY	1	Dt. 03.05.2023
(VI)	COMPUTER AIDED ELECTRICAL DRAWING USING SOFTWARE			
19	6.1 Draw Electrical symbols (take Print out)		1	Dt. 04.05.2023
20	6.2 Draw D.C. m/c parts (take print out)		1	Dt. 10.05.2023
21	6.3 Draw A. C. m/c parts (take print out)		1	Dt. 11.05.2023
22	6.4 Draw electrical layout of diagram of Electrical Installation of a building.		2	Dt. 17.05.2023, Dt. 18.05.2023

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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:- ELECTRICAL ENGG.

SEMESTER: 4TH

SECTION : EA1

NAME OF THE FACULTY : (1) ER. BIRENDRA BAI, (2) ER. DEBABRATA DIBYARANJAN (LECT. IN ELECT. ENGG.)

SEMESTER FROM DT.13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: STUDENT CENTRED ACTIVITIES

CLASS ALLOTTED /WEEK :- 03 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
1.	Student presentation	FEBRUARY	2	Dt. 16.02.2023 Dt. 23.02.2023
2.	Develops practical skills	MARCH	2	Dt. 02.03.2023 Dt. 09.03.2023
3.	Encourages Team work & Collaboration		2	Dt. 16.03.2023 Dt. 23.03.2023
4.	Science - based solutions to environmental problems	APRIL	2	Dt. 06.04.2023 Dt. 13.04.2023
5.	Experiential learning activities		2	Dt. 20.04.2023 Dt. 27.04.2023
6.	Classroom debate competition	MAY	3	Dt. 04.05.2023 Dt. 11.05.2023 Dt. 18.05.2023

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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:-ELECTRICAL ENGG.

SEMESTER: 4TH

SECTION : EA2

NAME OF THE FACULTY : (1) ER. ER. RAMESH CHANDRA PRADHAN, (2) ER. SUGYANI SAHOO (LECT. IN ELECT. ENGG.),
(3) ER. KRUTIBASA BEHERA (T.A., ELECT. ENGG.)

SEMESTER FROM DT.13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: ELECTRICAL MACHINE LAB-I (PR-1)

CLASS ALLOTTED /WEEK : 06 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
1	Identification of different terminals of a DC machine by test lamp method and multi-meter method & to measure insulation resistance by megger.	FEBRUARY	1	Dt. 16. 02. 2023
2	Dimensional and material study of various parts of a DC machine.		1	Dt. 17. 02. 2023
3	Plot OCC of a DC shunt generator at constant speed and determine critical resistance from the graph.		2	Dt. 23. 02, 2023 Dt. 24. 02. 2023
4	Plot External Characteristics of a DC shunt generator at constant speed.	MARCH	2	Dt. 02. 03. 2023 Dt. 03. 03. 2023
5	Study of Three point starter, connect and run a DC shunt motor & measure the no load current.		1	Dt. 09. 03. 2023
6	Study of Four point starter, connect and run a DC compound motor & measure no load current.		1	Dt. 10. 03. 2023
7	Control the speed of a DC shunt motor by field flux control method & armature voltage control method.		1	Dt. 17. 03. 2023

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
8	Determine the armature current vs. speed characteristic of a DC motor		2	Dt. 23.03.2023 Dt. 31.03.2023
9	Determine the efficiency of a DC machine by brake test method.	APRIL	2	Dt. 06.04.2023 Dt. 13.04.2023
10	Identification of terminals, determination of voltage transformation ratio of a single phase transformer.		2	Dt. 20.04.2023 Dt. 21.04.2023
11	Perform OC Test and SC test of a single phase transformer.		2	Dt. 27.04.2023 Dt. 28.04.2023
12	Determine the voltage regulation of a single phase transformer at different loads.	MAY	2	Dt. 04.05.2023 Dt. 11.05.2023
13	Polarity Test of Single Phase Transformer & Parallel operation of two Single Phase Transformers		2	Dt. 12.05.2023 Dt. 18.05.2023

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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:-ELECTRICAL ENGG.

SEMESTER: 4TH

SECTION : EA2

NAME OF THE FACULTY : (1) ER. PRADYUMNA GARNAIK (LECT. INELECT. ENGG.)

