P.C.I.E.T., CHHENDIPADA, DIST- ANGUL				
THEORY LESSON PLAN FOR THE SESSION 2021 - 22				
BRANCH : ELECTRICAL ENGG. SEMESTER : 3RD, SECTION :- EA & EB			NAME OF THE FACULTY : (1) KISHIRA MOHAN BEHERA (LECT. IN MATH.) (2) DR. BASANTA KUMAR SAHOO (DIRECTOR)	
SEMESTER FROM DT. 01.10.2021 TO 31.01.2022			THEORY SUBJECT : ENGINEERING MATHEMATICS-III (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 : Complex Numbers**	6		
	1.1 Real and Imaginary numbers.	1	OCT	Dt. 01.10.2021 & Dt. 04.10.2021
	1.2 Complex numbers, conjugate complex numbers, Modulus and Amplitude of a complex number.	1		Dt. 05.10.2021 & Dt. 07.10.2021
	1.3 Geometrical Representation of Complex Numbers.	1		Dt. 08.10.2021 & Dt. 09.10.2021
	1.4 Properties of Complex Numbers.	1		Dt. 18.10.2021 & Dt. 19.10.2021
	1.5 Determination of three cube roots of unity and their properties.	1		Dt. 20.10.2021 & Dt. 21.10.2021
	1.6 De Moivre's theorem	1		Dt. 22.10.2021
2	**UNIT - 2 : Matrices**	4		
	2.1. Define rank of a matrix.	1		Dt. 23.10.2021
	2.2. Perform elementary row transformations to determine the rank of a matrix.	1		Dt. 25.10.2021 & Dt. 26.10.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	2.3. State Rouche's theorem for consistency of a system of linear equations in unknowns.	1	NOV	Dt. 01. 11. 2021 & Dt. 02. 11. 2021
	2.4. Solve equations in three unknowns testing consistency.	1		Dt. 03. 11. 2021 & Dt. 05. 11. 2021
3	**UNIT - 3 : Linear Differential Equations**	**10**		
	3.1. Define Homogeneous and Non – Homogeneous Linear Differential Equations with constant coefficients with examples.	1		Dt. 06. 11. 2021 & Dt. 08. 11. 2021
	3.2. Find general solution of linear Differential Equations in terms of C.F. and P.I.	1		Dt. 09. 11. 2021 & Dt. 10. 11. 2021
	3.3. Derive rules for finding C.F. And P.I. in terms of operator D, excluding.	1		Dt. 11. 11. 2021 & Dt. 12. 11. 2021
	3.4. Define partial differential equation (P.D.E) .	1		Dt. 13. 11. 2021
	3.5. Form partial differential equations by eliminating arbitrary constants and arbitrary functions.	1		Dt. 15. 11. 2021 & 16. 11. 2021
	3.6. Solve partial differential equations of the form Pp + Qq = R	1		Dt. 17. 11. 2021 & 18. 11. 2021
	3.7. Solve problems on 3.1- 3.6	1		Dt 20. 11. 2021
	3.7. Solve problems on 3.1- 3.6	1		Dt 22. 11. 2021
	3.7. Solve problems on 3.1- 3.6	1		Dt. 23. 11. 2021
	3.7. Solve problems on 3.1- 3.6	1		Dt. 24. 11. 2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
4	**UNIT - 4 : Laplace Transforms**	**12**		
	4.1. Define Gamma function and and find .	1		Dt. 25.11.2021
	4.2. Define Laplace Transform of a function and Inverse Laplace Transform .	1		Dt 27.11.2021
	4.3. Derive L.T. of standard functions and explain existence conditions of L.T.	1		Dt. 29. 11. 2021 & Dt. 30.11.2021
	4.4. Explain linear, shifting property of L.T.	1	DEC	Dt 01. 12. 2021
	4.5. Formulate L.T. of derivatives, integrals, multiplication by and division by .	1		Dt. 02. 12. 2021
	4.6. Derive formulae of inverse L.T. and explain method of partial fractions .	1		Dt. 03. 12. 2021
	4.7. solve problem on 4.1- 4.6	1		Dt. 04. 12 2021
	4.7. solve problem on 4.1- 4.6	1		Dt. 06. 12. 2021
	4.7. solve problem on 4.1- 4.6	1		Dt. 08. 12. 2021
	4.7. solve problem on 4.1- 4.6	2		Dt. 09. 12 .2021 & Dt 10. 12. 2021
	4.7. solve problem on 4.1- 4.6	1		Dt 11 . 12. 2021
	4.7. solve problem on 4.1- 4.6	1		Dt. 13. 12. 2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
5	**UNIT - 5 : Fourier Series**	**12**		
	5.1. Define periodic functions.	1		Dt 15.12.2021
	5.2. State Dirichlet's condition for the Fourier expansion of a function and it's convergence	1		Dt-16.12.2021 & 17.12.2021
	5.3. Express periodic function satisfying Dirichlet's conditions as a Fourier series.	1		Dt. 18.12.2021 & 20.12.2021
	5.4. State Euler's formulae.	1		Dt 22.12.2021
	5.5. Define Even and Odd functions and find Fourier Series in	2		Dt. 23 12.2021 & 24.12.2021
	5.6. Obtain F.S of continuous functions and functions having points of discontinuity	2		Dt. 27.12.2021 & 28.12.2021
	5.7. Solve problems on 5.1 – 5.6	2		Dt. 29.12.2021 & 30.12.2021
	5.7. Solve problems on 5.1 – 5.6	1		Dt. 31.12.2021
	5.7. Solve problems on 5.1 – 5.6	1	JAN	03.01.2022
	5.7. Solve problems on 5.1 – 5.6	1		04.01.2022
6	**UNIT - 6 : Numerical Methods**	**4**		
	6.1. Appraise limitation of analytical methods of solution of Algebraic Equations.	1		05.01.2022
	6.2. Derive Iterative formula for finding the solutions of Algebraic Equations by :	1		06.01.2022
	6.2.1. Bisection method	1		07.01.2022
	6.2.2. Newton- Raphson method	1		08.01.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
7	**UNIT - 7 : Finite Difference and Interpolation**	12		
	7.1. Explain finite difference and form table of forward and backward difference.	1		Dt. 10.1.2022, 11.01.2022
	7.2. Define shift Operator and establish relation between & difference operator.	1		Dt. 12.01.2022, 13.1.2022
	7.3. Derive Newton's forward and backward interpolation formula for equal intervals.	1		Dt. 15.01.2022, 17.01.2022
	7.4. State Lagrange's interpretation formula for unequal intervals.	1		Dt. 18.01.2022, 19.01.2022
	7.5. Explain numerical integration and state:	1		Dt. 20.01.2022
	7.5.1. Newton's Cote's formula.	1		Dt. 21.01.2022
	7.5.2. Trapezoidal rule.	1		Dt. 22.01.2022
	7.5.3. Simpson's 1/3rd rule	1		Dt. 24.01.2022
	7.6. Solve problems on 7.1-7.5	1		Dt 25.01.2022
	7.6. Solve problems on 7.1-7.5	1		Dt.27.01.2022, 28.01.2022
	7.6. Solve problems on 7.1-7.5	1		Dt.29.01.2022
	7.6. Solve problems on 7.1-7.5	1		Dt.31.01.2022

SIGNATURE OF THE CONCERNED FACULTY

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

31/01/2022
PRINCIPAL
P.J.I.E.T., CHHENDIPADA

Purna Chandra Institute of Engineering & Technology
CHHENDIPADA, ANGUL

P.C.I.E.T., CHHENDIPADA, DIST- ANGUL				
THEORY LESSON PLAN FOR THE SESSION 2021 - 22				
BRANCH : ELECTRICAL ENGG. SEMESTER : 3RD SECTION :- EA & EB			NAME OF THE FACULTY : (1) ER. SASWATI SANGHAMITRA PRADHAN (2) ER. PRAKASH CHANDRA MOHARANA (LECT. IN ELECT. ENGG.)	
SEMESTER FROM DT. 01.10.2021 TO 31.01.2022			THEORY SUBJECT : CIRCUIT & NETWORK THEORY (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 : MAGNETIC CIRCUITS	7		
	1.1 Introduction	1	OCT	Dt. 01.10.2021
	1.2 Magnetizing force, Intensity, MMF, flux and their relations	1		Dt. 04.10.2021 & Dt. 05.10.2021
	1.3 Permeability, reluctance and permeance	1		Dt. 07.10.2021 & Dt. 08.10.2021
	1.4 Analogy between electric and Magnetic Circuits	1		Dt. 09.10.2021
	1.5 B-H Curve	1		Dt. 18.10.2021
	1.6 Series & parallel magnetic circuit	1		Dt. 19.10.2021
	1.7 Hysteresis loop	1		Dt. 20.10.2021
2	UNIT-2 : COUPLED CIRCUITS	5		
	2 .1 Self Inductance and Mutual Inductance 2 .2 Conductively coupled circuit and mutual impedance	1		Dt. 21.10.2021 & Dt 22.10.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	2 .3 Dot convention	1		Dt·23·10·2021
	2.4 Coefficient of coupling	1		Dt·25·10·2021
	2 .5 Series and parallel connection of coupled inductors.	1		Dt·26 10·2021
	2 .6 Solve numerical problems	1	NOV	Dt·01·11·2021
3	**UNIT-3 : CIRCUIT ELEMENTS AND ANALYSIS**	**6**		
	3 .1 Active, Passive, Unilateral & bilateral, Linear & Non linear elements	1		Dt·02·11·2021
	3.2 Mesh Analysis, Mesh Equations by inspection	1		Dt·03·11·2021 & Dt·05·11·2021
	3.3 Super mesh Analysis	1		Dt·06·11·2021
	3.4 Nodal Analysis, Nodal Equations by inspection	1		Dt·08·11·2021
	3.5 Super node Analysis.	1		Dt·09·11·2021
	3.6 Source Transformation Technique 3.7 Solve numerical problems (With Independent Sources Only)	1		Dt·10·11·2021 & Dt·11·11·2021
4	**UNIT-4 : NETWORK THEOREMS**	**8**		
	4.1 Star to delta and delta to star transformation	1		Dt·12·11·2021 & Dt·13·11·2021
	4.2 Super position Theorem	1		Dt·15·11·2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	4.3 Thevenin's Theorem	1		Dt. 16.11.2021
	4.4 Norton's Theorem	1		Dt. 17.11.2021
	4.5 Maximum power Transfer Theorem.	1		Dt. 18.11.2021
	4.6 Solve numerical problems (With Independent Sources Only)	3		Dt. 20.11.2021 & Dt. 21.11.2021, Dt. 22.11.2021
5	**UNIT-5 : AC CIRCUIT AND RESONANCE**	**8**		
	5.1 A.C. through R-L, R-C & R-L-C Circuit	1		Dt. 23.11.2021 & Dt. 24.11.2021
	5.2 Solution of problems of A.C. through R-L, R-C & R-L-C series Circuit by complex algebra method.	1		Dt. 25.11.2021 & Dt. 26.11.2021
	5.3 Solution of problems of A.C. through R-L, R-C & R-L-C parallel & Composite Circuits	1		Dt. 27.11.2021 & Dt. 29.11.2021
	5.4 Power factor & power triangle.	1	DEC	Dt. 01.12.2021 & Dt. 02.12.2021
	5.5 Deduce expression for active, reactive, apparent power.	1		Dt. 03.12.2021 & Dt. 04.12.2021
	5.6 Derive the resonant frequency of series resonance and parallel resonance circuit	1		Dt. 06.12.2021 & Dt. 07.12.2021
	5.7 Define Bandwidth, Selectivity & Q-factor in series circuit.	1		Dt. 08.12.2021 & Dt. 09.12.2021
	5.8 Solve numerical problems	1		Dt. 10.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
6	**UNIT - 6 : POLYPHASE CIRCUIT**	6		
	6.1 Concept of poly-phase system and phase sequence	1		Dt· 11·12.2021 & Dt·13·12.2021
	6.2 Relation between phase and line quantities in star & delta connection	1		Dt· 14·12·2021 & Dt·15.12.2021
	6.3 Power equation in 3-phase balanced circuit.	1		Dt·16·12.2021 & Dt·17·12.2021
	6.4 Solve numerical problems.	1		Dt·18·12·2021 Dt·20·12.2021
	6.5 Measurement of 3-phase power by two wattmeter method.	1		Dt 21·12·2021 & Dt·22.12.2021
	6.6 Solve numerical problems.	1		Dt·23·12.2021 & Dt 24·12.2021
7	**UNIT - 7 : TRANSIENTS**	6		
	7.1 Steady state & transient state response.	2		Dt·27·12·2021 & Dt 28·12.2021
	7.2 Response to R-L, R-C & RLC circuit under DC condition.	2		Dt·29.12.2021 & Dt·30·12.2021
	7.3 Solve numerical problems	2	JAN	Dt·31·12·2021 & Dt·03.01.2022
8	**UNIT-8 : TWO-PORT NETWORK**	8		
	8.1 Open circuit impedance (z) parameters	1		04,05,06.01.2022
	8.2 Short circuit admittance (y) parameters	1		07,08,10.01.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	8.3 Transmission (ABCD) parameters	1		11,12,13.01.2022
	8.4 Hybrid (h) parameters.	1		14, 15, 17.01.2022
	8.5 Inter relationships of different parameters.	1		18, 19, 20.01.2022
	8.6 T and π representation.	1		21, ~~22, 24~~.01.2022
	8.7 Solve numerical problems	1		22.01.2022
9	UNIT-9 : FILTERS	6		
	9.1 Define filter 9.2 Classification of pass Band, stop Band and cut-off frequency. 9.3 Classification of filters.	1		24.01.2022 ,
	9.4 Constant – K low pass filter.	1		25.01.2022
	9.5 Constant – K high pass filter.	1		26.01.2022
	9.6 Constant – K Band pass filter.	1		27.01.2022 , 28.01.2022
	9.7 Constant – K Band elimination filter.	1		29.01.2022
	9.8 Solve Numerical problems	1		31.01.2022

SIGNATURE OF THE CONCERNED FACULTY

SIGNATURE OF THE H.O.D.

31/01/2022

PRINCIPAL

P.C.I.E.T, BHUBANESWAR

Purna Chandra Institute of Engineering & Technology

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

THEORY LESSON PLAN FOR THE SESSION 2021 - 22

BRANCH : ELECTRICAL ENGG. SEMESTER : 3RD SECTION : EA & EB	NAME OF THE FACULTY : (1) ER. ABINASH SAHU, (LECT. IN MECH. ENGG.)
SEMESTER FROM DT. 01.10.2021 TO 31.01.2022	THEORY SUBJECT : ELEMENTS OF MECHANICAL ENGINEERING (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 : THERMODYNAICS	6	OCT	
	1.1 State Unit of Heat and work, 1st law of thermodynamics.	2		Dt. 01.10.2021 & Dt. 04.10.2021
	1.2 State Laws of perfect gases	2		Dt. 05.10.2021 & Dt 07.10.2021
	1.3 Determine relationship of specific heat of gases at constant volume and constant pressure.	2		Dt. 08.10.2021 & Dt. 09.10.2021
2	UNIT-2 : PROPERTIES OF STEAM	5		
	2 .1 Use steam table for solution of simple problem	2		Dt. 18.10.2021 & Dt. 19.10.2021
	2.2 Explain total heat of wet, dry and super heated steam	3		Dt. 20.10.2021 & Dt. 21.10.2021 Dt. 22.10.2021, REV-18,19.01.2022
3	UNIT-3 : BOILERS	10		
	3.1 State types of Boilers	3		Dt. 23.10.2021, Dt 25.10.2021 & Dt 26.10.2021, REV-20,21.01.22
	3.2 Describe Cochran, Babcock Wilcox boiler	3	NOV	Dt. 01.11.2021, 02.11.2021 & 03.11.2021 REV-24,25.01.2022
	3.3 Describe Mountings and accessories	4		Dt. 05.11.2021, 06.11.2021, 08.11.2021 & 09.11.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
4	**UNIT-4 : STEAM ENGINES**	**10**		
	4.1 Explain the principle of Simple steam engine	2		Dt·10·11·2021, Dt·11·11·2021
	4.2 Draw Indicator diagram	2		Dt·12·11·2021, Dt·13·11·2021
	4.3 Calculate Mean effective pressure, IHP and BHP and mechanical efficiency.	2		Dt·15·11·2021, Dt 16·11·2021
	4.4 Solve Simple problem.	4		Dt·17·11·2021, 18·11·2021, 19·11·2021 & 20·11·2021
5	**UNIT-5 : STEAM TURBINES**	**6**		
	5.1 State Types	3		Dt·22·11·2021, 23·11·2021 & 24·11·2021, REV-26,27·01·2022
	5.2 Differentiate between impulse and reaction Turbine	3		Dt·25·11·2021, 26·11·2021 & 27·11·2021 REV-28,29·01·2022
6	**UNIT-6 : CONDENSER**	**4**		
	6.1 Explain the function of condenser	2		Dt·29·11·2021 & 30·11·2021
	6.2 State their types	2	DEC	Dt·01·12·2021 & Dt·02·12·2021
7	**UNIT-7 : I.C. ENGINE**	**4**		
	7.1 Explain working of two stroke and 4 stroke petrol and Diesel engines.	2		Dt·03·12·2021 & Dt·04·12·2021
	7.2 Differentiate between them	2		Dt·06·12·2021 & Dt·07·12·2021 REV-31·01·2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
8	UNIT-8 : HYDROSTATICS	5		
	8.1 Describe properties of fluid	2		08.12.2021, 09.12.2021, 10.12.2021, 11.12.2021
	8.2 Determine pressure at a point, pressure measuring	3		13.12.2021, 14.12.2021 15.12.2021, 16.12.2021
9	UNIT-9 : HYDROKINETICS	5		
	9.1 Deduce equation of continuity of flow	2		17, 18, 19, 20, 21, ..., 22.12.2021
	9.2 Explain energy of flowing liquid	1		23, 24, 27.12.2021
	9.3 State and explain Bernoulli's theorem	2		28, 29, 30, 31.12.2021
10	UNIT-10 : HYDRAULIC DEVICES AND PNEUMATICS	5		
	10.1 Intensifier	1	JAN	03, 04, 05.01.2022
	10.2 Hydraulic lift	2		06, 07, 08, 10.01.2022
	10.3 Accumulator	1		11, 12, 13.01.2022
	10.4 Hydraulic ram	1		14, 15, 17.01.2022

S. Pradhan

SIGNATURE OF THE CONCERNED FACULTY

SIGNATURE OF THE H.O.D.

31/01/2022

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

PRINCIPAL
Purna Chandra Institute of Engineering & Technology

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

LESSON PLAN FOR THE SESSION 2021 - 22

BRANCH : ELECTRICAL ENGG. SEMESTER : 3RD
SECTION : EA & EB

NAME OF THE FACULTY : (1) ER. SUBHASHREE PRADHAN,
(2) ER. SUGYANI SAHOO
(LECT. IN ELECT. ENGG.)