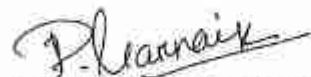
SEMESTER FROM DT.13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: ANALOG ELECTRONICS LAB (PR-2)

CLASS ALLOTTED /WEEK :- 03 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
1	Determine the input and output Characteristics of CE & CB transistor configuration	FEBRUARY	1	Dt. 20.02.2023
2	2. Determine Drain & Transfer Characteristics of JFET		1	Dt. 27.02.2023
3	3. Construct Bridge Rectifier using different filter circuit and to determine Ripple factor & analyze wave form with filter & without filter.	MARCH	1	Dt. 06.03.2023
4	4. Construct Bridge Rectifier using different filter and to determine Ripple factor.		1	Dt. 13.03.2023
5	5. Construct & test the regulator using Zener diode		1	Dt. 20.03.2023
6	6. Construct different types of biasing circuit and analyze the wave form (i) Fixed bias (ii) Emitter bias (iii) Voltage divider bias		1	Dt. 27.03.2023
7	7. Study the single stage CE amplifier & find Gain	APRIL	1	Dt. 03.04.2023

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
8	8. Study multi stage R-C coupled amplifier & to determine frequency- response & gain.		1	Dt. 10. 04. 2023
9	9. Construct & Find the gain(i) Class A. Amplifier (ii) Class B. Amplifier (iii) Class C Tuned Amplifier		1	Dt. 17. 04. 2023
10	10. Construct & test push pull amplifier & observe the wave form		1	Dt. 24. 04. 2023
11	11. Construct & calculate the frequency of(i) Hartly Oscillator (ii) Collpit's Oscillator (iii) Wein Bridge Oscillator (iv) R-C phase shift oscillator and draw wave form & calculate the frequency	MAY	1	Dt. 01. 05. 2023
12	Construct & Test Differentiator and Integrator using R-C Circuit		1	Dt. 04. 05. 2023
13	Study Multivibrator (Astable, Bistable, Monstable) Circuit & Draw its Wave forms		1	Dt. 15. 05. 2023
14	Mini Project: To collect data like base configuration. Operational Characteristics, applications and critical factor etc. On all semiconductor devices studied in theory and compile a Project report throughout and submit at the end of the semester. To assemble and test simple circuit using above components with test Points.(e.g. Series Regulator / Oscillators etc)		1	Dt. 22. 05. 2023



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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:-ELECTRICAL ENGG.

SEMESTER: 4TH

SECTION : EA2

NAME OF THE FACULTY : (1) ER. SASWATI SANGHAMITRA PRADHAN, (2) ER. BIJAYA KUMAR BEHERA (LECT. IN ELECT. ENGG.)

SEMESTER FROM DT. 13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: SIMULATION PRACTICE ON MAT LAB (PR-3)

CLASS ALLOTTED /WEEK : 03 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
	INTRODUCTION TO MAT LAB. PROGRAMMING	FEBRUARY		D
1	Functions and operation using variables and arrays.		1	Dt. 14.02.2023
2	To learn algebraic, trigonometric and exponential manipulation		1	Dt. 21.02.2023
3	To learn Arithmetic, Relational and Logic operator.		1	Dt. 28.02.2023
4	Matrix formation and its manipulation.	MARCH	1	Dt. 07.03.2023
5	Use of linspace to create vectors.		1	Dt. 14.03.2023
6	To create, add and multiply vectors.		1	Dt. 21.03.2023
7	Use of sin and sqrt functions with vector arguments.		1	Dt. 28.03.2023
9	Two dimensional Plots and sub plots		1	Dt. 28.03.2023
10	Label the plot and printing	APRIL	1	Dt. 04.04.2023

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
11	Write and execute a file to plot a circle, impulse, step, ramp, sine and cosine functions.		1	Dt. 04.04.2023
12	Use of Commonly used blocks, Math operation block and Display block from SIMULINK library.		1	Dt. 11.04.2023
13	Use of logical and relational operator block.		1	Dt. 18.04.2023
14	Use of Sim-Power system block to use Electrical sources, elements and Power electronics devices		1	Dt. 25.04.2023
	SIMULATION	MAY		
15	1. Verification of Network Theorems		1	Dt. 02.05.2023
	2. Simulation of a half wave uncontrolled rectifier		1	Dt. 09.05.2023
	3. Simulation of 1-phase full bridge controlled rectifier		1	Dt. 16.05.2023
	4. Simulation of step-down chopper		1	Dt. 25.05.2023

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S. Pradhan
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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:-ELECTRICAL ENGG.

SEMESTER : 4TH

SECTION : EA2

NAME OF THE FACULTY : (1) ER. PRAKASH CH. MOHARANA, (2) ER. BIBHUTI BHUSAN SAHU, (3) ER. BISWA RANJAN JENA (LECT. IN ELECT. ENGG.), (4) ER. KRUTIBASA BEHERA (T.A., ELECT. ENGG.)

SEMESTER FROM DT. 13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: ELECTRICAL DRAWING (PR-4)

CLASS ALLOTTED /WEEK :- 06 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
(I)	WIRING DIAGRAM & CONTROL CIRCUIT	FEBRUARY		
1	1.1 3 point D. C. motor starter.		1	Dt. 15.02.2023
2	1.2 4 point D.C. motor starter.		1	Dt. 16.02.2023
3	1.3 DOL starter		1	Dt. 22.02.2023
4	1.4 Star delta starter.		1	Dt. 23.02.2023
5	1.5 Auto Transformer Starter.	MARCH	2	Dt. 1.03.2023, Dt.02.03.2023
6	1.6 Rotor resistance starter		1	Dt. 9.03.2023
(II)	DRAW D.C. M/C PARTS (DIMENSIONAL DRAWING)			
7	2.1 Pole with pole shoes.		1	Dt. 15.03.2023
8	2.2. Commutator		1	Dt. 16.03.2023
9	2.3. Armature		1	Dt. 22.03.2023
10	2.4. DC. armature winding		1	Dt. 23.03.2023
11	(a) Simple lap winding		1	Dt. 29.03.2023
12	(b) Simple wave winding.	APRIL	1	Dt. 05.04.2023

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
(III)	DRAW 1-PHASE & 3-PHASE TRANSFORMER (ASSEMBLING DRAWING)			
13	3.1 Stepped core type.		1	Dt. 06.04.2023
14	3.2 Plane shell type.		2	Dt. 12.04.2023, Dt. 13.04.2023
(IV)	DRAW SKETCHES OF THE FOLLOWING AS PER B.I.S. & REC SPECIFICATIONS			
15	4.1 Earthing installation.		2	Dt. 19.04.2023, Dt. 20.04.2023
16	4.2 Double pole structure for LT and HT distribution lines.		1	Dt. 26.04.2023
(V)	DRAW SINGLE LINE DIAGRAM OF SUB-STATION			
17	5.1 Single line diagram of 33/11kV distribution substation.		1	Dt. 27.04.2023
18	5.2 Single line diagram of a 11/0.4 kV distribution substation	MAY	1	Dt. 03.05.2023
(VI)	COMPUTER AIDED ELECTRICAL DRAWING USING SOFTWARE			
19	6.1 Draw Electrical symbols (take Print out)		1	Dt. 04.05.2023
20	6.2 Draw D.C. m/c parts (take print out)		1	Dt. 10.05.2023
21	6.3 Draw A. C. m/c parts (take print out)		2	Dt. 11.05.2023, Dt. 17.05.2023
22	6.4 Draw electrical layout of diagram of Electrical Installation of a building.		1	Dt. 18.05.2023

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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:- ELECTRICAL ENGG.

SEMESTER: 4TH

SECTION : EA2

NAME OF THE FACULTY : (1) ER. BIRENDRA BAI, (2) ER. DEBABRATA DIBYARANJAN (LECT. IN ELECT. ENGG.)

SEMESTER FROM DT.13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: STUDENT CENTRED ACTIVITIES

CLASS ALLOTTED /WEEK :- 03 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
1.	Classroom debate competition	FEBRUARY	1	Dt. 25.02.2023
2.	Experiential Learning activities	MARCH	2	Dt. 04.03.2023 Dt. 11.03.2023
3.	Science-based solutions to environmental studies		2	Dt. 18.03.2023 Dt. 25.03.2023
4.	Student presentation	APRIL	2	Dt. 08.04.2023 Dt. 15.04.2023
5.	Encourage Team work & collaboration		2	Dt. 22.04.2023 Dt. 29.04.2023
6.	Develops practical skill	MAY	2	Dt. 06.05.2023 Dt. 20.05.2023

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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:-ELECTRICAL ENGG.

SEMESTER: 4TH

SECTION : EB1

NAME OF THE FACULTY : (1) ER. ER. RAMESH CH. PRADHAN (LECT. IN ELECT. ENGG.), (2) ER. KRUTIBASA BEHERA
(T.A., ELECT. ENGG.)