SEMESTER FROM DT. 01.10.2021 TO 31.01.2022

THEORY SUBJECT : ELECTRICAL ENGG. MATERIAL (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 : **Conducting Materials**	16		
	1.1 Introduction	1	OCT	01.10.2021
	1.2 Resistivity, factors affecting resistivity	2		Dt. 04.10.2021
	1.3 Classification of conducting materials into low-resistivity and high resistivity materials	2		Dt. 05.10.2021 & Dt 07.10.2021
	1.4 Low Resistivity Materials and their Applications. (Copper, Silver, Gold, Aluminum, Steel)	2		Dt. 08.10.2021 & Dt. 09.10.2021
	1.5 Stranded conductors	2		Dt. 18.10.2021
	16 Bundled conductors	1		Dt. 19.10.2021
	1.7 Low resistivity copper alloys	1		Dt. 20.10.2021
	1.8 High Resistivity Materials and their Applications(Tungsten, Carbon, Platinum, Mercury)	2		Dt 21.10.2021, Dt. 22.10.2021
	1.9 Superconductivity	1		Dt. 23.10.2021
	1.10 Superconducting materials	1		Dt. 25.10.2021
	1.11 Application of superconductor materials	1		Dt. 26.10.2021 &

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
2	**UNIT-2 : Semiconducting Materials**	**10**	NOV	
	2.1 Introduction,2 . 2 Semiconductors	1		Dt. 01. 11.2021
	2.3 Electron Energy and Energy Band Theory	1		Dt. 02. 11. 2021 & Dt. 03. 11. 2021
	2.4 Excitation of Atoms	1		Dt. 05. 11. 2021
	2.5 Insulators, Semiconductors and Conductors, 2 . 6 Semiconductor Materials, 2 . 7 Covalent Bonds	1		Dt. 06. 11. 2021 & Dt. 08/11/2021
	2 . 8 Intrinsic Semiconductors, 2.9 Extrinsic Semiconductors, 2 .10 N-Type Materials, 2 .11 P-Type Materials	1		Dt. 09. 11. 2021 & Dt. 10. 11. 2021
	2.12 Minority and Majority Carriers	1		Dt. 11 . 11. 2021 & Dt. 12. 11. 2021
	2.13 Semi-Conductor Materials, 2.14 Applications of Semiconductor materials	1		Dt. 13. 11. 2021 & Dt. 15. 11. 2021
	2.14.1 Rectifiers,2.14.2 Temperature-sensitive resisters or thermistors,2.14.3 Photoconductive cells	1		Dt. 16. 11. 2021 & Dt 17. 11. 2021
	2.14.4 Photovoltaic cells, 2.14.7 Hall effect generators	1		Dt. 18. 11. 2021 & Dt. 19. 11. 2021
	2.14.5 Varisters, 2.14.6 Transistors, 2.14.8 Solar Power	1		Dt. 20. 11. 2021 & Dt. 22. 11. 2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
3	**Unit - 3 : Insulating Materials**	9		
	3 . 1 Introduction	1		Dt. 23.11.2021
	3 . 2 General properties of Insulating Materials	1		Dt. 24.11.2021 & Dt. 25.11.2021
	3.2.1 Electrical properties			Dt. 26.11.2021
	3.2.2 Visual properties	1		Dt. 27.11.2021
	3.2.3 Mechanical properties	1		Dt. 29.11.2021
	3.2.4 Thermal properties			Dt. 30.11.2021
	3.2.5 Chemical properties	1	DEC	Dt. 01.12.2021
	3.2.6 Ageing			Dt. 02.12.2021
	3.3 Insulating Materials – Classification, properties, applications	1		Dt. 03.12.2021, Dt. 04.12.2021
	3.3.1 Introduction			Dt. 06.12.2021
	3.3.2 Classification of insulating materials on the basis physical	1		Dt. 07.12.2021 & Dt. 08.12.2021
	3.4 Insulating Gases			Dt. 09.12.2021
	3.4.1 Introduction.	1		Dt. 10.12.2021
	3.4.2 Commonly used insulating gases	1		Dt. 11.12.2021 & Dt. 13.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
4	**Unit - 4 : Dielectric Materials**	8		
	4.1 Introduction	1		Dt. 14. 12. 2021
	4.2 Dielectric Constant of Permittivity	2		Dt. 15. 12. 2021 & Dt. 16.12.2021
	4.3 Polarization	1		Dt. 17. 12. 2021
	4.4 Dielectric Loss	1		Dt. 18. 12. 2021
	4.5 Electric Conductivity of Dielectrics and their Break Down	1		Dt. 20. 12. 2021
	4.6 Properties of Dielectrics	1		Dt. 21. 12. 2021
	4.7 Applications of Dielectrics.	1		Dt. 22. 12. 2021
5	**Unit- 5 : Magnetic Materials**	8		
	5.1 Introduction	1		Dt. 23. 12. 2021
	5.2 Classification	1		Dt. 24. 12. 2021
	5.2.1 Diamagnetism	1		Dt. 27. 12. 2021
	5.2.2 Para magnetism			Dt. 28. 12. 2021
	5.2.3 Ferromagnetism	1		Dt. 29. 12. 2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	5.3 Magnetization Curve	1		Dt. 30.12.2021
	5.4 Hysteresis	1		Dt. 31.12.2021
	5.5 Eddy Currents		JAN	Dt. 03.01.2022 & Dt. 04.01.22
	5.6 Curie Point	1		Dt. 05.01.2022
	5.7 Magneto-striction			Dt. 06.01.2022, Dt. 07.01.2022
	5.8 Soft and Hard magnetic Materials	1		Dt. 08.01.2022, Dt. 09.01.2022
	5.8.1 Soft magnetic materials			Dt. 11.1.22
	5.8.2 Hard magnetic materials	1		Dt. 12.01.2022
6	**Unit - 6 : Materials for Special Purposes**	**9**		
	6.1 Introduction	1		Dt. 13.01.2022
	6.2 Structural Materials	1		Dt. 14.01.2022
	6.3 Protective Materials	1		Dt. 15.01.2022
	6.3.1 Lead			Dt. 17.01.2022
	6.3.2 Steel tapes, wires and strips	1		Dt. 18.01.2022 & Dt. 19.01.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	6.4 Other Materials	1		Dt·20·1·22, Dt·21.01.2022
	6.4.1 Thermocouple materials	1		Dt·22.01.2022, Dt·24.01.2022
	6.4.2 Bimetals			Dt·25.01.2022
	6.4.3 Soldering Materials	1		Dt·26 01·2022, 27.01.2022
	6.4.4 Fuse and Fuse materials.	1		Dt·28.01.2022, Dt·29.01.2022
	6.4.5 Dehydrating material.	1		Dt·31.01.2022

S. Pradhan

SIGNATURE OF THE CONCERNED FACULTY

S. Pradhan

SIGNATURE OF THE H.O.D.

31/01/2022

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 2021 - 22				
BRANCH : ELECTRICAL ENGG. SEMESTER : 3RD SECTION : EA & EB			NAME OF THE FACULTY : (1) ER. BISWARANJAN JENA, (2) ER. SUSHIL KUMAR SAHOO (LECT. IN ELECT. ENGG.)	
SEMESTER FROM DT. 01.10.2021 TO 31.01.2022			THEORY SUBJECT : ENVIRONMENTAL STUDIES (TH-5)	
CLASS ALLOTTED / WEEK: 05 PERIODS				
Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT 1: THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES	4	OCT.	
	Definition	1		Dt. 1.10.2021 & Dt. 4.10.2021
	Scope of Environment	1		Dt. 5.10.2021 & Dt. 07.10.2021
	Importance of Environment	1		Dt. 08.10.2021 & Dt. 09.10.2021
	Need for public awareness	1		Dt. 18.10.2021 & Dt. 19.10.2021
2	UNIT 2 : NATURAL RESOURCES	10		
	Renewable and non renewable resources	1		Dt. 20.10.2021 & Dt. 21.10.2021
	Natural resources and associated problems	1		Dt. 22.10.2021 & Dt. 23.10.2021
	Forest resources: Use and over-exploitation, deforestation, case studies, Timber extraction mining, dams and their effects on forests and tribalpeople	1		Dt. 25.10.2021 & Dt. 26.10.2021
	Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dam's benefits and problems	1	NOV.	Dt. 01.11.2021 & Dt. 02.11.2021
	Mineral Resources: Use and exploitation, environmental effects of extracting and using mineralresources,	1		Dt. 03.11.2021 & Dt. 05.11.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Food Resources: World food problems, changes caused by agriculture and over grazing, effects of modern agriculture, fertilizers- pesticides problems, water logging, salinity,.	1		Dt·06·11·2021 & Dt·08·11·2021
	Energy Resources: Growing energy need, renewable and non renewable energy sources, use of alternate energy sources, case studies.	1		Dt·09·11·2021 & Dt·11·11·2021
	Land Resources: Land as a resource, land degradation, man induces landslides, soil erosion, anddesertification.	1		Dt·12·11·2021 & Dt·13·11·2021
	Role of individual in conservation of natural resources.	1		Dt·15·11·2021 & Dt·16·11·2021
	Equitable use of resources for sustainable life styles.	1		Dt·17·11·2021 & Dt·18·11·2021
	Revision			Dt·20·11·2021 & Dt·22·11·2021
3	UNIT 3 : SYSTEMS	8		
	Concept of an eco system.Structure and function of an eco system	1		Dt·23·11·2021 & Dt·24·11·2021
	Producers, consumers,decomposers	1		Dt·25·11·2021 & Dt·26·11·2021
	Energy flow in the eco systems	1		Dt·27·11·2021 & Dt·29·11·2021
	Ecological succession	1	DEC.	Dt·30·11·2021 & Dt·01·12·2021
	Food chains, food webs and ecological pyramids	1		Dt·02·12·2021 & Dt·03·12·2021
	Introduction, types, characteristic features	1		Dt·04·12·2021 & Dt·06·12·2021
	structure and function of the Forest ecosystem	1		Dt·07·12·2021 & Dt 08·12·2021
	structure and function of the Aquatic eco systems (ponds, streams, lakes,rivers, oceans, estuaries).	1		Dt·09·12·2021 & Dt·10·12·2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
4	UNIT 4 : BIODIVERSITY AND ITS CONSERVATION	8		
	Introduction-Definition: genetics, species and ecosystem diversity	1		Dt. 11.12.2021 & 13.12.2021
	Biogeographically classification of India	1		Dt. 14.12.2021 & 15.12.2021
	Value of biodiversity: consumptive use	1		Dt. 16.12.2021 & 17.12.2021
	Productive use, social , ethical, aesthetic and optinvalues	1		Dt. 18.12.2021 & 20.12.2021
	Biodiversity at global, national and local level	1		Dt. 21.12.2021
	Threats to biodiversity: Habitats loss, poaching of wild life	1		Dt. 22.12.2021
	Man wildlife conflicts	1		Dt. 23.12.2021
	Class test	1		Dt. 24.12.2021
5	UNIT 5 : ENVIRONMENTAL POLLUATION	12		
	Definition Causes, effects and control measures of:Air pollution	1		Dt. 27.12.2021
	Water pollution	1		Dt. 28.12.2021
	Soil pollution	1		Dt. 29.12.2021
	Marine pollution	1		Dt. 30.12.2021
	Noise pollution	1		Dt. 31.12.2021
	Thermal pollution	1	JAN	Dt. 03.01.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Nuclear hazards	1		Dt. 04.01.2022
	Solid waste Management	1		Dt. 05.01.2022
	Causes, effects and control measures of urban and industrial wastes.	1		Dt. 06.01.2022 & Dt. 07.01.2022
	Role of an individual in prevention of pollution	1		Dt. 08.01.2022
	Disaster management: Floods, earth quake			Dt. 10.01.2022
	Cyclone and landslides.	1		Dt. 11.01.2022
6	**UNIT 6 : SOCIAL ISSUES AND THE ENVIRONMENT**	**10**		
	Form unsustainable to sustainable development	1		Dt. 12.01.2022
	Urban problems related to energy	1		Dt. 13.01.2022
	Water conservation, rain water harvesting, water shed management	1		Dt. 15.01.2022 & Dt. 17.01.2022
	Resettlement and rehabilitation of people; its problems and concern.	1		Dt. 18.01.2022
	Environmental ethics: issue and possible solutions.	1		Dt. 19.01.2022
	Climatechange, globalwarming,acidrain,ozonelayerdepletion	1		Dt. 20.01.2022
	Nuclear accidents and holocaust, case studies	1		Dt. 21.01.2022
	Air (prevention and control of pollution) Act.	1		Dt. 22.01.2022
	Water (prevention and control of pollution) Act.	1		Dt 24.01.2022
	Public awareness.	1		Dt. 25.01.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
7	UNIT 7 : HUMAN POPULATION AND THE ENVIRONMENT	8		
	Population growth and variation among nations	1		Dt. 27.01.2022
	Population explosion- family welfare program	1		
	Environment and humanhealth	1		Dt: 28.01.2022
	Human rights	1		
	Value education	1		Dt. 29.01.2022
	Role of information technology in environment and human health	1		
	Revision	1		Dt. 31.01.2022
	Class test	1		

S. Pradhan

SIGNATURE OF THE CONCERNED FACULTY

SIGNATURE OF THE H.O.D.

31/01/2022

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 2021-22				
BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 4TH SECTION : EA			NAME OF THE FACULTY : (1) ER. PRAKASH CHANDRA MOHARANA, (2) ER. SUGYANI SAHOO, (3) ER. BISWA RANJAN JENA (LECT. IN ELECT. ENGG.)	
SEMESTER FROM : 14.03.2022 to 30.06.2022			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		
	1.1. Operating principle of generator	1	MARCH	Dt. 14.03.22
	1.2. Constructional features of DC machine.	1		Dt. 15.03.22
	1.2.1. Yoke, Pole & field winding, Armature, Commutator.	1		Dt. 16.03.22
	1.2.2. Armature winding, back pitch, Front pitch, Resultant pitch and commutator- pitch.	1		Dt. 17.03.22
	1.2.3. Simple Lap and wave winding, Dummy coils.	1		Dt. 21.03.22
	1.3. Different types of D.C. machines (Shunt, Series and Compound)	1		Dt. 22.03.22
	1.4. Derivation of EMF equation of DC generators. (Solve problems)	1		Dt. 23.03.22
	1.5. Losses and efficiency of DC generator. Condition for maximum efficiency and numerical problems.	1		Dt. 24.03.22
	1.6. Armature reaction in D.C. machine	1		Dt. 25.03.22
	1.7. Commutation and methods of improving commutation.	1		Dt. 28.03.22
	1.7.1. Role of inter poles and compensating winding in commutation.	1		Dt. 29.03.22
	1.8. Characteristics of D.C. Generators	1		Dt. 30.03.22

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. 31.03.22
	1.10. Concept of critical resistance and critical speed of DC shunt generator	1	APRIL	Dt. 04.04.22
	1.11. Conditions of Build-up of emf of DC generator.	1		Dt. 05.04.22
	1.12. Parallel operation of D.C. Generators.	1		Dt 06.04.22
	1.13. Uses of D.C generators	1		Dt. 07.04.22
2	**UNIT - 2 D. C. MOTORS**	**15**		
	2.1. Basic working principle of DC motor	1		Dt. 08.04.22
	2.2. Significance of back emf in D.C. Motor.	1		Dt. 11.04.22
	2.3. Voltage equation of D.C. Motor and condition for maximum power output(simple problems)	1		Dt. 12.04.22
	2.4. Derive torque equation (solve problems)	2		Dt. 13.04.22 & Dt. 18.04.22
	2.5. Characteristics of shunt, series and compound motors and their application.	1		Dt. 19.04.22
	2.6. Starting method of shunt, series and compound motors.	2		Dt. 20.04.22 & Dt 21.04.22
	2.7. Speed control of D.C shunt motors by Flux control method. Armature voltage Control method. Solve problems	1		Dt. 22.04.22
	2.8. Speed control of D.C. series motors by Field Flux control method, Tapped field method and series-parallel method	1		Dt. 25.04.22

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. 26.04.2022 & Dt 27.04.22
	2.10. Determination of efficiency of D.C. Machine by Swinburne's Test method(solve numerical problems)	1		Dt. 28.04.22
	2.11. Losses, efficiency and power stages of D.C. motor(solve numerical problems)	1		Dt. 29.04.22
	2.12. Uses of D.C. motors	1		Dt. 30.04.22
3	**UNIT -3 SINGLE PHASE TRANSFORMER**	**20**		
	3.1 Working principle of transformer.	1	MAY	Dt. 04.05.22
	3.2 Constructional feature of Transformer.	2		Dt. 05.05.22 & Dt. 06.05.22
	3.2.1 Arrangement of core & winding in different types of transformer.	1		Dt. 09.05.22
	3.2.2 Brief ideas about transformer accessories such as conservator, tank, breather, and explosion vent etc.	1		Dt. 10.05.22
	3.2.3 Explain types of cooling methods	1		Dt. 11.05.22
	3.3 State the procedures for Care and maintenance.	1		Dt. 12.05.22
	3.4 EMF equation of transformer.	1		Dt. 13.05.22
	3.5 Ideal transformer voltage transformation ratio	1		Dt. 16.05.22
	3.6 Operation of Transformer at no load, on load with phasor diagrams.	1		Dt. 17.05.22
	3.7 Equivalent Resistance, Leakage Reactance and Impedance of transformer.	1		Dt. 18.05.22

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 20.05.22 & Dt.23.05.22
	3.9 To explain Equivalent circuit and solve numerical problems.	1		Dt.24.05.22
	3.10 Approximate & exact voltage drop calculation of a Transformer.	1		Dt 25.05.22
	3.11 Regulation of transformer.	1		Dt.26.05.22
	3.12 Different types of losses in a Transformer. Explain Open circuit and Short Circuit test.(Solve numerical problems)	1		Dt.27.05.22
	3.13 Explain Efficiency, efficiency at different loads and power factors, condition for maximum efficiency (solve problems)	1	JUNE	Dt. 01.06.22 & Dt.02.06.22
	3.14 Explain All Day Efficiency (solve problems)	1		Dt.03.06.22
	3.15 Determination of load corresponding to Maximum efficiency.	1		Dt.06.06.22 & Dt.07.06.22
	3.16 Parallel operation of single phase transformer.	1		Dt.08.06.22 & Dt.09.06.22
4	**UNIT-4 AUTO TRANSFORMER**	3		
	4.1. Constructional features of Auto transformer.	1		Dt.10.06.22 & Dt.16.06.22
	4.2. Working principle of single phase Auto Transformer.	1		Dt.17.06.22 & Dt.20.06.22
	4.3. Comparison of Auto transformer with an two winding transformer (saving of Copper).	1		Dt.21.06.22
	4.4. Uses of Auto transformer.	1		Dt.22.06.22
	4.5. Explain Tap changer with transformer (on load and off load condition)	1		Dt.23.06.22

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 24.06.22 & Dt. 27.06.22
	1.2 Define Ratio error, Phase angle error, Burden.	1		Dt. 28.06.22 & Dt. 29.06.22
	1.3 Uses of C.T. and P.T.	1		Dt. 30.06.22

SIGNATURE OF THE CONCERNED FACULTY

SIGNATURE OF THE H.O.D.

30/06/2022

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 2021-22

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

NAME OF THE FACULTY : (1) ER. PRAKASH CHANDRA MOHARANA, (2) ER. SUGYANI SAHOO, (3) ER. BISWA RANJAN JENA (LECT. IN ELECT. ENGG.)

SEMESTER FROM : 14.03.2022 to 30.06.2022

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		
	1.1. Operating principle of generator	1	MARCH	Dt. 14.03.2022
	1.2. Constructional features of DC machine.	1		Dt. 15.03.2022
	1.2.1. Yoke, Pole & field winding, Armature, Commutator.	1		Dt. 16.03.22
	1.2.2. Armature winding, back pitch, Front pitch, Resultant pitch and commutator- pitch.	1		Dt. 17.03.22
	1.2.3. Simple Lap and wave winding, Dummy coils.	1		Dt. 21.03.22
	1.3. Different types of D.C. machines (Shunt, Series and Compound)	1		Dt. 22.03.22
	1.4. Derivation of EMF equation of DC generators. (Solve problems)	1		Dt. 23.03.22
	1.5. Losses and efficiency of DC generator. Condition for maximum efficiency and numerical problems.	1		Dt. 24.03.22
	1.6. Armature reaction in D.C. machine	1		Dt. 25.03.22
	1.7. Commutation and methods of improving commutation.	1		Dt. 28.03.22
	1.7.1. Role of inter poles and compensating winding in commutation.	1		Dt. 29.03.22
	1.8. Characteristics of D.C. Generators	1		Dt. 30.03.22

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. 31.03.22
	1.10. Concept of critical resistance and critical speed of DC shunt generator	1	APRIL	Dt. 01.04.22
	1.11. Conditions of Build-up of emf of DC generator.	1		Dt. 05.04.22
	1.12. Parallel operation of D.C. Generators.	1		Dt. 06.04.22
	1.13. Uses of D.C generators.	1		Dt. 07.04.22
2	**UNIT - 2 D. C. MOTORS**	**15**		
	2.1. Basic working principle of DC motor	1		Dt. 08.04.22
	2.2. Significance of back emf in D.C. Motor.	1		Dt. 11.04.22
	2.3. Voltage equation of D.C. Motor and condition for maximum power output(simple problems)	1		Dt. 12.04.22
	2.4. Derive torque equation (solve problems)	2		Dt. 13.04.22 & Dt. 18.04.22
	2.5. Characteristics of shunt, series and compound motors and their application.	1		Dt. 19.04.22
	2.6. Starting method of shunt, series and compound motors.	2		Dt. 20.04.22 & Dt. 21.04.22
	2.7. Speed control of D.C shunt motors by Flux control method. Armature voltage Control method. Solve problems	1		Dt. 22.04.22
	2.8. Speed control of D.C. series motors by Field Flux control method. Tapped field method and series-parallel method	1		Dt. 25.04.22

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. 26.04.2022 & Dt. 27.04.22
	2.10. Determination of efficiency of D.C. Machine by Swinburne's Test method(solve numerical problems)	1		Dt. 28.04.22
	2.11. Losses, efficiency and power stages of D.C. motor(solve numerical problems)	1		Dt. 29.04.22
	2.12. Uses of D.C. motors	1		Dt. 30.04.22
3	**UNIT -3 SINGLE PHASE TRANSFORMER**	**20**		
	3.1 Working principle of transformer.	1	MAY	Dt. 04.05.22
	3.2 Constructional feature of Transformer.	2		Dt. 05.05.22 & Dt. 06.05.22
	3.2.1 Arrangement of core & winding in different types of transformer.	1		Dt. 09.05.22
	3.2.2 Brief ideas about transformer accessories such as conservator, tank, breather, and explosion vent etc.	1		Dt. 10.05.22
	3.2.3 Explain types of cooling methods	1		Dt. 11.05.22
	3.3 State the procedures for Care and maintenance.	1		Dt. 12.05.22
	3.4 EMF equation of transformer.	1		Dt. 13.05.22
	3.5 Ideal transformer voltage transformation ratio	1		Dt. 16.05.22
	3.6 Operation of Transformer at no load, on load with phasor diagrams.	1		Dt. 17.05.22
	3.7 Equivalent Resistance, Leakage Reactance and Impedance of transformer.	1		Dt. 18.05.22

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. 20.05.22 & Dt. 23.05.22
	3.9 To explain Equivalent circuit and solve numerical problems.	1		Dt. 24.05.22
	3.10 Approximate & exact voltage drop calculation of a Transformer.	1		Dt. 25.05.22
	3.11 Regulation of transformer.	1		Dt. 26.05.22
	3.12 Different types of losses in a Transformer. Explain Open circuit and Short Circuit test.(Solve numerical problems)	1		Dt. 27.05.22
	3.13 Explain Efficiency, efficiency at different loads and power factors, condition for maximum efficiency (solve problems)	1	JUNE	Dt. 01.06.22 & Dt. 02.06.22
	3.14 Explain All Day Efficiency (solve problems)	1		Dt. 03.06.22
	3.15 Determination of load corresponding to Maximum efficiency.	1		Dt. 06.06.22 & Dt. 07.06.22
	3.16 Parallel operation of single phase transformer.	1		Dt. 08.06.22 & Dt. 09.06.22
4	**UNIT-4 AUTO TRANSFORMER**	3		
	4.1. Constructional features of Auto transformer.	1		Dt. 10.06.22 & Dt. 16.06.22
	4.2. Working principle of single phase Auto Transformer.	1		Dt. 17.06.22 & Dt. 20.06.22
	4.3. Comparison of Auto transformer with an two winding transformer (saving of Copper).	1		Dt. 21.06.22
	4.4. Uses of Auto transformer.	1		Dt. 22.06.22
	4.5. Explain Tap changer with transformer (on load and off load condition)	1		Dt. 23.06.22

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. 29.06.22 & Dt. 27.06.22
	1.2 Define Ratio error, Phase angle error, Burden.	1		Dt. 28.06.22 & Dt. 29.06.22
	1.3 Uses of C.T. and P.T.	1		Dt. 30.06.22

B.R.J

SIGNATURE OF THE CONCERNED FACULTY

S. Pradhan

SIGNATURE OF THE H.O.D.

30/06/2022

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 2021-22

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

NAME OF THE FACULTY : (1) ER. SUBHASHREE PRADHAN (2) ER. SHAKTIDATTA PRADHAN, (3) ER. PRADYUMNA GARNAIK (LECT. IN ELECT. ENGG.)

SEMESTER FROM : 14.03.2022 to 30.06.2022

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		
	1.1 P-N Junction Diode	1	MARCH	Dt. 14.03.2022
	1.2 Working of Diode	1		Dt. 15.03.2022
	1.3 V-I characteristic of PN junction Diode.	1		Dt. 16.03.2022
	1.4 DC load line			
	1.5 Important terms such as Ideal Diode, Knee voltage	1		Dt. 17.03.2022
	1.6 Junctions break down			
	1.6.1 Zener breakdown	1		Dt. 21.03.2022
	1.6.2 Avalanche breakdown			
	1.7 P-N Diode clipping Circuit	1		Dt. 22.03.2022
	1.8 P-N Diode clamping Circuit			
2	UNIT- 2 SPECIAL SEMICONDUCTOR DEVICES:	5		
	2.1 Thermistors, Sensors & barretters	2		Dt. 23.03.2022
	2.2 Zener Diode	1		Dt. 24.03.22
	2.3 Tunnel Diode	1		Dt. 25.03.22
	2.4 PIN Diode	1		Dt. 28.03.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
3	UNIT -3 RECTIFIER CIRCUITS & FILTERS:	7		
	3.1 Classification of rectifiers	1		Dt·29.03.22
	3.2 Analysis of half wave, full wave centre tapped and Bridge rectifiers and calculate:	1		Dt·30.03.22
	3.2.1 DC output current and voltage	1		Dt·31.03.22
	3.2.2 RMS output current and voltage			
	3.2.3 Rectifier efficiency	1	APRIL	Dt·04.04.22
	3.2.4 Ripple factor			
	3.2.5 Regulation	1		Dt·05.04.22
	3.2.6 Transformer utilization factor			
	3.2.7 Peak inverse voltage	1		Dt·06.04.22
	3.3 Filters:	1		
	3.3.1 Shunt capacitor filter			Dt·07.04.22
	3.3.2 Choke input filter			
	3.3.3 π filter			
4	UNIT - 4 TRANSISTORS	7		
	4.1 Principle of Bipolar junction transistor	1		Dt·08.04.22
	4.2 Different modes of operation of transistor	1		Dt·11.04.22
	4.3 Current components in a transistor	1		Dt·12.04.22
	4.4 Transistor as an amplifier	1		Dt·13.04.22
	4.5 Transistor circuit configuration & its characteristics	1		Dt 18.04.22
	4.5.1 CB Configuration	1		Dt·19.04.22
	4.5.2 CE Configuration			
	4.5.3 CC Configuration	1		Dt·20.04.22

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. 21.04.22
	5.2 Stabilization	1		Dt. 22.04.22
	5.3 Stability factor	1		Dt. 25.04.22
	5.4 Different method of Transistors Biasing	1		Dt. 26.04.22
	5.4.1 Base resistor method	1		Dt. 27.04.22
	5.4.2 Collector to base bias	1		Dt. 28.04.22
	5.4.3 Self bias or voltage divider method	1		Dt. 29.04.22
6	UNIT - 6 TRANSISTOR AMPLIFIERS & OSCILLATORS:	13		
	6.1 Practical circuit of transistor amplifier	1		Dt. 30.04.22
	6.2 DC load line and DC equivalent circuit	1	MAY	Dt. 04.05.22
	6.3 AC load line and AC equivalent circuit	1		Dt. 05.05.22
	6.4 Calculation of gain			
	6.5 Phase reversal	1		Dt. 06.05.22
	6.6 H-parameters of transistors			
	6.7 Simplified H-parameters of transistors	1		Dt. 09.05.22
	6.8 Generalised approximate model			
	6.9 Analysis of CB, CE, CC amplifier using generalised approximate model	1		Dt. 10.05.22
	6.10 Multi stage transistor amplifier	1		Dt. 11.05.22
	6.10.1 R.C. coupled amplifier			

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:12.05.22
	6.11 Feed back in amplifier	1		Dt:13.05.22
	6.11.1 General theory of feed back			
	6.11.2 Negative feedback circuit	1		Dt:16.05.22
	6.11.3 Advantage of negative feed back			
	6.12 Power amplifier and its classification	1		Dt 17.05.22
	6.12.1 Difference between voltage amplifier and power amplifier	1		Dt.18.05.22
	6.12.2 Transformer coupled class A power amplifier			
	6.12.3 Class A push – pull amplifier	1		Dt.19.05.22
	6.12.4 Class B push – pull amplifier			
	6.13 Oscillators			
	6.13.1 Types of oscillators	1		Dt.20.05.22
	6.13.2 Essentials of transistor oscillator			
	6.13.3 Principle of operation of tuned collector, Hartley, colpitt, phase shift, wein-bridge oscillator (no mathematical derivations)	1		Dt.23.05.22
7	**UNIT - 7 FIELD EFFECT TRANSISTOR**	**6**		
	7.1 Classification of FET	1		Dt.24.05.22
	7.2 Advantages of FET over BJT	1		Dt.25.05.22
	7.3 Principle of operation of BJT	1		Dt.26.05.22
	7.4 FET parameters (no mathematical derivation)	1		Dt 27.05.22
	7.4.1 DC drain resistance	1		Dt.31.05.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
8	7.4.2 AC drain resistance		JUNE	Dt.01.06.22
	7.4.3 Trans-conductance	1		Dt.02.06.22
	7.5 Biasing of FET			Dt.03.06.22
	UNIT - 8 OPERATIONAL AMPLIFIERS	9		
	8.1 General circuit simple of OP-AMP and IC – CA – 741 OP AMP	1		Dt 06.06.22 & Dt.07.06.22
	8.2 Operational amplifier stages	1		Dt.08.06.22
	8.3 Equivalent circuit of operational amplifier	1		Dt.09.06.22
	8.4 Open loop OP-AMP configuration	1		Dt.10.06.22
	8.5 OPAMP with fed back	1		Dt.16.06.22
	8.6 Inverting OP-AMP	1		Dt.17.06.22
	8.7 Non inverting OP-AMP	1		Dt.20.06.22
	8.8 Voltage follower & buffer			Dt.21.06.22
	8.9 Differential amplifier			Dt.22.06.22
	8.9.1 Adder or summing amplifier			Dt.23.06.22 & Dt.24.06.22
	8.9.2 Sub tractor	1		Dt.27.06.22
	8.9.3 Integrator			Dt.28.06.22
	8.9.4 Differentiator	1		Dt.29.06.22
	8.9.5 Comparator			Dt 30.06.22

S.Pradhan

SIGNATURE OF THE CONCERNED FACULTY

S.Pradhan

SIGNATURE OF THE H.O.D.

30/06/2022

PRINCIPAL

PRINCIPAL
D.I.E.T. CHHENDIPADA

Purna Chandra Institute of Engineering & Technology
CHHENDIPADA, ANGUL

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

THEORY LESSON PLAN FOR THE SESSION 2021-22

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

NAME OF THE FACULTY : (1) ER. SUBHASHREE PRADHAN (2) ER. SHAKTIDATTA PRADHAN, (3) ER. PRADYUMNA GARNAIK (LECT. IN ELECT. ENGG.)

SEMESTER FROM : 14.03.2022 to 30.06.2022

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**		
	1.1 P-N Junction Diode	1	MARCH	Dt. 14.03.2022
	1.2 Working of Diode	1		Dt. 15.03.2022
	1.3 V-I characteristic of PN junction Diode.	1		Dt. 16.03.2022
	1.4 DC load line			
	1.5 Important terms such as Ideal Diode, Knee voltage	1		Dt. 17.03.2022
	1.6 Junctions break down.			
	1.6.1 Zener breakdown	1		Dt. 21.03.2022
	1.6.2 Avalanche breakdown			
	1.7 P-N Diode clipping Circuit.	1		Dt. 22.03.2022
	1.8 P-N Diode clamping Circuit			
2	**UNIT- 2 SPECIAL SEMICONDUCTOR DEVICES:**	**5**		
	2.1 Thermistors, Sensors & barretters	2		Dt. 23.03.2022
	2.2 Zener Diode	1		Dt. 24.03.2022
	2.3 Tunnel Diode	1		Dt. 25.03.2022
	2.4 PIN Diode	1		Dt. 28.03.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
3	UNIT -3 RECTIFIER CIRCUITS & FILTERS:	7		
	3.1 Classification of rectifiers	1		Dt. 29.03.22
	3.2 Analysis of half wave, full wave centre tapped and Bridge rectifiers and calculate:	1		Dt. 30.03.22
	3.2.1 DC output current and voltage	1		Dt. 31.03.22
	3.2.2 RMS output current and voltage			
	3.2.3 Rectifier efficiency	1	APRIL	Dt. 04.04.22
	3.2.4 Ripple factor			
	3.2.5 Regulation	1		Dt. 05.04.22
	3.2.6 Transformer utilization factor			
	3.2.7 Peak inverse voltage	1		Dt. 06.04.22
	3.3 Filters:	1		
	3.3.1 Shunt capacitor filter			Dt. 07.04.22
	3.3.2 Choke input filter			
	3.3.3 π filter			
4	UNIT - 4 TRANSISTORS	7		
	4.1 Principle of Bipolar junction transistor	1		Dt. 08.04.22
	4.2 Different modes of operation of transistor	1		Dt. 11.04.22
	4.3 Current components in a transistor	1		Dt. 12.04.22
	4.4 Transistor as an amplifier	1		Dt. 13.04.22
	4.5 Transistor circuit configuration & its characteristics	1		Dt. 16.04.22
	4.5.1 CB Configuration	1		Dt. 19.04.22
	4.5.2 CE Configuration			
	4.5.3 CC Configuration	1		Dt. 20.04.22

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. 21.04.22
	5.2 Stabilization	1		Dt. 22-04-22
	5.3 Stability factor	1		Dt. 25.04.22
	5.4 Different method of Transistors Biasing	1		Dt. 26.04.22
	5.4.1 Base resistor method	1		Dt. 27.04.22
	5.4.2 Collector to base bias	1		Dt. 28.04.22
	5.4.3 Self bias or voltage divider method	1		Dt. 29.04.22
6	UNIT - 6 TRANSISTOR AMPLIFIERS & OSCILLATORS:	13		
	6.1 Practical circuit of transistor amplifier	1		Dt. 30.04.22
	6.2 DC load line and DC equivalent circuit	1	MAY	Dt. 04.05.22
	6.3 AC load line and AC equivalent circuit	1		Dt. 05.05.22
	6.4 Calculation of gain			
	6.5 Phase reversal	1		Dt. 06.05.22
	6.6 H-parameters of transistors			
	6.7 Simplified H-parameters of transistors	1		Dt. 09.05.22
	6.8 Generalised approximate model			
	6.9 Analysis of CB, CE, CC amplifier using generalised approximate model	1		Dt. 10.05.22
	6.10 Multi stage transistor amplifier	1		Dt. 11.05.22
	6.10.1 R.C. coupled amplifier			

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. 12.05.22
	6.11 Feed back in amplifier	1		Dt 13.05.22
	6.11.1 General theory of feed back			
	6.11.2 Negative feedback circuit	1		Dt. 16.05.22
	6.11.3 Advantage of negative feed back			
	6.12 Power amplifier and its classification	1		Dt. 17.05.22
	6.12.1 Difference between voltage amplifier and power amplifier	1		Dt. 18.05.22
	6.12.2 Transformer coupled class A power amplifier			
	6.12.3 Class A push – pull amplifier	1		Dt. 19.05.22
	6.12.4 Class B push – pull amplifier			
	6.13 Oscillators			
	6.13.1 Types of oscillators	1		Dt. 20.05.22
	6.13.2 Essentials of transistor oscillator			
	6.13.3 Principle of operation of tuned collector, Hartley, colpitt, phase shift, wein-bridge oscillator (no mathematical derivations)	1		Dt. 23.05.22
7	**UNIT - 7 FIELD EFFECT TRANSISTOR**	**6**		
	7.1 Classification of FET	1		Dt. 24.05.22
	7.2 Advantages of FET over BJT	1		Dt. 25.05.22
	7.3 Principle of operation of BJT	1		Dt. 26.05.22
	7.4 FET parameters (no mathematical derivation)	1		Dt. 27.05.22
	7.4.1 DC drain resistance	1		Dt. 31.05.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
8	7.4.2 AC drain resistance		JUNE	Dt. 01.06.22
	7.4.3 Trans-conductance	1		Dt. 02.06.22
	7.5 Biasing of FET			Dt. 03.06.22
	UNIT - 8 OPERATIONAL AMPLIFIERS	9		
	8.1 General circuit simple of OP-AMP and IC – CA – 741 OP AMP	1		Dt. 06.06.22 & Dt. 07.06.22
	8.2 Operational amplifier stages	1		Dt. 08.06.22
	8.3 Equivalent circuit of operational amplifier	1		Dt. 09.06.22
	8.4 Open loop OP-AMP configuration	1		Dt. 10.06.22
	8.5 OPAMP with fed back	1		Dt. 16.06.22
	8.6 Inverting OP-AMP	1		Dt. 17.06.22
	8.7 Non inverting OP-AMP	1		Dt. 20.06.22
	8.8 Voltage follower & buffer			Dt. 21.06.22
	8.9 Differential amplifier			Dt. 22.06.22
	8.9.1 Adder or summing amplifier			Dt. 23.06.22 & Dt. 24.06.22
	8.9.2 Sub tractor	1		Dt. 27.06.22
	8.9.3 Integrator			Dt. 28.06.22
	8.9.4 Differentiator	1		Dt. 29.06.22
	8.9.5 Comparator			Dt. 30.06.22

S. Pradhan

SIGNATURE OF THE CONCERNED FACULTY

S. Pradhan

SIGNATURE OF THE H.O.D.

30/06/2022

PRINCIPAL

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

Pune Chandan Institute of Engineering & Technology

P.C.I.E.T., CHHENDIPADA, DIST- ANGUL				
THEORY LESSON PLAN FOR THE SESSION 2021-22				
BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 4TH SECTION :- EA			NAME OF THE FACULTY : (1) ER. SASWATI SANGHAMITRA PRADHAN, (2) ER. SUBHENDU SEKHAR BEHERA, (3) ER. SUSHIL MAJHI, (4) ER. RAMESH CH. PRADHAN (LECT. IN ELECT. ENGG.)	
SEMESTER FROM : 14.03.2022 to 30.06.2022		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**		
	1.1 Define Accuracy, precision, Errors, Resolutions Sensitivity and tolerance.	1	MARCH	Dt. 14.03.22
	1.2 Classification of measuring instruments.	1		Dt. 15-03.22
	1.3 Explain Deflecting, controlling and damping arrangements in indicating type of INSTRUMENT	2		Dt. 16.03.22 & Dt. 17.03.22
	1.4 Calibration of instruments	1		Dt. 21.03.22
2	**UNIT- 2 ANALOG AMMETERS AND VOLTMETERS**	**10**		
	2.1. Describe Construction, principle of operation, errors, ranges merits and demerits of:	1		Dt. 22.03.22
	2.1.1 Moving iron type instruments.	1		Dt. 23.03.22
	2.1.2 Permanent Magnet Moving coil type instruments.	1		Dt. 24.03.22
	2.1.3 Dynamometer type instruments	1		Dt. 25.03.22
	2.1.4 Rectifier type instruments	1		Dt. 28.03.22
	2.1.5 Induction type instruments	1		Dt. 29.03.22
3	2.2 Extend the range of instruments by use of shunts and Multipliers.	2		Dt. 30.03.22 & Dt. 31.03.22
	2.3 Solve Numerical	2	APRIL	Dt. 04.04.22 & Dt. 05.04.22

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. 06.04.22, Dt. 07.04.22 & Dt. 08.04.22
	3.2 The Errors in Dynamometer type wattmeter and methods of their correction.	3		Dt. 11.04.22, Dt. 12.04.22 & Dt. 13.04.22
	3.3 Discuss Induction type watt meters.	2		Dt. 18.04.22 & Dt. 19.04.22
4	**UNIT - 4 ENERGYMETERS AND MEASUREMENT OF ENERGY**	8		
	4.1 Introduction	1		Dt. 20.04.22
	4.2 Single Phase Induction type Energy meters – construction, working principle and their compensation & adjustments.	4		Dt. 21.04.22, Dt. 22.04.22, Dt. 25.04.22, Dt. 26.04.22
	4.3 Testing of Energy Meters.	3		Dt. 27.04.22, Dt. 28.04.22 & Dt. 29.04.22
5	**UNIT - 5 MEASUREMENT OF SPEED, FREQUENCY AND POWER FACTOR**	7		
	5.1 Tachometers, types and working principles	1		Dt. 30.04.22
	5.2 Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters.	3	MAY	Dt. 04.05.22, Dt. 05.05.22 & Dt. 06.05.22
	5.3 Principle of operation and working of Dynamometer type single phase and three phase power factor meters.	3		Dt. 09.05.22, Dt. 10.05.22, & Dt. 11.05.22
6	**UNIT - 6 MEASUREMENT OF RESISTANCE, INDUCTANCE& CAPACITANCE**	8		
	6.1 Classification of resistance	1		Dt. 12.05.22
	6.1..1. Measurement of low resistance by potentiometer method. .	1		Dt. 13.05.22

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. 16.05.22
	6.1..3. Measurement of high resistance by loss of charge method.	1		Dt. 17.05.22
	6.2 Construction, principle of operations of Megger & Earth tester for insulation resistance and earth resistance measurement respectively.	2		Dt. 18.05.22 & Dt. 19.05.22
	6.3 Construction and principles of Multimeter. (Analog and Digital)	1		Dt. 20.05.22
	6.4 Measurement of inductance by Maxewell's Bridge method.	1		Dt. 23.05.22
	6.5 Measurement of capacitance by Schering Bridge method	1		Dt. 24.05.22
7	**UNIT - 7 SENSORS AND TRANSDUCER**	**9**		
	7.1. Define Transducer, sensing element or detector element and transduction elements.	1		Dt. 25.05.22
	7.2. Classify transducer. Give examples of various class of transducer.	1		Dt. 26.05.22
	7.3. Resistive transducer	1		Dt. 27.05.22 & Dt. 31.05.22
	7.3.1 Linear and angular motion potentiometer.	1	JUNE	Dt. 01.06.22
	7.3.2 Thermistor and Resistance thermometers.			Dt. 02.06.22
	7.3.3 Wire Resistance Strain Gauges	1		Dt. 03.06.22
	7.4. Inductive Transducer	2		Dt. 06.06.22 & Dt. 07.06.22
	7.4.1 Principle of linear variable differential Transformer (LVDT)	1		Dt. 08.06.22
	7.4.2 Uses of LVDT.			Dt. 09.06.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	7.5. Capacitive Transducer.			Dt - 10.06.22
	7.5.1 General principle of capacitive transducer.	1		Dt. 16.06.22
	7.5.2 Variable area capacitive transducer.	1		Dt. 17.06.22
	7.5.3 Change in distance between plate capacitive transducer.			Dt. 20.06.22
	7.6. Piezo electric Transducer and Hall Effect Transducer with their applications.	1		Dt. 21.06.22
8	**UNIT - 8 OSCILLOSCOPE**	**5**		
	8.1. Principle of operation of Cathode Ray Tube.	1		Dt. 22.06.22
	8.2. Principle of operation of Oscilloscope (with help of block diagram).	2		Dt. 23.06.22 & Dt. 24.06.22
	8.3. Measurement of DC Voltage & current.	1		Dt. 27.06.22 & Dt. 28.05.22
	8.4. Measurement of AC Voltage, current, phase & frequency.	1		Dt. 29.06.22 & Dt. 31.05.22

SIGNATURE OF THE CONCERNED FACULTY

SIGNATURE OF THE H.O.D.