SEMESTER FROM DT.13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: ELECTRICAL MACHINE LAB-I (PR-1)

CLASS ALLOTTED /WEEK : 06 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
1	Identification of different terminals of a DC machine by test lamp method and multi-meter method & to measure insulation resistance by megger.	FEBRUARY	2	Dt. 14.02.2023 Dt. 17.02.2023
2	Dimensional and material study of various parts of a DC machine.		1	Dt. 24.02.2023
3	Plot OCC of a DC shunt generator at constant speed and determine critical resistance from the graph.		2	Dt. 24.02.2023 Dt. 28.02.2023
4	Plot External Characteristics of a DC shunt generator at constant speed.	MARCH	2	Dt. 03.03.2023 Dt. 07.03.2023
5	Study of Three point starter, connect and run a DC shunt motor & measure the no load current.		2	Dt. 10.03.2023 Dt. 14.03.2023
6	Study of Four point starter, connect and run a DC compound motor & measure no load current.		2	Dt. 17.03.2023 Dt. 21.03.2023
7	Control the speed of a DC shunt motor by field flux control method & armature voltage control method.		3	Dt. 24.03.2023, Dt. 28.03.2023 Dt. 31.03.2023

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOB TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
8	Determine the armature current vs. speed characteristic of a DC motor	APRIL	2	Dt. 04.04.2023 Dt. 11.04.2023
9	Determine the efficiency of a DC machine by brake test method.		2	Dt. 18.04.2023 Dt. 21.04.2023
10	Identification of terminals, determination of voltage transformation ratio of a single phase transformer.		2	Dt. 25.04.2023 Dt. 28.04.2023
11	Perform OC Test and SC test of a single phase transformer.	MAY	2	Dt. 02.05.2023 Dt. 09.05.2023
12	Determine the voltage regulation of a single phase transformer at different loads.		2	Dt. 12.05.2023 Dt. 16.05.2023
13	Polarity Test of Single Phase Transformer & Parallel operation of two Single Phase Transformers		1	Dt. 23.05.2023

R.P. K.B.

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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:-ELECTRICAL ENGG.

SEMESTER: 4TH

SECTION : EB1

NAME OF THE FACULTY : (1) ER. SAKTIDATTA PRADHAN (LECT. INELECT. ENGG.)

SEMESTER FROM DT.13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: ANALOG ELECTRONICS LAB (PR-2)

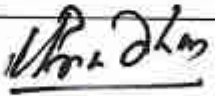
CLASS ALLOTTED /WEEK :- 03 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
1	Determine the input and output Characteristics of CE & CB transistor configuration	FEBRUARY	1	Dt. 16. 02. 2023
2	2. Determine Drain & Transfer Characteristics of JFET		1	Dt. 23. 02. 2023
3	3. Construct Bridge Rectifier using different filter circuit and to determine Ripple factor & analyze wave form with filter & without filter.	MARCH	1	Dt. 02. 03. 2023
4	4. Construct Bridge Rectifier using different filter and to determine Ripple factor.		1	Dt. 09. 03. 2023
5	5. Construct & test the regulator using Zener diode		1	Dt. 16. 03. 2023
6	6. Construct different types of biasing circuit and analyze the wave form (i) Fixed bias (ii) Emitter bias (iii) Voltage divider bias		1	Dt. 23. 03. 2023
7	7. Study the single stage CE amplifier & find Gain	APRIL	1	Dt. 06. 04. 2023

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
8	8. Study multi stage R-C coupled amplifier & to determine frequency- response & gain.		1	Dt. 06.04.2023
9	9. Construct & Find the gain(i) Class A. Amplifier (ii) Class B. Amplifier (iii) Class C Tuned Amplifier		1	Dt. 13.04.2023
10	10. Construct & test push pull amplifier & observe the wave form		1	Dt. 20.04.2023
11	11. Construct & calculate the frequency of(i) Hartly Oscillator (ii) Collpit's Oscillator (iii) Wein Bridge Oscillator (iv) R-C phase shift oscillator and draw wave form & calculate the frequency		1	Dt. 27.04.2023
12	Construct & Test Differentiator and Integrator using R-C Circuit	MAY	1	Dt. 04.05.2023
13	Study Multivibrator (Astable, Bistable, Monstable) Circuit & Draw its Wave forms		1	Dt. 11.05.2023
14	Mini Project: To collect data like base configuration. Operational Characteristics, applications and critical factor etc. On all semiconductor devices studied in theory and compile a Project report throughout and submit at the end of the semester. To assemble and test simple circuit using above components with test Points.(e.g, Series Regulator / Oscillators etc)		1	Dt. 15.05.2023


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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:-ELECTRICAL ENGG.

SEMESTER: 4TH

SECTION : EB1

NAME OF THE FACULTY : (1) ER. SASWATI SANGHAMITRA PRADHAN, (2) ER. BIJAYA KUMAR BEHERA (LECT. IN ELECT. ENGG.)