30/06/2022

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 2021-22				
BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 4TH SECTION :- EB			NAME OF THE FACULTY : (1) ER. SASWATI SANGHAMITRA PRADHAN, (2) ER. SUBHENDU SEKHAR BEHERA, (3) ER. SUSHIL MAJHI, (4) ER. RAMESH CH. PRADHAN (LECT. IN ELECT. ENGG.)	
SEMESTER FROM : 14.03.2022 to 30.06.2022		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		
	1.1 Define Accuracy, precision, Errors, Resolutions Sensitivity and tolerance.	1	MARCH	Dt. 14.03.2022
	1.2 Classification of measuring instruments.	1		Dt 15.03.22
	1.3 Explain Deflecting, controlling and damping arrangements in indicating type of INSTRUMENT	2		Dt. 16.03.22 & Dt 17.03.22
	1.4 Calibration of instruments	1		Dt. 21.03.22
2	UNIT- 2 ANALOG AMMETERS AND VOLTMETERS	10		
	2.1. Describe Construction, principle of operation, errors, ranges merits and demerits of:	1		Dt. 22.03.22
	2.1.1 Moving iron type instruments.	1		Dt 23.03.22
	2.1.2 Permanent Magnet Moving coil type instruments.	1		Dt. 24.03.22
	2.1.3 Dynamometer type instruments	1		Dt. 25.03.22
	2.1.4 Rectifier type instruments	1		Dt. 28.03.22
	2.1.5 Induction type instruments	1		Dt. 29.03.22
3	2.2 Extend the range of instruments by use of shunts and Multipliers.	2		Dt. 30.03.22 & Dt 31.03.22
	2.3 Solve Numerical	2	APRIL	Dt. 04.04.22 & Dt. 05.04.22

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.06.04.22, Dt.07.04.22 & Dt.08.04.22
	3.2 The Errors in Dynamometer type wattmeter and methods of their correction.	3		Dt.11.04.22, Dt.12.04.22 & Dt.13.04.22
	3.3 Discuss Induction type watt meters.	2		Dt.18.04.22 Dt.19.04.22
4	**UNIT - 4 ENERGYMETERS AND MEASUREMENT OF ENERGY**	8		
	4.1 Introduction	1		Dt 20.04.22
	4.2 Single Phase Induction type Energy meters – construction, working principle and their compensation & adjustments.	4		Dt. 21.04.22, Dt.22.04.22, Dt. 25.04.22 & Dt.26.04.22
	4.3 Testing of Energy Meters.	3		Dt. 27.04.22, Dt.28.04.22 & Dt. 29.04.22
5	**UNIT - 5 MEASUREMENT OF SPEED, FREQUENCY AND POWER FACTOR**	7		
	5.1 Tachometers, types and working principles	1		Dt.30.04.2022
	5.2 Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters.	3	MAY	Dt.04.05.22, Dt.05.05.22 & Dt.06.05.22
	5.3 Principle of operation and working of Dynamometer type single phase and three phase power factor meters.	3		Dt.09.05.22, Dt.10.05.22, & Dt.11.05.22
6	**UNIT - 6 MEASUREMENT OF RESISTANCE, INDUCTANCE& CAPACITANCE**	8		
	6.1 Classification of resistance	1		Dt.12.05.22
	6.1..1. Measurement of low resistance by potentiometer method..	1		Dt.13.05.22

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·16.05.22
	6.1..3. Measurement of high resistance by loss of charge method.	1		Dt·17.05.22
	6.2 Construction, principle of operations of Megger & Earth tester for insulation resistance and earth resistance measurement respectively.	2		Dt·18.05.22 & Dt·19.05.22
	6.3 Construction and principles of Multimeter. (Analog and Digital)	1		Dt·20.05.22
	6.4 Measurement of inductance by Maxewell's Bridge method.	1		Dt·23.05.22
	6.5 Measurement of capacitance by Schering Bridge method	1		Dt·24.05.22
7	**UNIT - 7 SENSORS AND TRANSDUCER**	**9**		
	7.1. Define Transducer, sensing element or detector element and transduction elements.	1		Dt·25.05.22
	7.2. Classify transducer. Give examples of various class of transducer.	1		Dt·26.05.22
	7.3. Resistive transducer	1		Dt·27.05.22 & Dt·31.05.22
	7.3.1 Linear and angular motion potentiometer.	1	JUNE	Dt·01.06.22
	7.3.2 Thermistor and Resistance thermometers.			Dt:02.0622
	7.3.3 Wire Resistance Strain Gauges	1		Dt·03.06.22
	7.4. Inductive Transducer	2		Dt·06.06.22 & Dt·07.06.22
	7.4.1 Principle of linear variable differential Transformer (LVDT)	1		Dt·08.06.22
	7.4.2 Uses of LVDT.			Dt·09.06.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	7.5. Capacitive Transducer.			Dt. 10.06.22
	7.5.1 General principle of capacitive transducer.	1		Dt. 16.06.22
	7.5.2 Variable area capacitive transducer.	1		Dt. 17.06.22
	7.5.3 Change in distance between plate capacitive transducer.			Dt. 20.06.22
	7.6. Piezo electric Transducer and Hall Effect Transducer with their applications.	1		Dt. 21.06.22
8	**UNIT - 8 OSCILLOSCOPE**	**5**		
	8.1. Principle of operation of Cathode Ray Tube	1		Dt. 22.06.22
	8.2. Principle of operation of Oscilloscope (with help of block diagram).	2		Dt. 23.06.22 & Dt. 24.06.22
	8.3. Measurement of DC Voltage & current.	1		Dt. 27.06.22 & Dt. 28.06.22
	8.4. Measurement of AC Voltage, current, phase & frequency.	1		Dt. 29.06.22 & Dt. 30.06.22

S. Pradhan

SIGNATURE OF THE CONCERNED FACULTY

S. Pradhan

SIGNATURE OF THE H.O.D.

30/06/2022

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 2021-22				
BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 4TH SECTION : EA			NAME OF THE FACULTY : (1) ER. ANUP KUMAR NAYAK, (2) ER. SUSHIL KUMAR SAHOO (LECT. IN ELECT. ENGG.)	
SEMESTER FROM : 14.03.2022 to 30.06.2022		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		
	1.1 Elementary idea on generation of electricity from Thermal, Hydel, Nuclear, Power station.	2	MARCH	Dt. 14,03.22 & Dt. 15.03.22
	1.2 Introduction to Solar Power Plant (Photovoltaic cells)	2		Dt. 16.03.22 & Dt. 17.03.22
	1.3 Layout diagram of generating stations.	3		Dt. 21.03.22, Dt. 22.03.22 & 23.03.22
2	UNIT - 2 TRANSMISSION OF ELECTRIC POWER	5		
	2.1 Layout of transmission and distribution scheme.	1		Dt. 24.03.22
	2.2 Voltage Regulation & efficiency of transmission.	1		Dt. 25.03.22
	2.3 State and explain Kelvin's law for economical size of conductor.	2		Dt. 28.03.22 & 29.03.22
	2.4 Corona and corona loss on transmission lines.	1		Dt. 30.03.22 & 31.03.22
3	UNIT - 3 OVER HEAD LINES	7		
	3.1 Types of supports, size and spacing of conductor.	1	APRIL	Dt. 04.04.22
	3.2 Types of conductor materials.	1		Dt. 05.04.22

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. 06.04.22 & Dt. 07.04.22
	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. 08.04.22 & Dt 11.04.22
	3.5 Simple problem on sag	1		Dt. 12.04.22
4	**UNIT - 4 PERFORMANCE OF SHORT & MEDIUM LINES**	7		
	4.1. Calculation of regulation and efficiency.	7		Dt. 13.04.22, Dt. 18.04.22 & Dt. 19.04.22
5	**UNIT - 5 EHV TRANSMISSION**	7		
	5.1 EHV AC transmission.	2		Dt. 20.04.22 & Dt. 21.04.22
	5.1..1. Reasons for adoption of EHV AC transmission.	1		Dt. 22.04.22
	5.1..2. Problems involved in EHV transmission	1		Dt. 25.04.22
	5.2 HV DC transmission.	1		Dt. 26.04.22 & Dt. 27.04.22
	5.2..1. Advantages and Limitations of HVDC transmission system	2		Dt. 28.04.22 & Dt. 29.04.22
6	**UNIT - 6 DISTRIBUTION SYSTEMS**	7		
	6.1 Introduction to Distribution System.	1		Dt. 30.04.22
	6.2 Connection Schemes of Distribution System: (Radial, Ring Main and Inter connected system)	1	MAY	Dt. 04.05.22

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 05.05.22
	6.3.1 Distributor fed at one End.			Dt 06.05.22
	6.3.2 Distributor fed at both the ends.	1		Dt. 09.05.22
	6.3.3 Ring distributors	1		Dt. 10.05.22
	6.4 AC distribution system.			Dt. 11.05.22
	6.4.1. Method of solving AC distribution problem.	1		Dt. 12.05.22
	6.4.2. Three phase four wire star connected system arrangement.	1		Dt. 13.05.22
7	**UNIT - 7 UNDERGROUND CABLES**	**6**		
	7.1 Cable insulation and classification of cables.	2		Dt. 16.05.22 & Dt. 17.05.22
	7.2 Types of L. T. & H.T. cables with constructional features.	1		Dt. 18.05.22
	7.3 Methods of cable lying.	1		Dt. 19.05.22
	7.4 Localization of cable faults: Murray and Varley loop test for short circuit fault / Earth fault.	2		Dt. 20.05.22 & Dt. 23.05.22.
8	**UNIT - 8 ECONOMIC ASPECTS**	**6**		
	8.1 Causes of low power factor and methods of improvement of power factor in POWER SYSTEM	1		Dt. 24.05.22
	8.2 Factors affecting the economics of generation. (Define and explain)	1		Dt. 25.05.22

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 31.05.2022
	8.2.2 Demand factor	1	JUNE	Dt.01.06.22 & Dt.02.06.22
	8.2.3 Maximum demand.			Dt.03.06.22
	8.2.4 Load factor.	1		Dt 06.06.22
	8.2.5 Diversity factor.			Dt. 07.06.22
	8.2.6 Plant capacity factor.	1		Dt.08.06.22 & Dt.09.06.22
	8.3 Peak load and Base load on power station	1		Dt. 10.06.22 & Dt 16.06.22
9	UNIT - 9 TYPES OF TARIFF	3		
	9.1. Desirable characteristic of a tariff.	1		Dt. 17.06.22 & Dt.20.06.22
	9.2. Explain flat rate, block rate, two part and maximum demand tariff. (Solve Problems)	2		Dt. 21.06.22 & Dt 22.06.22
10	UNIT - 10 SUBSTATION	5		
	10.1 Layout of LT, HT and EHT substation.	2		Dt.23.06.22, Dt.24.06.22 & Dt.27.06.22
	10.2 Earthing of Substation, transmission and distribution lines.	3		Dt.28.06.22, Dt.29.06.22 & Dt.30.06.22

SIGNATURE OF THE CONCERNED FACULTY

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

30/06/2022
PRINCIPAL
PRINCIPAL
P.C.E.T., CHHENDIPADA

Purna Chandra Institute of Engineering & Technology
CHHENDIPADA, ANGUL

P.C.I.E.T., CHHENDIPADA, DIST- ANGUL				
THEORY LESSON PLAN FOR THE SESSION 2021-22				
BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 4TH SECTION : EB			NAME OF THE FACULTY : (1) ER. ANUP KUMAR NAYAK, (2) ER. SUSHIL KUMAR SAHOO (LECT. IN ELECT. ENGG.)	
SEMESTER FROM : 14.03.2022 to 30.06.2022		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		
	1.1 Elementary idea on generation of electricity from Thermal, Hydel, Nuclear, Power station.	2	MARCH	Dt. 14.03.22 & Dt. 15.03.22
	1.2 Introduction to Solar Power Plant (Photovoltaic cells).	2		Dt. 16.03.22 & Dt. 17.03.22
	1.3 Layout diagram of generating stations.	3		Dt. 21.03.22, Dt. 22.03.22 & Dt. 23.03.22
2	UNIT - 2 TRANSMISSION OF ELECTRIC POWER	5		
	2.1 Layout of transmission and distribution scheme.	1		Dt. 24.03.22
	2.2 Voltage Regulation & efficiency of transmission.	1		Dt. 25.03.22
	2.3 State and explain Kelvin's law for economical size of conductor.	2		Dt. 28.03.22 & Dt. 29.03.22
	2.4 Corona and corona loss on transmission lines.	1		Dt. 30.03.22 & Dt. 31.03.22
3	UNIT - 3 OVER HEAD LINES	7		
	3.1 Types of supports, size and spacing of conductor.	1	APRIL	Dt. 04.04.22
	3.2 Types of conductor materials.	1		Dt. 05.04.22

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. 06.04.22 & Dt.07.04.22
	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. 08.04.22 & Dt. 11.04.22
	3.5 Simple problem on sag.	1		Dt. 12.04.22
4	**UNIT - 4 PERFORMANCE OF SHORT & MEDIUM LINES**	7		
	4.1. Calculation of regulation and efficiency.	7		Dt.13.04.22, Dt.18.04.22 & Dt.19.04.22
5	**UNIT - 5 EHV TRANSMISSION**	7		
	5.1 EHV AC transmission.	2		Dt.20.04.22 & Dt.21.04.22
	5.1..1 Reasons for adoption of EHV AC transmission	1		Dt. 22.04.22
	5.1..2. Problems involved in EHV transmission	1		Dt. 25.04.22
	5.2 HV DC transmission.	1		Dt.26.04.22 & Dt.27.04.22
	5.2..1 Advantages and Limitations of HVDC transmission system.	2		Dt.28.04.22 & Dt.29.04.22
6	**UNIT - 6 DISTRIBUTION SYSTEMS**	7		
	6.1 Introduction to Distribution System.	1		Dt. 30.04.22
	6.2 Connection Schemes of Distribution System: (Radial, Ring Main and Inter connected system)	1	MAY	Dt. 04.05.22

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. 05.05.22
	6.3.1 Distributor fed at one End.			Dt. 06.05.22
	6.3.2 Distributor fed at both the ends.	1		Dt. 09.05.22
	6.3.3 Ring distributors.	1		Dt. 10.05.22
	6.4 AC distribution system.			Dt. 11.05.22
	6.4.1 Method of solving AC distribution problem.	1		Dt. 12.05.22
	6.4.2. Three phase four wire star connected system arrangement.	1		Dt. 13.05.22
7	**UNIT - 7 UNDERGROUND CABLES**	**6**		
	7.1 Cable insulation and classification of cables.	2		Dt. 16.05.22 & Dt. 17.05.22
	7.2 Types of L. T. & H.T. cables with constructional features.	1		Dt. 18.05.22
	7.3 Methods of cable lying.	1		Dt. 19.05.22
	7.4 Localization of cable faults: Murray and Varley loop test for short circuit fault / Earth fault.	2		Dt. 20.05.22 & 23.05.22
8	**UNIT - 8 ECONOMIC ASPECTS**	**6**		
	8.1 Causes of low power factor and methods of improvement of power factor in POWER SYSTEM	1		Dt. 24.05.22
	8.2 Factors affecting the economics of generation. (Define and explain)	1		Dt. 25.05.22

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. 21.05.22
	8.2.2 Demand factor.	1	JUNE	Dt. 01.06.22 & Dt. 02.06.22
	8.2.3 Maximum demand.			Dt. 03.06.22
	8.2.4 Load factor.	1		Dt. 06.06.22
	8.2.5 Diversity factor.			Dt. 07.06.22
	8.2.6 Plant capacity factor.	1		Dt. 08.06.22 & Dt. 09.06.22
	8.3 Peak load and Base load on power station	1		Dt. 10.06.22 & Dt. 16.06.22
9	**UNIT - 9 TYPES OF TARIFF**	3		
	9.1. Desirable characteristic of a tariff.	1		Dt. 17.06.22 & Dt. 20.06.22
	9.2. Explain flat rate, block rate, two part and maximum demand tariff. (Solve Problems)	2		Dt. 21.06.22 & Dt. 22.06.22
10	**UNIT - 10 SUBSTATION**	5		
	10.1 Layout of LT, HT and EHT substation.	2		Dt. 23.06.22, Dt. 24.06.22 & Dt. 27.06.22
	10.2 Earthing of Substation, transmission and distribution lines.	3		Dt. 28.06.22, Dt. 29.06.22 & Dt. 30.06.22

SIGNATURE OF THE CONCERNED FACULTY

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

30/06/2022
PRINCIPAL
PRINCIPAL
Engineering & Technology
CHHENDIPADA, ANGUL

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

THEORY LESSON PLAN FOR THE SESSION 2021-22

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 5TH
SECTION : EA & EB

NAME OF THE FACULTY : ANUPAMA BEHERA
(LECT. IN MGMT.)

SEMESTER FROM : 01.10.2021 to 31.01.2022 THEORY SUBJECT: ENTREPRENEURSHIP AND MANAGEMENT & SMART TECHNOLOGY (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	**Entrepreneurship**	10	OCT	
	Meaning of Entrepreneurship	1		Dt. 01.10.2021 & Dt. 04.10.2021
	Need of Entrepreneurship	1		Dt. 05.10.2021 & Dt. 06.10.2021
	Characteristics, Qualities and Types of entrepreneur, Functions	1		Dt. 07.10.2021 & Dt. 08.10.2021
	Barriers in entrepreneurship	1		Dt. 09.10.2021 & Dt. 18.10.2021
	Entrepreneurs vrs. Manager	1		Dt. 19.10.2021 & Dt 20.10.2021
	Forms of Business Ownership: Sole proprietorship, partnership forms and others	1		Dt. 21.10.2021 & Dt. 22.10.2021
	Types of Industries, Concept of Start-ups	1		Dt. 23.10.2021 & Dt 25.10.2021
	Entrepreneurial support agencies at National, State, District Level(Sources): DIC, NSIC,OSIC, SIDBI, NABARD, Commercial Banks, KVIC etc.	2		Dt. 26.10.2021 & Dt.
	Technology Business Incubators (TBI) and Science and Technology Entrepreneur Parks	1	NOV	Dt. 01.11.2021 & Dt. 02.11.2021
2	**Market Survey and Opportunity Identification (Business Planning)**	8		
	Business Planning	1		Dt. 03.11.2021 & Dt. 05.11.2021
	SSI, Ancillary Units, Tiny Units, Service sector Units	1		Dt. 06.11.2021 & Dt. 08.11.2021
	Time schedule Plan, Agencies to be contacted for Project Implementation	1		Dt. 09.11.2021 & Dt. 10.11.2021
	Assessment of Demand and supply and Potential areas of Growth	2		Dt. 11.11.2021 & Dt 12.11.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Identifying Business Opportunity	1		Dt. 13.11.2021
	Final Product selection	2		Dt. 15.11.2021 & 16.11.2021
3	**Project Report Preparation**	4		
	Preliminary project report	1		Dt. 17.11.2021
	Detailed project report, Techno economic Feasibility	2		Dt. 18.11.2021 & Dt 20.11.2021
	Project Viability	1		Dt. 20.11.2021
4	**Management Principles**	4		
	Definitions of management	1		Dt. 22.11.2021
	Principles of management	1		Dt. 23.11.2021
	Functions of management (planning, organising, staffing, directing and controlling etc)	1		Dt. 24.11.2021
	Level of Management in an Organisation	1		Dt 25.11.2021
5	**Functional Areas of Management**	10		
	Production management	2		Dt. 27.11.2021
	Functions, Activities			
	Productivity			
	Quality control			Dt. 29.11.2021
	Production Planning and control			
	Inventory Management	2		Dt. 29.11.2021
	Need for Inventory Management			Dt 30.11.2021
	Models/Techniques of Inventory Management	3	DEC	Dt. 01.12.2021
	Financial Management			Dt. 02.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Functions of Financial Management			Dt. 03. 12. 2021
	Management of Working Capital			Dt. 04. 12. 2021
	Costing (only concept)			Dt. 05. 12. 2021
	Break even Analysis			Dt. 06. 12. 2021
	Brief idea about Accounting Terminologies: Book Keeping, Journal entry, Petty Cash book, P&L Accounts, Balance Sheets(only Concepts)			Dt. 08. 12. 2021 & Dt. 09. 12. 2021
	Marketing Management	2		Dt. 10. 12. 2021 & Dt. 11. 12. 2021
	Concept of Marketing and Marketing Management			Dt. 12. 12. 2021
	Marketing Techniques (only concepts)			Dt. 13. 12. 2021
	Concept of 4P s (Price, Place, Product, Promotion)			Dt. 15. 12. 2021
	Human Resource Management	2		Dt. 16. 12. 2021 & Dt. 17. 12. 2021
	Functions of Personnel Management			Dt. 18. 12. 2021
	Manpower Planning, Recruitment, Sources of manpower, Selection process, Method of Testing, Methods of Training & Development, Payment of Wages			Dt. 19. 12. 2021 & Dt. 20. 12. 2021
6	**Leadership and Motivation**	6		
	Leadership	1		Dt. 22. 12. 2021
	Definition and Need/Importance			Dt. 23. 12. 2021
	Qualities and functions of a leader	1		Dt. 24. 12. 2021
	Manager Vs Leader			Dt. 27. 12. 2021
	Style of Leadership (Autocratic, Democratic, Participative)			Dt. 28. 12. 2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	Motivation	1		Dt. 29. 12. 2021
	Definition and characteristics			Dt. 30. 12. 2021
	Importance of motivation			Dt. 31. 12. 2021
	Factors affecting motivation	1	JAN	Dt. 03. 01. 2022
	Theories of motivation (Maslow)			Dt. 04. 01. 2022
	Methods of Improving Motivation			Dt. 05. 01. 2022
	Importance of Communication in Business	1		Dt. 06. 01. 2022
	Types and Barriers of Communication	1		Dt. 07. 01. 2022
7	**Work Culture, TQM & Safety**	5		
	Human relationship and Performance in Organization	1		Dt. 08. 01. 2022
	Relations with Peers, Superiors and Subordinates	1		Dt. 10. 01. 2022
	TQM concepts: Quality Policy, Quality Management, Quality system	2		Dt. 11. 01. 2022, Dt. 12. 01. 2022
	Accidents and Safety, Cause, preventive measures, General Safety Rules . Personal Protection Equipment(PPE)	1		Dt. 13. 01. 2022 & Dt. 14. 01. 2022
8	**Legislation**	6		
	Intellectual Property Rights(IPR), Patents, Trademarks, Copyrights	2		Dt. 15. 01. 2022 & Dt. 17. 01. 2022
	Features of Factories Act 1948 with Amendment (only salient points)	2		Dt. 18. 01. 2022 & Dt. 19. 01. 2022
	Features of Payment of Wages Act 1936 (only salient points)	2		Dt. 20. 01. 2022 & Dt. 21. 01. 2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
9	**Smart Technology**	6		
	Concept of IOT, How IOT works	1		Dt.22.01.2022, Dt.24.01.2022
	Components of IOT, Characteristics of IOT, Categories of IOT	2		Dt.25.01.2022, Dt.26.01.2022
	Applications of IOT- Smart Cities, Smart Transportation, Smart Home, Smart Healthcare, Smart Industry, Smart Agriculture, Smart Energy Management etc.	3		Dt.27.01.2022, Dt.28.01.2022 Dt.29.01.2022 & Dt.31.01.2022

SIGNATURE OF THE CONCERNED FACULTY

S.Pradhan

SIGNATURE OF THE H.O.D.

31/01/2022

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 2021-22

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 5TH
SECTION : EA & EB

NAME OF THE FACULTY : (1) ER. PRAKASH CHANDRA MOHARANA,
(2) ER. ANUP KU. NAYAK (LECT. IN ELECT. ENGG.)

SEMESTER FROM : 01.10.2021 to 31.01.2022

THEORY SUBJECT: ENERGY CONVERSION - II (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 ALTERNATOR	14	OCT.	
	1.1. Types of alternator and their constructional features.	1		Dt.01.10.2021 & Dt.04.10.2021
	1.2. Basic working principle of alternator and the relation between speed and frequency.	1		Dt.05.10.2021 & Dt.07.10.2021
	1.3. Terminology in armature winding and expressions for winding factors (Pitch factor, Distribution factor).	2		Dt.08.10.2021 & Dt.09.10.2021
	1.4. Explain harmonics, its causes and impact on winding factor.	1		Dt.18.10.2021 & Dt.19.10.2021
	1.5. E.M.F equation of alternator. (Solve numerical problems).	1		Dt.20.10.2021 & Dt.21.10.2021
	1.6. Explain Armature reaction and its effect on emf at different power factor of load.	1		Dt.22.10.2021 & Dt.23.10.2021
	1.7. The vector diagram of loaded alternator. (Solve numerical problems)	1		Dt.25.10.2021 & Dt.26.10.2021
	1.8. Testing of alternator (Solve numerical problems)	1	NOV.	Dt.01.11.2021 & Dt.02.11.2021
	1.8.1. Open circuit test.	1		Dt.03.11.2021 & Dt.05.11.2021
	1.8.2. Short circuit test.	1		Dt.06.11.2021 & Dt.08.11.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	1.9. Determination of voltage regulation of Alternator by direct loading and synchronous impedance method. (Solve numerical problems)	1		Dt. 09.11.2021 & Dt. 10.11.2021
	1.10. Parallel operation of alternator using synchro-scope and dark & bright lamp method.	1		Dt. 11.11.2021 & Dt. 12.11.2021
	1.11. Explain distribution of load by parallel connected alternators.	1		Dt. 13.11.2021 & Dt. 15.11.2021
2	UNIT - 2 SYNCHRONOUS MOTOR	8		
	2.1. Constructional feature of Synchronous Motor.	1		Dt. 16.11.2021 & Dt. 17.11.2021
	2.2. Principles of operation, concept of load angle			Dt. 18.11.2021 & Dt. 19.11.2021
	2.3. Derive torque, power developed.	1		Dt. 20.11.2021 & Dt. 22.11.2021
	2.4. Effect of varying load with constant excitation.			Dt. 23.11.2021 & Dt. 24.11.2021
	2.5. Effect of varying excitation with constant load.	1		Dt. 25.11.2021 & 26.11.2021
	2.6. Power angle characteristics of cylindrical rotor motor.			Dt. 27.11.2021 & Dt. 29.11.2021
	2.7. Explain effect of excitation on Armature current and power factor.	1		Dt. 30.11.2021
	2.8. Hunting in Synchronous Motor.	1	DEC	Dt. 01.12.2021 & Dt. 02.12.2021
	2.9. Function of Damper Bars in synchronous motor and generator.	1		Dt. 03.12.2021 & Dt 04.12.2021
	2.10. Describe method of starting of Synchronous motor.	1		Dt. 06.12.2021 & Dt. 07.12.2021
	2.11. State application of synchronous motor.	1		Dt. 08.12.2021 & Dt. 09.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
3	UNIT- 3 THREE PHASE INDUCTION MOTOR	14		
	3.1. Production of rotating magnetic field.	1		Dt. 10.12.2021 & Dt. 11.12.2021
	3.2. Constructional feature of Squirrel cage and Slip ring induction motors.	1		Dt. 13.12.2021 & Dt. 14.12.2021
	3.3. Working principles of operation of 3-phase Induction motor.	2		Dt. 15.12.2021 & Dt. 16.12.2021
	3.4. Define slip speed, slip and establish the relation of slip with rotor quantities.	1		Dt. 17.12.2021
	3.5. Derive expression for torque during starting and running conditions and derive conditions for maximum torque. (solve numerical problems)	1		Dt. 18.12.2021
	3.6. Torque-slip characteristics.	1		Dt. 20.12.2021
	3.7. Derive relation between full load torque and starting torque etc. (solve numerical problems)	2		Dt. 21.12.2021 , Dt. 22.12.2021
	3.8. Establish the relations between Rotor Copper loss, Rotor output and Gross Torque and relationship of slip with rotor copper loss. (solve numerical problems)	1		Dt. 23.12.2021
	3.9. Methods of starting and different types of starters used for three phase Induction motor.	1		Dt. 24.12.2021
	3.10. Explain speed control by Voltage Control, Rotor resistance control, Pole changing, frequency control methods.	1		Dt. 27.12.2021
	3.11. Plugging as applicable to three phase induction motor.	1		Dt. 28.12.2021
	3.12. Describe different types of motor enclosures.	1		Dt. 29.12.2021
	3.13. Explain principle of Induction Generator and state its applications.	1		Dt. 30.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
4	**UNIT - 4 SINGLE PHASE INDUCTION MOTOR**	8		
	4.1. Explain Ferrari's principle.	1		Dt. 31.12.2021
	4.2. Explain double revolving field theory and Cross-field theory to analyze starting torque of 1-phase induction motor.	1	JAN	Dt. 03.01.2022
	4.3. Explain Working principle, Torque speed characteristics, performance characteristics and application of following single phase motors.	1		Dt. 04.01.2022
	4.3.1. Split phase motor.	1		Dt. 05.01.2022
	4.3.2. Capacitor Start motor.	1		Dt. 06.01.2022
	4.3.3. Capacitor start, capacitor run motor.	1		Dt. 07.01.2022
	4.3.4. Permanent capacitor type motor.			Dt. 08.01.2022
	4.3.5. Shaded pole motor.	1		Dt. 10.01.2022
	4.4. Explain the method to change the direction of rotation of above motors.	1		Dt. 11.01.2022
5	**UNIT - 5 COMMUTATOR MOTORS**	6		
	5.1. Construction, working principle, running characteristic and application of single phase series motor.	2		Dt. 12.01.2022 & Dt. 13.01.2022
	5.2. Construction, working principle and application of Universal motors.	2		Dt. 14.01.2022 & Dt. 15.01.2022
	5.3. Working principle of Repulsion start Motor, Repulsion start Induction run motor, Repulsion Induction motor.	2		Dt. 17.01.2022 & Dt. 18.01.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
6	UNIT - 6 SPECIAL ELECTRICAL MACHINE	5		
	6.1. Principle of Stepper motor.	1		Dt. 19.01.2022
	6.2. Classification of Stepper motor.	1		Dt. 20.01.2022
	6.3. Principle of variable reluctant stepper motor.	1		Dt. 21.01.2022
	6.4. Principle of Permanent magnet stepper motor.			Dt. 22.01.2022
	6.5. Principle of hybrid stepper motor.	1		Dt. 24.01.2022
	6.6. Applications of Stepper motor.	1		Dt. 25.01.22
7	UNIT - 7 THREE PHASE TRANSFORMERS	5		
	7.1. Explain Grouping of winding. Advantages.	1		Dt. 26.01.2022
	7.2. Explain parallel operation of the three phase transformers.	2		Dt. 27.01.2022 & Dt. 28.01.2022
	7.3. Explain tap changer (On/Off load tap changing)	1		Dt. 29.01.2022
	7.4. Maintenance Schedule of Power Transformers.	1		Dt. 31.01.2022

A.K Nayak

SIGNATURE OF THE CONCERNED FACULTY

PC(D)

S. Pradhan

SIGNATURE OF THE H.O.D.

31/01/2022

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 2021-22

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 5TH
SECTION : EA & EB

NAME OF THE FACULTY : (1) ER. SUBHASHREE PRADHAN, (2) ER. SHAKTIDATTA PRADHAN
(LECT. IN ELECT. & ETC. ENGG.)

SEMESTER FROM : 01.10.2021 to 31.01.2022 THEORY SUBJECT : DIGITAL ELECTRONICS & MICROPROCESSOR (TH-3)

CLASS ALLOTTED /WEEK : 05 PERIODS

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
1	UNIT - 1 BASICS OF DIGITAL ELECTRONICS	15	OCT	Dt 01.10.2021 & Dt. 04. 10.2021
	1.1 Binary, Octal, Hexadecimal number systems and compare with Decimal system.			Dt. 05.10.2021 & Dt 07.10.2021
	1.2 Binary addition, subtraction, Multiplication and Division.			Dt. 08.10.2021 & Dt. 09.10.2021
	1.3 1's complement and 2's complement numbers for a binary number			Dt. 18. 10. 2021 & Dt. 19. 10.2021
	1.4 Subtraction of binary numbers in 2's complement method.			Dt. 20. 10. 2021 & Dt. 21. 10. 2021
	1.5 Use of weighted and Un-weighted codes & write Binary equivalent number			Dt. 22. 10. 2021 & Dt 23. 10. 2021
	for a number in 8421, Excess-3 and Gray Code and vice-versa.			Dt. 25 . 10.2021 & Dt. 26. 10. 2021
	1.6 Importance of parity Bit.		NOV	Dt. 01. 11. 2021 & 02. 11. 2021
	1.7 Logic Gates: AND, OR, NOT, NAND, NOR and EX-OR gates with truth table			Dt. 03. 11. 2021 & 05. 11. 2021
	1.8 Realize AND, OR, NOT operations using NAND, NOR gates.			Dt. 06. 11. 2021 & 08. 11. 2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	1.9 Different postulates and De-Morgan's theorems in Boolean algebra. 1.10 Use Of Boolean Algebra For Simplification Of Logic Expression 1.11 Karnaugh Map For 2,3,4 Variable, Simplification Of SOP And POS Logic Expression Using K-Map			Dt. 09. 11. 2021 & Dt. 10. 11. 2021
2	UNIT - 2 COMBINATIONAL LOGIC CIRCUITS	15		
	2.1 Give the concept of combinational logic circuits.			Dt. 11. 11. 2021 & Dt. 12. 11. 2021
	2.2 Half adder circuit and verify its functionality using truth table.			Dt. 13. 11. 2021 & Dt 15. 11. 2021
	2.3 Realize a Half-adder using NAND gates only and NOR gates only.			Dt. 16. 11. 2021 & Dt 17. 11. 2021
	2.4 Full adder circuit and explain its operation with truth table.			Dt: 18. 11. 2021 & Dt: 20. 11. 2021
	2.5 Realize full-adder using two Half-adders and an OR – gate and write truth table			Dt. 22. 11. 2021 & Dt: 23. 11. 2021
	2.6 Full subtractor circuit and explain its operation with truth table.			Dt. 24. 11. 2021 & Dt. 25. 11. 2021
	2.7 Operation of 4 X 1 Multiplexers and 1 X 4 demultiplexer			Dt. 26. 11. 2021 & Dt. 27. 11. 2021
	2.8 Working of Binary-Decimal Encoder & 3 X 8 Decoder.			Dt. 29. 11. 2021 & Dt. 30 11. 2021
	2.9 Working of Two bit magnitude comparator.		DEC	Dt. 01. 12. 2021 & Dt. 02. 12. 2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
3	UNIT - 3 SEQUENTIAL LOGIC CIRCUITS	15		
	3.1 Give the idea of Sequential logic circuits.			Dt. 03.12.2021 & Dt. 04.12.2021
	3.2 State the necessity of clock and give the concept of level clocking and edge triggering.			Dt. 06.12.2021 & Dt. 07.12.2021
	3.3 Clocked SR flip flop with preset and clear inputs.			Dt. 08.12.2021 & Dt. 09.12.2021
	3.5 Construct level clocked JK flip flop using S-R flip-flop and explain with truth table			Dt. 10.12.2021 & Dt. 11.12.2021
	3.6 Concept of race around condition and study of master slave JK flip flop.			Dt. 13.12.2021 & Dt. 14.12.2021
	3.7 Give the truth tables of edge triggered D and T flip flops and draw their symbols.			Dt. 15.12.2021 & Dt 16.12.2021
	3.8 Applications of flip flops.			Dt. 17.12.2021
	3.9 Define modulus of a counter			Dt. 18.12.2021
	3.10 4-bit asynchronous counter and its timing diagram.			Dt. 20.12.2021
	3.11 Asynchronous decade counter.			Dt. 21.12.2021
	3.12 4-bit synchronous counter.			Dt. 22.12.2021
	3.13 Distinguish between synchronous and asynchronous counters.			Dt. 23.12.2021
	3.14 State the need for a Register and list the four types of registers.			Dt. 24.12.2021
	3.15 Working of SISO, SIPO, PISO, PIPO Register with truth table using flip flop.			Dt. 27.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
4	UNIT - 4 8085 MICROPROCESSOR	20		
	4.1 Introduction to Microprocessors, Microcomputers			Dt. 28.12.2021
	4.2 Architecture of Intel 8085A Microprocessor and description of each block.			Dt. 29.12.2021
	4.3 Pin diagram and description.			Dt. 30.12.2021
	4.4 Stack, Stack pointer & stack top			Dt. 31.12.2021
	4.5 Interrupts		JAN	Dt. 03.01.2022
	4.6 Opcode & Operand.			Dt. 04.01.2022
	4.7 Differentiate between one byte, two byte & three byte instruction with example.			Dt. 05.01.2022 & Dt 06.01.2022
	4.8 Instruction set of 8085 example			Dt. 07.01.2022
	4.9 Addressing mode			Dt. 08.01.2022
	4 .10 Fetch Cycle, Machine Cycle, Instruction Cycle, T-State			Dt. 10.01.2022 & Dt 11.01.2022
	4.11 Timing Diagram for memory read, memory write, I/O read, I/O write			Dt. 12.01.2022
	4.12 Timing Diagram for 8085 instruction			Dt. 13.01.2022
	4.13 Counter and time delay.			Dt. 15.01.2022
	4. 14 Simple assembly language programming of 8085.			Dt 17.01.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
5	UNIT - 5 INTERFACING AND SUPPORT CHIPS	10		
	5.1 Basic Interfacing Concepts, Memory mapping & I/O mapping			Dt. 18.01.2022 & Dt. 19.01.2022
	5.2 Functional block diagram and description of each block of Programmable peripheral interface			Dt. 20.01.2022, Dt. 21.01.2022 & Dt. 22.01.2022
	Intel 8255			Dt. 24.01.2022 & Dt. 25.01.2022
	5.3 Application using 8255: Seven segment LED display, Square wave generator, Traffic light			Dt. 27.01.2022 & Dt 28.01.2022
	Controller			Dt. 29.01.2022 & Dt 31.01.2022

S Pradhan

SIGNATURE OF THE CONCERNED FACULTY

S. Pradhan

SIGNATURE OF THE H.O.D.

21/01/2022

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 2021-22

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 5TH SECTION : A & B

NAME OF THE FACULTY : (1) ER. PRAKASH CH. MOHARANA, (2) ER. RAMESH CH. PRADHAN (LECT. IN ELECT. ENGG.)