SEMESTER FROM DT. 13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: SIMULATION PRACTICE ON MAT LAB (PR-3)


CLASS ALLOTTED /WEEK : 03 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
	INTRODUCTION TO MAT LAB. PROGRAMMING	FEBRUARY		
1	Functions and operation using variables and arrays		1	Dt. 15.02.2023
2	To learn algebraic, trigonometric and exponential manipulation		1	Dt. 22.02.2023
3	To learn Arithmetic, Relational and Logic operator.	MARCH	1	Dt. 15.03.2023
4	Matrix formation and its manipulation.		1	Dt. 15.03.2023
5	Use of linspace to create vectors.		1	Dt. 22.03.2023
6	To create, add and multiply vectors.		1	Dt. 29.03.2023
7	Use of sin and sqrt functions with vector arguments.		1	Dt. 29.03.2023
9	Two dimensional Plots and sub plots	APRIL	1	Dt. 05.04.2023
10	Label the plot and printing		1	Dt. 05.04.2023

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
11	Write and execute a file to plot a circle, impulse, step, ramp, sine and cosine functions.		2	Dt. 12.04.2023 Dt. 29.04.2023
12	Use of Commonly used blocks, Math operation block and Display block from SIMULINK library.		1	Dt. 19.04.2023
13	Use of logical and relational operator block.		1	Dt. 26.04.2023
14	Use of Sim-Power system block to use Electrical sources, elements and Power electronics devices		1	Dt. 26.04.2023
	SIMULATION			
	1. Verification of Network Theorems	MAY	1	Dt. 03.05.2023
15	2. Simulation of a half wave uncontrolled rectifier		1	Dt. 03.05.2023
	3. Simulation of 1-phase full bridge controlled rectifier		1	Dt. 10.05.2023
	4. Simulation of step-down chopper		1	Dt. 17.05.2023


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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:-ELECTRICAL ENGG.

SEMESTER : 4TH

SECTION : EB1

NAME OF THE FACULTY : (1) ER. PRAKASH CH. MOHARANA, (2) ER. BIBHUTI BHUSAN SAHU, (3) ER. BISWA RANJAN JENA, (4) ER. PRADYUMNA GARNAIK (LECT. IN ELECT. ENGG.), (5) ER. KRUTIBASA BEHERA (T.A., ELECT. ENGG.)

SEMESTER FROM DT. 13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: ELECTRICAL DRAWING (PR-4)

CLASS ALLOTTED /WEEK :- 06 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
(I)	WIRING DIAGRAM & CONTROL CIRCUIT	FEBRUARY		
1	1.1 3 point D. C. motor starter.		1	Dt. 17.02.2023
2	1.2 4 point D.C. motor starter,		1	Dt. 20.02.2023
3	1.3 DOL starter		1	Dt. 21.02.2023
4	1.4 Star delta starter.		1	Dt. 27.02.2023
5	1.5 Auto Transformer Starter.	MARCH	1	Dt. 03.03.2023
6	1.6 Rotor resistance starter		1	Dt. 06.03.2023
(II)	DRAW D.C. M/C PARTS (DIMENSIONAL DRAWING)			
7	2.1 Pole with pole shoes.		1	Dt. 10.03.2023
8	2.2. Commutator		1	Dt. 13.03.2023
9	2.3. Armature		1	Dt. 17.03.2023
10	2.4. DC. armature winding		1	Dt. 20.03.2023
11	(a) Simple lap winding		1	Dt. 24.03.2023
12	(b) Simple wave winding.		1	Dt. 27.03.2023

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
(III)	DRAW 1-PHASE & 3-PHASE TRANSFORMER (ASSEMBLING DRAWING)			
13	3.1 Stepped core type.		1	Dt. 31.03.2023
14	3.2 Plane shell type.	APRIL	3	Dt. 03.04.2023 Dt. 17.04.2023 Dt. 10.04.2023
(IV)	DRAW SKETCHES OF THE FOLLOWING AS PER B.I.S. & REC SPECIFICATIONS			
15	4.1 Earthing installation.		2	Dt. 21.04.2023 Dt. 24.04.2023
16	4.2 Double pole structure for LT and HT distribution lines.		1	Dt. 28.04.2023
(V)	DRAW SINGLE LINE DIAGRAM OF SUB-STATION	MAY		
17	5.1 Single line diagram of 33/11kV distribution substation.		2	Dt. 01.05.2023, Dt. 08.05.2023
18	5.2 Single line diagram of a 11/0.4 kV distribution substation		1	Dt. 12.05.2023
(VI)	COMPUTER AIDED ELECTRICAL DRAWING USING SOFTWARE			
19	6.1 Draw Electrical symbols (take Print out)		1	Dt. 15.05.2023
20	6.2 Draw D.C. m/c parts (take print out)		1	Dt. 22.05.2023
21	6.3 Draw A. C. m/c parts (take print out)		1	Dt. 26.05.2023
22	6.4 Draw electrical layout of diagram of Electrical Installation of a building.		1	Dt. 29.05.2023

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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:- ELECTRICAL ENGG.