SEMESTER FROM : 01.10.2021 to 31.01.2022

THEORY SUBJECT: UTILIZATION OF ELECTRICAL ENERGY & TRACTION (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 ELECTROLYTIC PROCESS	8	OCT.	
	1.1. Definition and Basic principle of Electro Deposition.	1		Dt. 1.10.2021, Dt. 04.10.2021
	1.2. Important terms regarding electrolysis.	1		Dt. 5.10.2021, Dt. 07.10.2021
	1.3. Faradays Laws of Electrolysis.	1		Dt. 08.10.2021, Dt. 09.10.2021
	1.4. Definitions of current efficiency, Energy efficiency.	1		Dt. 18.10.2021, Dt. 19.10.2021
	1.5. Principle of Electro Deposition.	1		Dt. 20.10.2021, Dt. 21.10.2021
	1.6. Factors affecting the amount of Electro Deposition.	1		Dt. 22.10.2021, Dt. 23.10.2021
	1.7. Factors governing the electro deposition.			
	1.8. State simple example of extraction of metals.	1		Dt. 25.10.2021, Dt. 26.10.2021
	1.9. Application of Electrolysis.	1	NOV.	Dt. 01.11.2021, Dt. 02.11.2021
2	UNIT - 2 ELECTRICAL HEATING.	8		
	2.1. Advantages of electrical heating.	1		Dt. 03.11.2021, Dt. 05.11.2021
	2.2. Mode of heat transfer and Stephen's Law.	1		Dt. 06.11.2021, Dt. 08.11.2021
	2.3. Principle of Resistance heating. (Direct resistance and indirect resistance heating.)	1		Dt. 09.11.2021, Dt. 10.11.2021
	2.4. Discuss working principle of direct arc furnace and indirect arc furnace.	1		Dt. 11.11.2021, Dt. 12.11.2021
	2.5. Principle of Induction heating.	1		Dt. 13.11.2021 & Dt. 15.11.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	2.5.1. Working principle of direct core type, vertical core type and indirect core type Induction furnace.	1		Dt. 16.11.2021, Dt. 17.11.2021
	2.5.2. Principle of coreless induction furnace and skin effect.	1		Dt. 18.11.2021, Dt. 20.11.2021
	2.6. Principle of dielectric heating and its application.			
	2.7. Principle of Microwave heating and its application.	1		Dt. 22.11.2021
3	UNIT - 3 PRINCIPLES OF ARC WELDING	8		
	3.1. Explain principle of arc welding.	1		Dt. 23.11.2021
	3.2. Discuss D. C. & A. C. Arc phenomena.	2		Dt. 24.11.2021 & Dt. 25.11.2021
	3.3. D.C. & A. C. arc welding plants of single and multi-operation type.	1		Dt. 26.11.2021 & Dt. 27.11.2021
	3.4. Types of arc welding.	1		Dt. 29.11.2021
	3.5. Explain principles of resistance welding.	2		Dt. 30.11.2021, Dt. 29.11.2021
	3.6. Descriptive study of different resistance welding methods.	1	DEC.	Dt. 01.12.2021 & Dt. 02.12.2021
4	UNIT - 4 ILLUMINATION	12		
	4.1. Nature of Radiation and its spectrum.	1		Dt. 03.12.2021, Dt. 04.12.2021
	4.2. Terms used in Illuminations. [Lumen, Luminous intensity, Intensity of illumination, MHCP, MSCP, MHSCP, Solid angle, Brightness, Luminous efficiency.]	1		Dt. 06.12.2021, Dt. 07.12.2021
	4.3. Explain the inverse square law and the cosine law.	1		Dt. 08.12.2021, Dt. 09.12.2021
	4.4. Explain polar curves.	1		Dt. 10.12.2021, Dt. 11.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	4.5. Describe light distribution and control. Explain related definitions like maintenance factor and depreciation factors.	1		Dt. 13.12.2021 & Dt. 14.12.2021
	4.6. Design simple lighting schemes and depreciation factor.	2		Dt. 15.12.2021 & Dt. 16.12.2021
	4.7. Constructional feature and working of Filament lamps, effect of variation of voltage	1		Dt. 17.12.2021 & Dt. 18.12.2021
	4.8. Explain Discharge lamps.	1		Dt. 20.12.2021 & Dt. 21.12.2021
	4.9. State Basic idea about excitation in gas discharge lamps.	1		Dt. 22.12.2021 & Dt. 23.12.2021
	4.10. State constructional factures and operation of Fluorescent lamp. (PL and PLL Lamps)	1		Dt. 24.12.2021
	4.11. Sodium vapor lamps.	1		Dt. 27.12.2021
	4.12. High pressure mercury vapor lamps.	2		Dt. 28.12.2021 & Dt. 29.12.2021
	4.13. Neon sign lamps.	1		Dt. 30.12.2021
	4.14. High lumen output & low consumption fluorescent lamps.	1		Dt. 31.12.2021
5	**UNIT - 5 INDUSTRIAL DRIVES**	**10**	JAN.	
	5.1. State group and individual drive.	1		Dt. 03.01.2022
	5.2. Method of choice of electric drives.	1		Dt. 04.01.2022
	5.3. Explain starting and running characteristics of DC and AC motor.	1		Dt. 05.01.2022
	5.4. State Application of:	2		Dt. 06.01.2022 & Dt. 07.01.2022
	5.4.1. DC motor.	1		Dt. 08.01.2022
	5.4.2. 3-phase induction motor.	1		Dt. 10.01.2022
	5.4.3. 3 phase synchronous motors.	2		Dt. 11.01.2022 & Dt. 12.01.2022
	5.4.4. Single phase induction, series motor, universal motor and repulsion motor.	1		Dt. 13.01.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
6	UNIT- 6 ELECTRIC TRACTION	14		
	6.1. Explain system of traction.	1		Dt. 15.01.2022
	6.2. System of Track electrification.	1		Dt. 17.01.2022
	6.3. Running Characteristics of DC and AC traction motor.	1		Dt. 18.01.2022
	6.4. Explain control of motor:	2		Dt. 19.01.2022 & Dt. 18.01.2022
	6.4.1. Tapped field control.	1		Dt. 20.01.2022
	6.4.2. Rheostatic control.	1		Dt. 21.01.2022
	6.4.3. Series parallel control.	1		Dt. 22.01.2022
	6.4.4. Multi-unit control.	2		Dt. 22.01.2022 & Dt. 24.01.2022
	6.4.5. Metadyne control.	1		Dt. 25.01.2022
	6.5. Explain Braking of the following types:	1		Dt. 27.01.2022
	6.5.1. Regenerative Braking.	1		Dt. 28.01.2022
	6.5.2. Braking with 1-phase series motor.	1		Dt. 29.01.2022
	6.5.3. Magnetic Braking	1		Dt. 31.01.2022

SIGNATURE OF THE CONCERNED FACULTY

SIGNATURE OF THE H.O.D.

31/01/2022

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

PRINCIPAL
Purnia Chandra Institute of
Engineering & Technology
CHHENDIPADA, ANGUL

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

THEORY LESSON PLAN FOR THE SESSION 2021-22

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 5TH
SECTION : EA & EB

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

SEMESTER FROM : 01.10.2021 to 31.01.2022

THEORY SUBJECT: POWER ELECTRONICS & PLC (TH-5)

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 UNDERSTAND THE CONSTRUCTION AND WORKING OF POWER ELECTRONIC DEVICES	18	OCT	
	1.1 Construction, Operation, V-I characteristics & application of power diode, SCR,			Dt 01.10.2021
	DIAC,TRIAC, Power MOSFET,GTO & IGBT			Dt. 04. 10. 2021
	1.2 Two transistor analogy of SCR.			Dt. 05. 10. 2021
	1.3 Gate characteristics of SCR.			Dt. 07. 10. 2021
	1.4 Switching characteristic of SCR during turn on and turn off.			Dt. 08. 10. 2021
	1.5 Turn on methods of SCR.			Dt. 09. 10. 2021
	1.6 Turn off methods of SCR (Line commutation and Forced commutation)			Dt. 18. 10. 2021
	1.6.1 Load Commutation			Dt. 19. 10. 2021 & Dt. 20. 10. 2021
	1.6.2 Resonant pulse commutation			Dt. 21. 10. 2021 & Dt. 22. 10. 2021
	1.7 Voltage and Current ratings of SCR.			Dt. 23. 10. 2021 & Dt. 25. 10. 2021
	1.8 Protection of SCR			Dt. 26. 10. 2021
	1.8.1 Over voltage protection		NOV	Dt. 01. 11. 2021
	1.8.2 Over current protection			Dt. 02. 11. 2021
	1.8.3 Gate protection			Dt. 03 11. 2021
	1.9 Firing Circuits			Dt. 05. 11. 2021
	1.9.1 General layout diagram of firing circuit			Dt. 06. 11. 2021
	1.9.2 R firing circuits			Dt. 08. 11. 2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	1.9.3 R-C firing circuit			09.11.2021
	1.9.4 UJT pulse trigger circuit			10.10.2021
	1.9.5 Synchronous triggering (Ramp Triggering)			11.10.2021.
	1.10 Design of Snubber Circuits			12.10.2021
2	**UNIT -2 UNDERSTAND THE WORKING OF CONVERTERS, AC REGULATORS AND CHOPPERS**	12		
	2.1 Controlled rectifiers Techniques(Phase Angle, Extinction Angle control), Single			13.10.2021, Dt. 15.10.2021
	quadrant semi converter, two quadrant full converter and dual Converter			16.10.2021, 17.10.2021
	2.2 Working of single-phase half wave controlled converter with Resistive and R-L loads			18.10.2021, 20.10.2021
	2.3 Understand need of freewheeling diode.			22.10.2021
	2.4 Working of single phase fully controlled converter with resistive and R- L loads.			23.10.2021, 24.11.2021
	2.5 Working of three-phase half wave controlled converter with Resistive load			25.11.2021, 26.11.2021
	2.6 Working of three phase fully controlled converter with resistive load.			27.11.2021, 29.11.2021
	2.7 Working of single phase AC regulator.			• 30.11.2021
	2.8 Working principle of step up & step down chopper.		DEC	01.12.2021, 02.12.2021
	2.9 Control modes of chopper			03.12.2021
	2.10 Operation of chopper in all four quadrants			04.12.2021
3	**UNIT - 3 UNDERSTAND THE INVERTERS AND CYCLO-CONVERTERS**	8		
	3.1 Classify inverters.			06.12.2021
	3.2 Explain the working of series inverter.			07.12.2021

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	3.3 Explain the working of parallel inverter			08.12.2021
	3.4 Explain the working of single-phase bridge inverter.			09.12.2021 , 10.12.2021
	3.5 Explain the basic principle of Cyclo-converter.			11.12.2021
	3.6 Explain the working of single-phase step up & step down Cyclo-converter.			13.12.2021 ,14.12.2021
	3.7 Applications of Cyclo-converter			15.12.2021
4	**UNIT - 4 UNDERSTAND APPLICATIONS OF POWER ELECTRONIC CIRCUITS**	10		
	4.1 List applications of power electronic circuits.			16.12.2021
	4.2 List the factors affecting the speed of DC Motors.			17.12.2021 & 18.12.2021
	4.3 Speed control for DC Shunt motor using converter.			20.12.2021 & 21.12.2021
	4.4 Speed control for DC Shunt motor using chopper.			22.12.2021 & 23.12.2021
	4.5 List the factors affecting speed of the AC Motors.			24.12.2021
	4.6 Speed control of Induction Motor by using AC voltage regulator.			25.12.2021 , 27.12.2021
	4.7 Speed control of induction motor by using converters and inverters (V/F control)			28.12.2021 ,
	4.8 Working of UPS with block diagram.		JAN	03.01.2022
	4.9 Battery charger circuit using SCR with the help of a diagram.			04.01.2022 & 05.01.2022
	4.10 Basic Switched mode power supply (SMPS) - explain its working & applications			06.01.2022 & 07.01.2022
5	**UNIT - 5 PLC AND ITS APPLICATIONS**	12		
	5.1 Introduction of Programmable Logic Controller(PLC)			08.01.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	5.2 Advantages of PLC			10.01.2022
	5.3 Different parts of PLC by drawing the Block diagram and purpose of each part of PLC.			11.01.2022
	5.4 Applications of PLC			12.01.2022
	5.5 Ladder diagram			13.01.2022
	5.6 Description of contacts and coils in the following states			15.01.2022
	i)Normally open ii) Normally closed iii) Energized output iv)latched Output v) branching			17.01.2022.
	5.7 Ladder diagrams for i) AND gate ii) OR gate and iii) NOT gate			18.01.2022
	5.8 Ladder diagrams for combination circuits using NAND,NOR, AND, OR and NOT			19.01.2022
	5.9 Timers-i)T ON ii) T OFF and iii)Retentive timer			20.01.2022
	5.10 Counters-CTU, CTD			21.01.2022
	5.11 Ladder diagrams using Timers and counters			22.01.2022
	5.12 PLC Instruction set			24.01.2022
	5.13 Ladder diagrams for following			25.01.2022
	(i) DOL starter and STAR-DELTA starter (ii) Stair case lighting (iii) Traffic light			27.01.2022
	Control (iv) Temperature Controller			28.01.2022
	5.14 Special control systems- Basics DCS & SCADA systems			29.01.2022
	5.15 Computer Control–Data Acquisition, Direct Digital Control System (Basics only)			31.01.2022

S.S. Pradhan S. Pradhan
SIGNATURE OF THE CONCERNED FACULTY

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

31/01/2022
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 2021-22

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 6TH
SECTION : EA

NAME OF THE FACULTY : (1) ER. SUBHASHREE PRADHAN,
(2) ER. RAMESH CH. PRADHAN (LECT. IN ELECT. ENGG.)

SEMESTER FROM : 14.03.2022 to 30.06.2022

THEORY SUBJECT: ELECTRICAL INSTALLATION & ESTIMATING (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 INDIAN ELECTRICITY RULES**	**6**	MARCH	
	1.1 Definitions, Ampere, Apparatus, Accessible, Bare, cable, circuit, circuit breaker, conductor voltage (low, medium, high, EH), live, dead, cut-out, conduit, system, danger, Installation, earthing system, span, volt, switch gear, etc	2		Dt. 14.03.2022 Dt. 15.03.2022 Dt. 16.03.2022
	1.2 General safety precautions, rule 29, 30, 31, 32, 33, 34, 35, 36, 40, 41, 43, 44, 45, 46.	1		Dt. 17.03.2022
	1.3 General conditions relating to supply and use of energy : rule 47, 48, 49, 50, 51, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 70.	2		Dt. 21.03.2022 Dt. 22.03.2022 & Dt. 23.03.2022
	1.4 OH lines : Rule 74, 75, 76, 77, 78, 79, 80, 86, 87, 88, 89, 90, 91	1		Dt. 24.03.2022
2	**UNIT-2 ELECTRICAL INSTALLATIONS**	**12**		
	2. 1 Electrical installations, domestics, industrial, Wiring System, Internal distribution of Electrical Energy. Methods of wiring, systems of wiring, wire and cable, conductor materials used in cables, insulating materials mechanical protection. Types of cables used in internal wiring, multi-stranded cables, voltage grinding of cables, general specifications of cables.	4		Dt. 25.03.2022, Dt. 28.03.2022, Dt. 29.03.2022, Dt. 30.03.2022 & Dt. 31.03.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	2. 2 ACCESSORIES: Main switch and distribution boards, conduits, conduit accessories and fittings, lighting accessories and fittings, fuses, important definitions, determination of size of fuse – wire, fuse units. Earthing conductor, earthing, IS specifications regarding earthing of electrical installations, points to be earthed. Determination of size of earth wire and earth plate for domestic and industrial installations. Material required for GI pipe earthing	4	APRIL	Dt. 04.04.22, Dt. 05.04.22, Dt. 06.04.22, Dt. 07.04.22, & Dt. 08.04.22
	2. 3 LIGHTING SCHEME: Aspects of good lighting services. Types of lighting schemes, design of lighting schemes, factory lighting, public lighting installations, street lighting, general rules for wiring, determination of number of points (light, fan, socket, outlets), determination of total load, determination of Number of subcircuits	4		Dt. 11.04.22, Dt. 12.04.22, Dt. 13.04.22, Dt. 18.04.22 & Dt. 19.04.22
3	**UNIT-3 INTERNAL WIRING**	**12**		
	3 . 1 Type of internal wiring, cleat wiring, CTS wiring, wooden casing capping, metal sheathed wiring, conduit wiring, their advantage and disadvantages comparison and applications.	2		Dt. 20.04.22 & Dt. 21.04.22
	3 . 2 Prepare one estimate of materials required for CTS wiring for small domestic installation of one room and one verandah within 25 m2 with given light, fan & plug points.	2		Dt. 22.04.22 & Dt. 25.04.22
	3 . 3 Prepare one estimate of materials required for conduit wiring for small domestic installation of one room and one verandha within 25 m2 with given light, fan & plug points	2		Dt. 26.04.22 & Dt. 27.04.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	3 . 4 Prepare one estimate of materials required for concealed wiring for domestic installation of two rooms and one latrine, bath, kitchen & verandah within 80m2 with given light, fan & plug points.	3		Dt. 28.04.22 , Dt. 29.04.22 & Dt. 30.04.22
	3 . 5 Prepare one estimate of materials required for erection of conduct wiring to a small workshop installation about 30m2 and load within 10 KW.	3	MAY	Dt. 04.05.22, Dt. 05.05.22 & Dt. 06.05.22
4	**UNIT-4 OVER HEAD INSTALLATION**	12		
	4.1. Main components of overhead lines, line supports, factors Governing Height of pole, conductor materials, determination of size of conductor for overhead transmission line, cross arms, pole brackets and clamps, guys and stays, conductors configurations, spacing and clearances, span lengths, overhead line insulators, types of insulators, lighting arresters, danger plates, anti-climbing devices, bird guards, beads of jumpers, jumpers, tee-offs, guarding of overhead lines.	4		Dt. 09.05.22., Dt. 10.05.22, Dt. 11.05.22, Dt. 12.05.22 & Dt. 13.05.22
	4.2.Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation VI Sem Electrical Page 5 of 28 consideration using ACSR	4		Dt. 17.05.22, Dt. 18.05.22 & Dt. 19.05.22
	4.3.Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.			Dt. 20.05.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	4.4.Prepare an estimate of materials required for HT distribution line (11 KV) within 2 km and load of 2000 KVA maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consider action using ACSR.	4		Dt·23.05.22, Dt·24.05.22, Dt·25.05.22 Dt·26.05.22
5	**UNIT 5 OVER HEAD SERVICE LINES**	**12**		
	5. 1 Components of service lines, service line (cables and conductors), bearer wire, lacing rod, Ariel fuse, service support, energy box and meters etc.	2		Dt·27.05.22 & Dt·31.05.22
	5. 2 Prepare and estimate for providing single phase supply of load of 5 KW (light, fan, socket) to a single stored residential building.	2	JUNE	Dt·01.06.22 & Dt 02.06.22
	5. 3 Prepare and estimate for providing single phase supply load of 3KW to each floor of a double stored building having separate energy meter	2		Dt·03.06.22 & Dt·06.06.22
	5. 4 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using insulated wire.	3		Dt·07.06.22, Dt·08.06.22, Dt·09.06.22 & Dt·10.06.22
	5. 5 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using bare conductor and insulated wire combined.	3		Dt·16.06.22, Dt·17.06.2022, Dt·20.06.22 & 21.06.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	UNIT-6 ESTIMATING FOR DISTRIBUTION SUBSTATIONS	6		
6	6. 1 Prepare one materials estimate for following types of transformer substations. 6.1.1 Pole mounted substation. 6.1.2 Plinth Mounted substation.	6		Dt. 22.06.22, Dt. 23.06.22, Dt. 24.06.22, Dt. 27.06.22, Dt. 28.06.22, Dt. 29.06.22 & Dt. 30.06.22

S Pradhan RC Pradhan

SIGNATURE OF THE CONCERNED FACULTY

S. Pradhan

SIGNATURE OF THE H.O.D.

30/06/2022

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 2021-22

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 6TH
SECTION : EB

NAME OF THE FACULTY : (1) ER. SUBHASHREE PRADHAN,
(2) ER. RAMESH CH. PRADHAN (LECT. IN ELECT. ENGG.)

SEMESTER FROM : 14.03.2022 to 30.06.2022

THEORY SUBJECT: ELECTRICAL INSTALLATION & ESTIMATING (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 INDIAN ELECTRICITY RULES**	**6**	MARCH	
	1.1 Definitions, Ampere, Apparatus, Accessible, Bare, cable, circuit, circuit breaker, conductor voltage (low, medium, high, EH), live, dead, cut-out, conduit, system, danger, Installation, earthing system, span, volt, switch gear, etc	2		Dt. 14.03.2022 Dt. 15.03.2022 Dt. 16.03.2022
	1.2 General safety precautions, rule 29, 30, 31, 32, 33, 34, 35, 36, 40, 41, 43, 44, 45, 46.	1		Dt. 17.03.2022
	1.3 General conditions relating to supply and use of energy : rule 47, 48, 49, 50, 51, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 70.	2		Dt. 21.03.2022 Dt. 22.03.2022 Dt. 23.03.2022
	1.4 OH lines : Rule 74, 75, 76, 77, 78, 79, 80, 86, 87, 88, 89, 90, 91	1		Dt. 24.03.2022
2	**UNIT-2 ELECTRICAL INSTALLATIONS**	**12**		
	2. 1 Electrical installations, domestics, industrial, Wiring System, Internal distribution of Electrical Energy. Methods of wiring, systems of wiring, wire and cable, conductor materials used in cables, insulating materials mechanical protection. Types of cables used in internal wiring, multi-stranded cables, voltage grinding of cables, general specifications of cables.	4		Dt. 25.03.2022 Dt. 28.03.2022 Dt. 29.03.2022 Dt. 30.03.2022 Dt. 31.03.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	2. 2 ACCESSORIES: Main switch and distribution boards, conduits, conduit accessories and fittings, lighting accessories and fittings, fuses, important definitions, determination of size of fuse – wire, fuse units. Earthing conductor, earthing, IS specifications regarding earthing of electrical installations, points to be earthed. Determination of size of earth wire and earth plate for domestic and industrial installations. Material required for GI pipe earthing.	4	APRIL	Dt. 04.04.2022 Dt. 05.04.2022 Dt. 06.04.2022 Dt. 07.04.2022 Dt. 08.04.2022
	2. 3 LIGHTING SCHEME: Aspects of good lighting services. Types of lighting schemes, design of lighting schemes, factory lighting, public lighting installations, street lighting, general rules for wiring, determination of number of points (light, fan, socket, outlets), determination of total load, determination of Number of subcircuits	4		Dt. 11.04.2022 Dt. 12.04.2022 Dt. 13.04.2022 Dt. 18.04.2022
3	**UNIT-3 INTERNAL WIRING**	**12**		
	3 . 1 Type of internal wiring, cleat wiring, CTS wiring, wooden casing capping, metal sheathed wiring, conduit wiring, their advantage and disadvantages comparison and applications.	2		Dt. 19.04.2022 Dt. 20.04.2022
	3 . 2 Prepare one estimate of materials required for CTS wiring for small domestic installation of one room and one verandah within 25 m2 with given light, fan & plug points.	2		Dt. 21.04.2022 Dt. 22.04.2022
	3 . 3 Prepare one estimate of materials required for conduit wiring for small domestic installation of one room and one verandha within 25 m2 with given light, fan & plug points	2		Dt. 25.04.2022 Dt. 26.04.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	3 . 4 Prepare one estimate of materials required for concealed wiring for domestic installation of two rooms and one latrine, bath, kitchen & verandah within 80m2 with given light, fan & plug points.	3		Dt.27.04.2022 Dt.28.04.2022, Dt.29.04.2022 Dt.30.04.2022
	3 . 5 Prepare one estimate of materials required for erection of conduct wiring to a small workshop installation about 30m2 and load within 10 KW.	3	MAY	Dt.04.05.2022, Dt.05.05.2022 Dt.06.05.2022
4	**UNIT-4 OVER HEAD INSTALLATION**	**12**		
	4.1. Main components of overhead lines, line supports, factors Governing Height of pole, conductor materials, determination of size of conductor for overhead transmission line, cross arms, pole brackets and clamps, guys and stays, conductors configurations, spacing and clearances, span lengths, overhead line insulators, types of insulators, lighting arresters, danger plates, anti-climbing devices, bird guards, beads of jumpers, jumpers, tee-offs, guarding of overhead lines.	4		Dt.09.05.2022 Dt.10.05.2022 Dt.11.05.2022 Dt.12.05.2022 Dt.13.05.2022
	4.2.Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation VI Sem Electrical Page 5 of 28 consideration using ACSR	4		Dt.17.05.2022 Dt.18.05.2022 Dt.19.05.2022
	4.3.Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.			Dt.20.05.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	4.4.Prepare an estimate of materials required for HT distribution line (11 KV) within 2 km and load of 2000 KVA maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consider action using ACSR.	4		Dt.23.05.2022 Dt.24.05.2022 Dt.25.05.2022 Dt.26.05.2022
5	**UNIT 5 OVER HEAD SERVICE LINES**	**12**		
	5. 1 Components of service lines, service line (cables and conductors), bearer wire, lacing rod. Ariel fuse, service support, energy box and meters etc.	2		Dt.27.05.2022 Dt.31.05.2022
	5. 2 Prepare and estimate for providing single phase supply of load of 5 KW (light, fan, socket) to a single stored residential building.	2	JUNE	Dt.01.06.2022 Dt.02.06.2022
	5. 3 Prepare and estimate for providing single phase supply load of 3KW to each floor of a double stored building having separate energy meter	2		Dt.03.06.2022 Dt.06.06.2022
	5. 4 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using insulated wire.	3		Dt.07.06.2022, Dt.08.06.2022 Dt.09.06.2022, Dt.10.06.2022
	5. 5 Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using bare conductor and insulated wire combined.	3		Dt.16.06.2022, Dt.17.06.2022 Dt.20.06.2022, Dt.21.06.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	UNIT-6 ESTIMATING FOR DISTRIBUTION SUBSTATIONS	6		
6	6. 1 Prepare one materials estimate for following types of transformer substations. 6.1.1 Pole mounted substation. 6.1.2 Plinth Mounted substation.	6		Dt.22.06.2022, Dt.23.06.2022 Dt.24.06.2022, Dt.27.06.2022 Dt.28.06.2022, Dt.29.06.2022 Dt.30.06.2022

S.Pradhan RC Pradhan

SIGNATURE OF THE CONCERNED FACULTY

S.Pradhan

SIGNATURE OF THE H.O.D.

30/06/2022

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 2021-22				
BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 6TH SECTION : EA			NAME OF THE FACULTY : (1) ER. PRAKASH CH. MOHARANA, (2) ER. BIJAYA KUMAR BEHERA (LECT. IN ELECT. ENGG.)	
SEMESTER FROM : 14.03.2022 to 30.06.2022		THEORY SUBJECT: SWITCH GEAR AND PROTECTIVE DEVICES (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 INTRODUCTION TO SWITCHGEAR	6	MARCH	
	1.1 Essential Features of switchgear	1		Dt. 14/03/2022
	1.2 Switchgear Equipment.	1		Dt. 15/03/2022
	1.3 Bus-Bar Arrangement.	1		Dt. 16/03/2022
	1.4 Switchgear Accommodation	1		Dt. 17/03/2022
	1.5 Short Circuit.			Dt. 21/03/2022
	1.6 Short circuit.	1		Dt. 22/03/2022
	1.7 Faults in a power system.	1		Dt. 23/03/2022
2	UNIT-2 FAULT CALCULATION	10		
	2.1 Symmetrical faults on 3-phase system.	2		Dt. 24/03/2022
	2.2 Limitation of fault current.	1		Dt. 25/03/2022
	2.3 Percentage Reactance	1		Dt. 28/03/2022
	2.4 Percentage Reactance and Base KVA.	1		Dt. 29/03/2022
	2.5 Short – circuit KVA	1		Dt. 30/03/2022
	2.6 Reactor control of short circuit currents	1		Dt. 31/03/2022
	2.7 Location of reactors.	1	APRIL	Dt. 04/04/2022
	2.8 Steps for symmetrical Fault calculations	1		Dt. 05/04/2022

	2.9 Solve numerical problems on symmetrical fault.	1		
Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
3	UNIT-3 FUSES	6		
	3.1 Desirable characteristics of fuse element	1		Dt. 06.04.2022
	3.2 Fuse Element materials.	1		Dt. 07.04.2022
	3.3 Types of Fuses and important terms used for fuses	1		Dt. 08.04.2022
	3.4 Low and High voltage fuses.	1		Dt. 11.04.2022
	3.5 Current carrying capacity of fuse element.	1		Dt. 12.04.2022
	3.6 Difference Between a Fuse and Circuit Breaker	1		Dt. 13.04.2022
4	UNIT-4 CIRCUIT BREAKERS	10		
	4.1 Definition and principle of Circuit Breaker	1		Dt. 18.04.2022
	4.2 Arc phenomenon and principle of Arc Extinction.			Dt. 19.04.2022
	4.3 Methods of Arc Extinction.	1		Dt. 20.04.2022
	4.4 Definitions of Arc voltage, Re-striking voltage and Recovery voltage.			Dt. 21.04.2022
	4.5 Classification of circuit Breakers.	1		Dt. 22.04.2022
	4.6 Oil circuit Breaker and its classification.			Dt. 25.04.2022
	4.7 Plain brake oil circuit breaker			Dt. 26.04.2022
	4.8 Arc control oil circuit breaker.	1		Dt. 27.04.2022
	4.9 Low oil circuit breaker.	1		Dt. 28.04.2022
	4.10 Maintenance of oil circuit breaker			Dt. 29.04.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	4.11 Air-Blast circuit breaker and its classification.	1		Dt. 30.04.2022
	4.12 Sulphur Hexa-fluoride (SF6) circuit breaker.			Dt. 30.04.2022
	4.13 Vacuum circuit breakers.	1	MAY	Dt. 04.05.2022
	4.14 Switchgear component	1		Dt. 05.05.2022
	4.15 Problems of circuit interruption			Dt. 06.05.2022
	4.16 Resistance switching.	1		Dt. 09.05.2022
	4.17 Circuit Breaker Rating	1		Dt. 10.05.2022
5	**UNIT-5 PROTECTIVE RELAYS**	8		
	5.1 Definition of Protective Relay.	1		Dt. 11.05.2022
	5.2 Fundamental requirement of protective relay.	1		Dt. 12.05.2022
	5.3 Basic Relay operation 5.3.1. Electromagnetic Attraction type 5.3.2. Induction type	1		Dt. 13.05.2022
	5.4 Definition of following important terms			Dt. 17.05.2022
	5.5 Definition of following important terms. 5.5.1. Pick-up current. 5.5.2. Current setting. 5.5.3. Plug setting Multiplier. 5.5.4. Time setting Multiplier	1		Dt. 18.05.2022
	5.6 Classification of functional relays	1		Dt. 19.05.2022
	5.7 Induction type over current relay (Non-directional)	1		Dt. 20.05.2022
	5.8 Induction type directional power relay.			Dt. 23.05.2022
	5.9 Induction type directional over current relay	1		Dt. 24.05.2022
	5.10 Differential relay 5.10.1. Current differential relay 5.10.2. Voltage balance differential relay.	1		Dt. 25.05.2022
	5.11 Types of protection	1		Dt. 26.05.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
6	UNIT-6 PROTECTION OF ELECTRICAL POWER EQUIPMENT AND LINES	6		
	6.1 Protection of alternator	1		Dt. .05.2022 , Dt.31.05.2022
	6.2 Differential protection of alternators.		JUNE	Dt. 01.06.2022
	6.3 Balanced earth fault protection	1		Dt. 02.06.2022
	6.4 Protection systems for transformer			Dt. 03.06.2022
	6.5 Buchholz relay.	1		Dt. 06.06.2022
	6.6 Protection of Bus bar			Dt. 07.06.2022
	6.7 Protection of Transmission line.	1		Dt. 08.06.2022
	6.8 Different pilot wire protection (Merz-price voltage Balance system)	1		Dt. 09.06.2022
	6.9 Explain protection of feeder by over current and earth fault relay	1		Dt. 10.06.2022
7	UNIT -7 PROTECTION AGAINST OVER VOLTAGE AND LIGHTING	8		
	7.1. Voltage surge and causes of over voltage.	1		Dt. 16/06/2022
	7.2. Internal cause of over voltage.	1		Dt. 17/06/2022
	7.3. External cause of over voltage (lighting)	1		Dt. 20/06/2022
	7.4. Mechanism of lightning discharge	1		Dt. 21/06/2022
	7.5. Types of lightning strokes.	1		Dt. 22/06/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	7.6. Harmful effect of lightning.	1		Dt. 23/06/2022
	7.7. Lightning arresters and Type of lightning Arresters. 7.7.1. Rod-gap lightning arrester. 7.7.2. Horn-gap arrester. 7.7.3. Valve type arrester.	1		Dt. 23/06/2022
	7.8. Surge Absorber	1		Dt. 24/06/2022
8	UNIT -8 STATIC RELAY	6		
	8. 1 Advantage of static relay.	2		Dt. 27.06.2022
	8. 2 Instantaneous over current relay.	2		Dt. 28.06.2022
	8. 3 Principle of IDMT relay.	2		Dt. 29.06.2022, Dt. 30.06.2022

PCD BKB

SIGNATURE OF THE CONCERNED FACULTY

S. Pradhan

SIGNATURE OF THE H.O.D.

30/06/2022

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

PRINCIPAL
Prima Chandra Institute of
Engineering & Technology
CHHENDIPADA, ANGUL

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

THEORY LESSON PLAN FOR THE SESSION 2021-22

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 6TH
SECTION : EB

NAME OF THE FACULTY : (1) ER. PRAKASH CH. MOHARANA,
(2) ER. BIJAYA KUMAR BEHERA (LECT. IN ELECT. ENGG.)

SEMESTER FROM : 14.03.2022 to 30.06.2022

THEORY SUBJECT: SWITCH GEAR AND PROTECTIVE DEVICES (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 INTRODUCTION TO SWITCHGEAR	6	MARCH	
	1.1 Essential Features of switchgear	1		Dt. 14/03/2022
	1.2 Switchgear Equipment.	1		Dt. 15/03/2022
	1.3 Bus-Bar Arrangement.	1		Dt. 16/03/2022
	1.4 Switchgear Accommodation	1		Dt. 17/03/2022
	1.5 Short Circuit.			Dt. 21/03/2022
	1.6 Short circuit.	1		Dt. 22/03/2022
	1.7 Faults in a power system.	1		Dt. 23/03/2022
2	UNIT-2 FAULT CALCULATION	10		
	2.1 Symmetrical faults on 3-phase system.	2		Dt. 24/03/2022
	2.2 Limitation of fault current.	1		Dt. 25/03/2022
	2.3 Percentage Reactance	1		Dt. 28/03/2022
	2.4 Percentage Reactance and Base KVA.	1		Dt. 29/03/2022
	2.5 Short – circuit KVA	1		Dt. 30/03/2022
	2.6 Reactor control of short circuit currents	1		Dt. 31/03/2022
	2.7 Location of reactors.	1	APRIL	Dt. 04/04/2022
	2.8 Steps for symmetrical Fault calculations	1		Dt. 05/04/2022

	2.9 Solve numerical problems on symmetrical fault.	1		
Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
3	UNIT-3 FUSES	6		
	3.1 Desirable characteristics of fuse element	1		Dt. 06.04.2022
	3.2 Fuse Element materials.	1		Dt. 07.04.2022
	3.3 Types of Fuses and important terms used for fuses	1		Dt. 08.04.2022
	3.4 Low and High voltage fuses.	1		Dt. 11.04.2022
	3.5 Current carrying capacity of fuse element.	1		Dt. 12.04.2022
	3.6 Difference Between a Fuse and Circuit Breaker	1		Dt. 13.04.2022
4	UNIT-4 CIRCUIT BREAKERS	10		
	4.1 Definition and principle of Circuit Breaker	1		Dt. 18.04.2022
	4.2 Arc phenomenon and principle of Arc Extinction.			Dt. 19.04.2022
	4.3 Methods of Arc Extinction.	1		Dt. 20.04.2022
	4.4 Definitions of Arc voltage, Re-striking voltage and Recovery voltage.			Dt. 21.04.2022
	4.5 Classification of circuit Breakers.	1		Dt. 22.04.2022
	4.6 Oil circuit Breaker and its classification.			Dt. 25.04.2022
	4.7 Plain brake oil circuit breaker			Dt. 26.04.2022
	4.8 Arc control oil circuit breaker.	1		Dt. 27.04.2022
	4.9 Low oil circuit breaker.	1		Dt. 28.04.2022
	4.10 Maintenance of oil circuit breaker			Dt. 29.04.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	4.11 Air-Blast circuit breaker and its classification.	1		Dt. 30.04.2022
	4.12 Sulphur Hexa-fluoride (SF6) circuit breaker.			Dt. 30.04.2022
	4.13 Vacuum circuit breakers.	1	MAY	Dt. 04.05.2022
	4.14 Switchgear component	1		Dt. 05.05.2022
	4.15 Problems of circuit interruption			Dt. 06.05.2022
	4.16 Resistance switching	1		Dt. 09.05.2022
	4.17 Circuit Breaker Rating	1		Dt. 10.05.2022
5	**UNIT-5 PROTECTIVE RELAYS**	8		
	5.1 Definition of Protective Relay.	1		Dt. 11.05.2022
	5.2 Fundamental requirement of protective relay.	1		Dt. 12.05.2022
	5.3 Basic Relay operation 5.3.1. Electromagnetic Attraction type 5.3.2. Induction type	1		Dt. 13.05.2022
	5.4 Definition of following important terms			Dt. 17.05.2022
	5.5 Definition of following important terms. 5.5.1. Pick-up current. 5.5.2. Current setting. 5.5.3. Plug setting Multiplier. 5.5.4. Time setting Multiplier.	1		Dt. 18.05.2022
	5.6 Classification of functional relays	1		Dt. 19.05.2022
	5.7 Induction type over current relay (Non-directional)	1		Dt. 20.05.2022
	5.8 Induction type directional power relay.			Dt. 23.05.2022
	5.9 Induction type directional over current relay	1		Dt. 24.05.2022
	5.10 Differential relay 5.10.1. Current differential relay 5.10.2. Voltage balance differential relay.	1		Dt. 25.05.2022
	5.11 Types of protection	1		Dt. 26.05.2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
6	UNIT-6 PROTECTION OF ELECTRICAL POWER EQUIPMENT AND LINES	6		
	6.1 Protection of alternator	1		Dt·27·05·2022 , Dt·31·05·2022
	6.2 Differential protection of alternators.		JUNE	Dt· 01·06·2022
	6.3 Balanced earth fault protection.	1		Dt· 02·06·2022
	6.4 Protection systems for transformer			Dt· 03·06·2022
	6.5 Buchholz relay.	1		Dt· 06·06·2022
	6.6 Protection of Bus bar			Dt· 07·06·2022
	6.7 Protection of Transmission line.	1		Dt· 08·06·2022
	6.8 Different pilot wire protection (Merz-price voltage Balance system)	1		Dt· 09·06·2022
	6.9 Explain protection of feeder by over current and earth fault relay	1		Dt· 10·06·2022
7	UNIT -7 PROTECTION AGAINST OVER VOLTAGE AND LIGHTING	8		
	7.1. Voltage surge and causes of over voltage.	1		Dt· 16/06/2022
	7.2. Internal cause of over voltage.	1		Dt· 17/06/2022
	7.3. External cause of over voltage (lighting)	1		Dt· 20/06/2022
	7.4. Mechanism of lightning discharge.	1		Dt· 21/06/2022
	7.5. Types of lightning strokes.	1		Dt· 22/06/2022

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	7.6. Harmful effect of lightning	1		Dt. 23/06/2022
	7.7. Lightning arresters and Type of lightning Arresters. 7.7.1. Rod-gap lightning arrester. 7.7.2. Horn-gap arrester. 7.7.3. Valve type arrester.	1		Dt-23/06/2022
	7.8. Surge Absorber	1		Dt. 24/06/2022
8	UNIT -8 STATIC RELAY	6		
	8. 1 Advantage of static relay.	2		Dt. 27/06/2022
	8. 2 Instantaneous over current relay.	2		Dt. 28/06/2022
	8. 3 Principle of IDMT relay.	2		Dt. 29/06/2022 , Dt. 30/06/2022

PCM BKB

SIGNATURE OF THE CONCERNED FACULTY

S. Pradhan

SIGNATURE OF THE H.O.D.