SEMESTER: 4TH

SECTION : EB1

NAME OF THE FACULTY : (1) ER. DEBABRATA DIBYARANJAN, (2) ER. PRADYUMNA GARNAIK (LECT. IN ELECT. ENGG.)

SEMESTER FROM DT.13.02.2023 TO 23.05.2023


PRACTICAL SUBJECT: STUDENT CENTRED ACTIVITIES

CLASS ALLOTTED /WEEK :- 03 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
1.	Encourages Team work & collaboration	FEBRUARY	2	Dt. 15.02.2023 Dt. 22.02.2023
2.	Develops practical skills.	MARCH	2	Dt. 1.03.2023 Dt. 15.03.2023
3.	Student presentation		2	Dt. 22.03.2023 Dt. 24.03.2023
4.	Science-based solutions to environmental problems	APRIL	2	Dt. 05.04.2023 Dt. 12.04.2023
5.	Classroom Debate competition		2	Dt. 19.04.2023 Dt. 26.04.2023
6.	Experiential learning activities	MAY	3	Dt. 03.05.2023, Dt. 10.05.2023 Dt. 17.05.2023


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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:-ELECTRICAL ENGG.

SEMESTER: 4TH

SECTION : EB2

NAME OF THE FACULTY : (1) ER. ER. RAMESH CH. PRADHAN, (2) ER. SUSHIL KUMAR MAJHI (LECT. IN ELECT. ENGG.),
(3) ER. KRUTIBASA BEHERA (T.A., ELECT. ENGG.)

SEMESTER FROM DT.13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: ELECTRICAL MACHINE LAB-I (PR-1)

CLASS ALLOTTED /WEEK : 06 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
1	Identification of different terminals of a DC machine by test lamp method and multi-meter method & to measure insulation resistance by megger.	FEBRUARY	2	Dt. 15.02.2023 Dt. 16.02.2023
2	Dimensional and material study of various parts of a DC machine.		2	Dt. 22.02.2023 Dt. 23.02.2023
3	Plot OCC of a DC shunt generator at constant speed and determine critical resistance from the graph.	MARCH	2	Dt. 02.03.2023 Dt. 03.03.2023
4	Plot External Characteristics of a DC shunt generator at constant speed.		2	Dt. 09.03.2023 Dt. 10.03.2023
5	Study of Three point starter, connect and run a DC shunt motor & measure the no load current.		2	Dt. 16.03.2023 Dt. 17.03.2023
6	Study of Four point starter, connect and run a DC compound motor & measure no load current.		3	Dt. 23.03.2023, Dt. 24.03.23 Dt. 31.03.2023
7	Control the speed of a DC shunt motor by field flux control method & armature voltage control method.	APRIL	1	Dt. 06.04.2023

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
8	Determine the armature current vs. speed characteristic of a DC motor		1	Dt. 13. 04. 2023
9	Determine the efficiency of a DC machine by brake test method.		1	Dt. 20. 04. 2023
10	Identification of terminals, determination of voltage transformation ratio of a single phase transformer.		1	Dt. 21. 04. 2023
11	Perform OC Test and SC test of a single phase transformer.		2	Dt. 27. 04. 2023 Dt. 28. 04. 2023
12	Determine the voltage regulation of a single phase transformer at different loads.	MAY	1	Dt. 01. 05. 2023
13	Polarity Test of Single Phase Transformer & Parallel operation of two Single Phase Transformers		2	Dt. 11. 05. 2023 Dt. 18. 05. 2023

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SIGNATURE OF THE H.O.D.

V. Prasadhan
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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:-ELECTRICAL ENGG.

SEMESTER: 4TH

SECTION : EB2

NAME OF THE FACULTY : (1) ER. SUBHASHREE PRADHAN (H.O.D., ELECT. ENGG.), (2) ER. LILY NAYAK (T.A. ELECT. ENGG.)

SEMESTER FROM DT.13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: ANALOG ELECTRONICS LAB (PR-2)

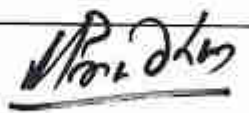
CLASS ALLOTTED /WEEK :- 03 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
1	Determine the input and output Characteristics of CE & CB transistor configuration	FEBRUARY	1	Dt. 14. 02. 2023
2	2. Determine Drain & Transfer Characteristics of JFET		1	Dt. 21. 02. 2023
3	3. Construct Bridge Rectifier using different filter circuit and to determine Ripple factor & analyze wave form with filter & without filter.		1	Dt. 28. 02. 2023
4	4. Construct Bridge Rectifier using different filter and to determine Ripple factor.	MARCH	1	Dt. 07. 03. 2023
5	5. Construct & test the regulator using Zener diode		1	Dt. 14. 03. 2023
6	6. Construct different types of biasing circuit and analyze the wave form(i) Fixed bias (ii) Emitter bias (iii) Voltage divider bias		1	Dt. 21. 03. 2023
7	7. Study the single stage CE amplifier & find Gain		1	Dt. 28. 03. 2023

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
8	8. Study multi stage R-C coupled amplifier & to determine frequency- response & gain.	APRIL	1	Dt. 04.04.2023
9	9. Construct & Find the gain(i) Class A. Amplifier (ii) Class B. Amplifier (iii) Class C Tuned Amplifier		1	Dt. 11.04.2023
10	10. Construct & test push pull amplifier & observe the wave form		1	Dt. 18.04.2023
11	11. Construct & calculate the frequency of(i) Hartly Oscillator (ii) Collpit's Oscillator (iii) Wein Bridge Oscillator (iv) R-C phase shift oscillator and draw wave form & calculate the frequency		1	Dt. 25.04.2023
12	Construct & Test Differentiator and Integrator using R-C Circuit	MAY	1	Dt. 02.05.2023
13	Study Multivibrator (Astable, Bistable, Monstable) Circuit & Draw its Wave forms		1	Dt. 09.05.2023
14	Mini Project: To collect data like base configuration. Operational Characteristics, applications and critical factor etc. On all semiconductor devices studied in theory and compile a Project report throughout and submit at the end of the semester. To assemble and test simple circuit using above components with test Points.(e.g. Series Regulator / Oscillators etc)		2	Dt. 16.05.2023 Dt. 23.05.2023


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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:-ELECTRICAL ENGG.

SEMESTER: 4TH

SECTION : EB2

NAME OF THE FACULTY : (1) ER. SASWATI SANGHAMITRA PRADHAN, (2) ER. BIJAYA KUMAR BEHERA (LECT. IN ELECT. ENGG.)

SEMESTER FROM DT. 13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: SIMULATION PRACTICE ON MAT LAB (PR-3)

CLASS ALLOTTED /WEEK : 03 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
	INTRODUCTION TO MAT LAB. PROGRAMMING	FEBRUARY		
1	Functions and operation using variables and arrays		1	Dt. 15. 02. 2023
2	To learn algebraic, trigonometric and exponential manipulation		1	Dt. 15. 02. 2023
3	To learn Arithmetic, Relational and Logic operator.		1	Dt. 22. 02. 2023
4	Matrix formation and its manipulation.		1	Dt. 22. 02. 2023
5	Use of linspace to create vectors.	MARCH	1	Dt. 01. 03. 2023
6	To create, add and multiply vectors.		1	Dt. 15. 03. 2023
7	Use of sin and sqrt functions with vector arguments.		1	Dt. 22. 03. 2023
9	Two dimensional Plots and sub plots		1	Dt. 22. 03. 2023
10	Label the plot and printing		1	Dt. 29. 03. 2023

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
11	Write and execute a file to plot a circle, impulse, step, ramp, sine and cosine functions.		1	Dt. 29.03.2023
12	Use of Commonly used blocks, Math operation block and Display block from SIMULINK library.	APRIL	1	Dt. 05.04.2023
13	Use of logical and relational operator block.		1	Dt. 12.04.2023
14	Use of Sim-Power system block to use Electrical sources, elements and Power electronics devices		1	Dt. 19.04.2023
15	SIMULATION		.	
	1. Verification of Network Theorems		1	Dt. 26.04.2023
	2. Simulation of a half wave uncontrolled rectifier	MAY	1	Dt. 03.05.2023
	3. Simulation of 1-phase full bridge controlled rectifier		1	Dt. 10.05.2023
	4. Simulation of step-down chopper		1	Dt. 17.05.2023

SVP B.B.

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S. Pradhan

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P. Jha

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PRACTICAL LESSON PLAN FOR THE SESSION 2022 - 23

BRANCH:-ELECTRICAL ENGG.

SEMESTER : 4TH

SECTION : EB2

NAME OF THE FACULTY : (1) ER. PRAKASH CH. MOHARANA, (2) ER. BIBHUTI BHUSAN SAHU, (3) ER. BISWA RANJAN JENA, (4) ER. PRADYUMNA GARNAIK (LECT. IN ELECT. ENGG.), (5) ER. KRUTIBASA BEHERA (T.A., ELECT. ENGG.)

SEMESTER FROM DT. 13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: ELECTRICAL DRAWING (PR-4)

CLASS ALLOTTED /WEEK :- 06 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
(I)	WIRING DIAGRAM & CONTROL CIRCUIT	FEBRUARY		
1	1.1 3 point D. C. motor starter.		1	Dt. 17.02.2023
2	1.2 4 point D.C. motor starter.		1	Dt. 20.02.2023
3	1.3 DOL starter		1	Dt. 24.02.2023
4	1.4 Star delta starter.		1	Dt. 27.02.2023
5	1.5 Auto Transformer Starter.	MARCH	1	Dt. 03.03.2023
6	1.6 Rotor resistance starter		1	Dt. 06.03.2023
(II)	DRAW D.C. M/C PARTS (DIMENSIONAL DRAWING)			
7	2.1 Pole with pole shoes.		1	Dt. 10.03.2023
8	2.2. Commutator		1	Dt. 13.03.2023
9	2.3. Armature		1	Dt. 17.03.2023
10	2.4. DC. armature winding		1	Dt. 20.03.2023
11	(a) Simple lap winding		1	Dt. 24.03.2023
12	(b) Simple wave winding.		1	Dt. 27.03.2023

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOB TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
(III)	DRAW 1-PHASE & 3-PHASE TRANSFORMER (ASSEMBLING DRAWING)			
13	3.1 Stepped core type.		1	Dt. 31.03.2023
14	3.2 Plane shell type.	APRIL	2	Dt. 03.04.2023, Dt. 10.04.2023
(IV)	DRAW SKETCHES OF THE FOLLOWING AS PER B.I.S. & REC SPECIFICATIONS			
15	4.1 Earthing installation.		2	Dt. 17.04.2023, Dt. 21.04.2023
16	4.2 Double pole structure for LT and HT distribution lines.		2	Dt. 24.04.2023, Dt. 28.04.2023
(V)	DRAW SINGLE LINE DIAGRAM OF SUB-STATION	MAY		
17	5.1 Single line diagram of 33/11kV distribution substation.		1	Dt. 01.05.2023
18	5.2 Single line diagram of a 11/0.4 kV distribution substation		1	Dt. 08.05.2023
(VI)	COMPUTER AIDED ELECTRICAL DRAWING USING SOFTWARE			
19	6.1 Draw Electrical symbols (take Print out)		1	Dt. 12.05.2023
20	6.2 Draw D.C. m/c parts (take print out)		1	Dt. 15.05.2023
21	6.3 Draw A. C. m/c parts (take print out)		1	Dt. 22.05.2023
22	6.4 Draw electrical layout of diagram of Electrical Installation of a building.		2	Dt. 26.05.2023, Dt. 29.05.2023

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W. Prasad/has
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BRANCH:- ELECTRICAL ENGG.

SEMESTER: 4TH

SECTION : EB2

NAME OF THE FACULTY : (1) ER. DEBABRATA DIBYARANJAN, (2) ER. PRADYUMNA GARNAIK (LECT. IN ELECT. ENGG.)

SEMESTER FROM DT.13.02.2023 TO 23.05.2023

PRACTICAL SUBJECT: STUDENT CENTRED ACTIVITIES

CLASS ALLOTTED /WEEK :- 03 PERIODS

Sl. No.	NAME OF THE PRACTICAL EXPERIMENT/JOBS TO BE COVERED	MONTH	AS PER ACADEMIC CALENDAR & TIME TABLE CLASS DAYS	ACTUAL PROGRESS OF THE COURSES MADE DATES
1.	Class room Debate Competition	FEBRUARY	2	Dt. 17.02.2023 Dt. 24.02.2023
2.	Experiential Learning activities.	MARCH	2	Dt. 03.03.2023 Dt. 10.03.2023
3.	Student presentations		3	Dt. 17.03.2023 Dt. 24.03.2023, Dt. 31.03.23
4.	Science - based solutions to Environmental problems	APRIL	1	Dt. 21.04.2023
5.	Encourages Team work & collaboration		1	Dt. 28.04.2023
6.	Develops practical skills	MAY	1	Dt. 12.05.2023

D.D. P. Garnaik
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S. Pradhan
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Pradyumna
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