30/06/2022

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 2021-22				
BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 6TH SECTION : EB			NAME OF THE FACULTY : (1) ER. SASWATI SANGHAMITRA PRADHAN, (2) ER. DEBABRATA DIBYARANJAN; (3) ER. BIBHUTI BHUSAN SAHU (LECT. IN ELECT. & ETC. ENGG.)	
SEMESTER FROM : 14.03.2022 to 30.06.2022			THEORY SUBJECT: CONTROL SYSTEM ENGINEERING (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 FUNDAMENTAL OF CONTROL SYSTEM	4	MARCH	
	1.1. Classification of Control system	1		Dt. 14.03.22 & Dt. 15.03.22
	1.2. Open loop system & Closed loop system and its comparison	1		Dt. 16.03.2022
	1.3. Effects of Feed back	1		Dt. 17.03.2022
	1.4. Standard test Signals(Step, Ramp, Parabolic, Impulse Functions)			Dt. 21.03.2022
	1.5. Servomechanism	1		Dt. 22.03.22
2	UNIT-2 MATHEMATICAL MODEL OF A SYSTEM	4		
	2.1. Transfer Function & Impulse response,	1		Dt. 23.03.22
	2.2. Properties, Advantages & Disadvantages of Transfer Function	1		Dt. 24.03.22
	2.3. Poles & Zeroes of transfer Function	1		Dt. 25.03.22
	2.4. Simple problems of transfer function of network.			Dt. 28.03.22
	2.5. Mathematical modeling of Electrical Systems(R, L, C, Analogous systems)	1		Dt. 29.03.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
3	**UNIT-3 CONTROL SYSTEM COMPONENTS**	**4**		
	3.1. Components of Control System	2		Dt. 30.03.22 & Dt. 31.03.22
	3.2. Gyroscope, Synchros, Tachometer, DC servomotors, Ac Servomotors.	2	APRIL	Dt. 04.04.22 & Dt. 05.04.2022
4	**UNIT-4 BLOCK DIAGRAM ALGEBRA & SIGNAL FLOW GRAPHS**	**8**		
	4.1. Definition: Basic Elements of Block Diagram	1		Dt. 06.04.22
	4.2 Canonical Form of Closed loop Systems	1		Dt. 07.04.22
	4.3. Rules for Block diagram reduction	1		Dt. 08.04.22
	4.4. Procedure for of Reduction of Block Diagram	1		Dt. 11.04.22
	4.5. Simple Problem for equivalent transfer function			Dt. 12.04.22
	4.6. Basic Definition in Signal Flow Graph & properties	1		Dt. 13.04.22
	4.7. Construction of Signal Flow graph from Block diagram	1		Dt. 18.04.22
	4.8. Mason's Gain formula	1		Dt. 19.04.22
	4.9. Simple problems in Signal flow graph for network	1		Dt. 20.04.22
5	**UNIT-5 TIME RESPONSE ANALYSIS**	**10**		
	5 . 1 Time response of control system.	5		Dt. 21.04.22 & Dt. 22.04.22
	5 . 2 Standard Test signal. 5.2.1. Step signal, 5.2.2. Ramp Signal 5.2.3. Parabolic Signal 5.2.4. Impulse Signal	3		Dt. 25.04.22, Dt. 26.04.22 & Dt. 27.04.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	5 . 3 Time Response of first order system with: 5.3.1 Unit step response, 5.3.2 Unit impulse response	2		Dt· 28·04·22 , Dt· 29·04·22 & Dt· 30·04·22
	5.4 Time response of second order system to the unit step input : 5.4.1 Time response specification, 5.4.2 Derivation of expression for rise time, peak time, peak overshoot, settling time and steady state error, 5.4.3 Steady state error and error constants, 5.5 Types of control system (Steady state errors in Type-0, Type-1, Type-2 system, 5.6 Effect of adding poles and zero of transfer function, 5.7 Response with P, PI, PD and PID Controller.		MAY	Dt· 04·05·22 , Dt· 05·05·22 , Dt· 06·05·22 , Dt· 09·05·22 Dt· 10·05·22 , Dt· 11·05·22 Dt·12·05·22 , Dt·13·05·22
6	**ANALYSIS OF STABILITY BY ROOT LOCUS TECHNIQUE**	**10**		
	6.1 Root locus concept			Dt· 17·05·22
	6.2 Construction of root loci			Dt· 18·05·22
	6.3 Rules for construction of the root locus			Dt· 19·05·22
	6.4 Effect of adding poles and zeros to G(s) and H(s)			Dt· 20·05·22 , Rev- Dt 30·06·2022
7	**FREQUENCY RESPONSE ANALYSIS**	**10**		
	7.1 Correlation between time response and frequency response			Dt· 23·05·22
	7.2 Polar plots			Dt· 24·05·22
	7.3 Bode plots			Dt· 25·05·22
	7.4 All pass and minimum phase system			Dt· 26·05·22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	7.5 Computation of Grain margin and phase margin			Dt. 27.05.22 & Dt. 31.05.22
	7.6 Log magnitude versus phase plot		JUNE	Dt. 01.06.22 & Dt. 02.06.22
	7.7 Closed loop frequency response			Dt 03.06.22 & Dt 06.06.22
8	NYQUIST PLOT	10		
	8.1 Principle of argument			Dt. 07.06.22 & 08.06.22
	8.2 Nyquist stability criterion			Dt. 09.06.22 & Dt. 10.06.22
	8.3 Niquist stability criterion applied to inverse polar plot			Dt. 16.06.22 & Dt. 17.06.22
	8.4 Effect of addition of poles and zeros to G(S), H(S) on the shape of Niquist plot			Dt. 20.06.22 & Dt. 21.06.22
	8.5 Assessment of relative stability			Dt. 22.06.22 & Dt. 23.06.22
	8.6 Constant M and N circle			Dt. 24.06.22 & Dt. 27.06.22
	8.7 Nicholas chart			Dt. 28.06.22 & Dt. 29.06.22

S.S Pradhan D.D BBS

SIGNATURE OF THE CONCERNED FACULTY

S. Pradhan

SIGNATURE OF THE H.O.D.

30/06/2022

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 2021-22

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 6TH
SECTION : EA

NAME OF THE FACULTY : (1) ER. SASWATI SANGHAMITRA PRADHAN, (2) ER. DEBABRATA DIBYARANJAN, (3) ER. BIBHUTI BHUSAN SAHU (LECT. IN ELECT. & ETC. ENGG.)

SEMESTER FROM : 14.03.2022 to 30.06.2022

THEORY SUBJECT: CONTROL SYSTEM ENGINEERING (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 FUNDAMENTAL OF CONTROL SYSTEM	4		
	1.1. Classification of Control system	1	MARCH	Dt. 14.03.22 & Dt. 15.03.22
	1.2. Open loop system & Closed loop system and its comparison	1		Dt. 16.03.22
	1.3. Effects of Feed back	1		Dt. 17.03.22
	1.4. Standard test Signals(Step, Ramp, Parabolic, Impulse Functions)			Dt. 21.03.22
	1.5. Servomechanism	1		Dt. 22.03.22
2	UNIT-2 MATHEMATICAL MODEL OF A SYSTEM	4		
	2.1. Transfer Function & Impulse response,	1		Dt. 23.03.22
	2.2. Properties, Advantages & Disadvantages of Transfer Function	1		Dt. 24.03.22
	2.3. Poles & Zeroes of transfer Function	1		Dt. 25.03.22
	2.4. Simple problems of transfer function of network.			Dt. 28.03.22
	2.5. Mathematical modeling of Electrical Systems(R, L, C, Analogous systems)	1		Dt. 29.03.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
3	**UNIT-3 CONTROL SYSTEM COMPONENTS**	**4**		
	3.1. Components of Control System	2		Dt. 30.03.22 & Dt. 31.03.22
	3.2. Gyroscope, Synchros, Tachometer, DC servomotors, Ac Servomotors.	2	APRIL	Dt. 04.04.22 & Dt. 05.04.22
4	**UNIT-4 BLOCK DIAGRAM ALGEBRA & SIGNAL FLOW GRAPHS**	**8**		
	4.1. Definition: Basic Elements of Block Diagram	1		Dt. 06.04.22
	4.2. Canonical Form of Closed loop Systems	1		Dt. 07.04.22
	4.3. Rules for Block diagram reduction	1		Dt. 08.04.22
	4.4. Procedure for of Reduction of Block Diagram	1		Dt. 11.04.22
	4.5. Simple Problem for equivalent transfer function			Dt. 12.04.22
	4.6. Basic Definition in Signal Flow Graph & properties	1		Dt. 13.04.22
	4.7. Construction of Signal Flow graph from Block diagram	1		Dt. 18.04.22
	4.8. Mason's Gain formula	1		Dt. 19.04.22
	4.9. Simple problems in Signal flow graph for network	1		Dt. 20.04.22
5	**UNIT-5 TIME RESPONSE ANALYSIS**	**10**		
	5 . 1 Time response of control system.	5		Dt. 21.04.22 & Dt. 22.04.22
	5 . 2 Standard Test signal. 5.2.1. Step signal, 5.2.2. Ramp Signal 5.2.3. Parabolic Signal 5.2.4. Impulse Signal	3		Dt. 25.04.22, Dt. 26.04.22 & Dt. 27.04.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	5 . 3 Time Response of first order system with: 5.3.1 Unit step response, 5.3.2 Unit impulse response	2		Dt. 28.04.22, Dt. 29.04.22 & Dt. 30.04.22
	5.4 Time response of second order system to the unit step input . 5.4.1 Time response specification, 5.4.2 Derivation of expression for rise time, peak time, peak overshoot, settling time and steady state error, 5.4.3 Steady state error and error constants, 5.5 Types of control system (Steady state errors in Type-0, Type-1, Type-2 system, 5.6 Effect of adding poles and zero of transfer function, 5.7 Response with P, PI, PD and PID Controller.		MAY	Dt. 04.05.22, Dt. 05.05.22, Dt. 06.05.22, Dt. 09.05.22, Dt. 10.05.22, Dt. 11.05.22, Dt. 12.05.22 & Dt. 13.05.22
6	**ANALYSIS OF STABILITY BY ROOT LOCUS TECHNIQUE**	**10**		
	6.1 Root locus concept			Dt. 17.05.22
	6.2 Construction of root loci			Dt. 18.05.22
	6.3 Rules for construction of the root locus			Dt. 19.05.22
	6.4 Effect of adding poles and zeros to G(s) and H(s)			Dt. 20.05.22 Riv- Dt. 30.06.22
7	**FREQUENCY RESPONSE ANALYSIS**	**10**		
	7.1 Correlation between time response and frequency response			Dt. 23.05.22
	7.2 Polar plots			Dt. 24.05.22
	7.3 Bode plots			Dt. 25.05.22
	7.4 All pass and minimum phase system			Dt. 26.05.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	7.5 Computation of Grain margin and phase margin			Dt. 27.05.22 & Dt. 31.05.22
	7.6 Log magnitude versus phase plot		JUNE	Dt. 01.06.22 & Dt. 02.06.22
	7.7 Closed loop frequency response			Dt. 03.06.22 & Dt. 06.06.22
8	**NYQUIST PLOT**	**10**		
	8.1 Principle of argument			Dt. 07.06.22 & 08.06.22
	8.2 Nyquist stability criterion			Dt. 09.06.22 & Dt. 10.06.22
	8.3 Niquist stability criterion applied to inverse polar plot			Dt. 16.06.22 & Dt. 17.06.22
	8.4 Effect of addition of poles and zeros to G(S). H(S) on the shape of Niquist plot			Dt. 20.06.22 & Dt. 21.06.22
	8.5 Assessment of relative stability			Dt. 22.06.22 & Dt. 23.06.22
	8.6 Constant M and N circle			Dt. 24.06.22 & Dt. 27.06.22
	8.7 Nicholas chart			Dt. 28.06.22 & Dt. 29.06.22

S. Pradhan D.D BBS

SIGNATURE OF THE CONCERNED FACULTY

S. Pradhan

SIGNATURE OF THE H.O.D.

30/06/2022

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 2021-22

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 6TH SECTION : EB	NAME OF THE FACULTY : (1) ER. ANUP KUMAR NAYAK, (2) ER. SUSHIL KUMAR MAJHI, (3) ER. BIBHUTI BHUSAN SAHU (LECT. IN ELECT. ENGG.)
SEMESTER FROM : 14.03.2022 to 30.06.2022	THEORY SUBJECT: RENEWABLE ENERGY SYSTEM (TH-4B)
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 INTRODUCTION TO RENEWABLE ENERGY**	**5**	MARCH	
	1.1. Environmental consequences of fossil fuel use	1		Dt. 14.03.22. Dt. 15.03.22
	1.2. Importance of renewable sources of energy			Dt. 16.03.22
	1.3. Sustainable Design and development	1		Dt. 17.03.22
	1.4. Types of RE sources	1		Dt. 21.03.22
	1.5. Limitations of RE sources	1		Dt. 22.03.22
	1.6. Present Indian and international energy scenario of conventional and RE sources	1		Dt. 22.03.22
2	**UNIT-2 SOLAR ENERGY**	**15**		
	2.1. Solar photovoltaic system-Operating principle	2		Dt. 24.03.22 & Dt. 25.03.22
	2.2. Photovoltaic cell concepts 2.2.1. Cell, module, array, Series and parallel connections. Maximum power point tracking (MPPT).	3		Dt. 28.03.22, Dt. 29.03.22 & Dt. 30.03.22
	2.3. Classification of energy Sources	2		Dt. 31.03.22
	2.4. Extra-terrestrial and terrestrial Radiation	3	APRIL	Dt. 04.04.22 & Dt. 05.04.22
	2.5. Azimuth angle, Zenith angle, Hour angle, Irradiance, Solar constant	2		Dt. 06.04.22 & Dt. 07.04.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	2.6. Solar collectors, Types and performance characteristics	2		Dt. 08.04.22 & Dt. 11.04.22
	2.7. Applications: Photovoltaic - battery charger, domestic lighting, street lighting, water pumping, solar cooker, Solar Pond	1		Dt. 12.04.22 & Dt. 13.04.22
	UNIT-3 WIND ENERGY	**12**		
	3.1. Introduction to Wind energy	2		Dt. 18.04.22 & Dt. 19.04.22
	3.2. Wind energy conversion	2		Dt. 20.04.22 & Dt. 21.04.22
	3.3. Types of wind turbines	1		Dt. 22.04.22
	3.4. Aerodynamics of wind rotors	1		Dt. 25.04.22
3	3.5. Wind turbine control systems; conversion to electrical power	1		Dt. 26.04.22 & Dt. 27.04.22
	3.6. Induction and synchronous generators	1		Dt 28.04.22 & Dt. 29.04.22
	3.7. Grid connected and self excited induction generator operation	1		Dt. 30.04.22
	3.8. Constant voltage and constant frequency generation with power electronic control	1	MAY	Dt. 04.05.22 & Dt. 05.05.22
	3.9. Single and double output systems.	1		Dt. 06.05.22
	3.10. Characteristics of wind power plant	1		Dt. 09.05.22
4	**UNIT-4 BIOMASS POWER**	**12**		
	4.1. Energy from Biomass	2		Dt. 10.05.22 & Dt. 11.05.22
	4.2. Biomass as Renewable Energy Source	1		Dt. 12.05.22
	4.3. Types of Biomass Fuels - Solid, Liquid and Gas	1		Dt. 13.05.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	4.4. Combustion and fermentation	2		Dt. 17.05.22 & Dt. 18.05.22
	4.5. Anaerobic digestion	1		Dt. 19.05.22 & Dt. 20.05.22
	4.6. Types of biogas digester	1		Dt. 23.05.22 & Dt. 24.05.22
	4.7. Wood gassifier	1		Dt 25.05.22 & Dt. 26.05.22
	4.8. Pyrolysis	2		Dt. 27.05.22 & Dt. 31.05.22
	4.9. Applications: Bio gas, Bio diesel	1	JUNE	Dt. 01.06.22 & Dt. 02.06.22
5	**UNIT-5 OTHER ENERGY SOURCES**	**16**		
	5.1. Tidal Energy: Energy from the tides, Barrage and Non Barrage Tidal power systems	3		Dt. 03.06.22, Dt. 06.06.22 & Dt. 07.06.22
	5.2. Ocean Thermal Energy Conversion (OTEC)	2		Dt. 08.06.22 & Dt. 09.06.22
	5.3 Geothermal Energy – Classification	3		Dt. 10.06.22, Dt. 16.06.22 & Dt. 17.06.22
	5.4. Hybrid Energy Systems	2		Dt 22.06.22 & Dt. 23.06.22
	5.5. Need for Hybrid Systems	2		Dt. 24.06.22 & Dt. 27.06.22
	5.6. Diesel-PV, Wind-PV, Microhydel-PV	2		Dt. 28.06.22
	5.7. Electric and hybrid electric vehicles	3		Dt 29.06.22 & Dt. 30.06.22

SIGNATURE OF THE CONCERNED FACULTY

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

30/06/2022
PRINCIPAL
P.C.I.E.T., CHHENDIPADA

PRINCIPAL
Purna Chandra Institute of

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

THEORY LESSON PLAN FOR THE SESSION 2021-22

BRANCH : ELECTRICAL ENGINEERING, SEMESTER : 6TH SECTION : EA	NAME OF THE FACULTY : (1) ER. ANUP KUMAR NAYAK, (2) ER. SUSHIL KUMAR MAJHI, (3) ER. BIBHUTI BHUSAN SAHU (LECT. IN ELECT. ENGG.)
SEMESTER FROM : 14.03.2022 to 30.06.2022	THEORY SUBJECT: RENEWABLE ENERGY SYSTEM (TH-4B)
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 INTRODUCTION TO RENEWABLE ENERGY**	**5**		
	1.1. Environmental consequences of fossil fuel use	1	MARCH	Dt. 14.03.22
	1.2. Importance of renewable sources of energy			Dt. 15.03.22
	1.3. Sustainable Design and development	1		Dt. 16.03.22
	1.4. Types of RE sources	1		Dt. 17.03.22
	1.5. Limitations of RE sources	1		Dt. 21.03.22
	1.6. Present Indian and international energy scenario of conventional and RE sources	1		Dt. 22.03.22 & Dt. 23.03.22
2	**UNIT-2 SOLAR ENERGY**	**15**		
	2.1. Solar photovoltaic system-Operating principle	2		Dt. 24.03.22 & Dt. 25.03.22
	2.2. Photovoltaic cell concepts 2.2.1. Cell, module, array, Series and parallel connections. Maximum power point tracking (MPPT)	3		Dt. 28.03.22, Dt. 29.03.22 & Dt. 30.03.22.
	2.3. Classification of energy Sources	2		Dt. 31.03.22
	2.4. Extra-terrestrial and terrestrial Radiation	3	APRIL	Dt. 04.04.22 & Dt. 05.04.22
	2.5. Azimuth angle, Zenith angle, Hour angle, Irradiance, Solar constant	2		Dt. 06.04.22 & Dt. 07.04.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	2.6. Solar collectors, Types and performance characteristics	2		Dt. 08.04.22 & 11.04.22
	2.7. Applications: Photovoltaic - battery charger, domestic lighting, street lighting, water pumping, solar cooker, Solar Pond	1		Dt. 12.04.22 & Dt. 13.04.22
3	**UNIT-3 WIND ENERGY**	**12**		
	3.1. Introduction to Wind energy	2		Dt. 18.04.22 & Dt. 19.04.22
	3.2. Wind energy conversion	2		Dt. 20.04.22 & Dt 21.04.22
	3.3. Types of wind turbines	1		Dt. 22.04.22
	3.4. Aerodynamics of wind rotors	1		Dt. 25.04.22
	3.5. Wind turbine control systems; conversion to electrical power	1		Dt. 26.04.22 & Dt. 27.04.22
	3.6. Induction and synchronous generators	1		Dt. 28.04.22 & Dt. 29.04.22
	3.7. Grid connected and self excited induction generator operation	1		Dt. 30.04.22
	3.8. Constant voltage and constant frequency generation with power electronic control	1	MAY	Dt. 04.05.22 & Dt. 05.05.22
	3.9. Single and double output systems.	1		Dt. 06.05.22
	3.10. Characteristics of wind power plant	1		Dt. 09.05.22
4	**UNIT-4 BIOMASS POWER**	**12**		
	4.1. Energy from Biomass	2		Dt. 10.05.22 & Dt. 11.05.22
	4.2. Biomass as Renewable Energy Source	1		Dt. 12.05.22
	4.3. Types of Biomass Fuels - Solid, Liquid and Gas	1		Dt. 13.05.22

Sl. No.	CHAPTERS TO BE COVERED	NO OF PERIODS AS PER ACADEMIC CALENDAR	MONTH	ACTUAL PROGRESS OF THE COURSES MADE
	4.4. Combustion and fermentation	2		Dt. 17.05.22 & Dt 18.05.22
	4.5. Anaerobic digestion	1		Dt. 19.05.22 & Dt. 20.05.22
	4.6. Types of biogas digester	1		Dt. 23.05.22 & Dt. 24.05.22
	4.7. Wood gassifier	1		Dt. 25.05.22 & Dt. 26.05.22
	4.8. Pyrolysis	2		Dt. 27.05.22 & Dt. 31.05.22
	4.9. Applications: Bio gas, Bio diesel	1	JUNE	Dt. 01.06.22 & Dt. 02.06.22
5	**UNIT-5 OTHER ENERGY SOURCES**	**16**		
	5.1. Tidal Energy: Energy from the tides, Barrage and Non Barrage Tidal power systems	3		Dt. 03.06.22, Dt. 06.06.22 & Dt. 7.06.22
	5.2. Ocean Thermal Energy Conversion (OTEC)	2		Dt. 08.06.22 & Dt. 09.06.22
	5.3. Geothermal Energy – Classification	3		Dt. 10.06.22, Dt. 16.06.22 & Dt. 17.06.22
	5.4. Hybrid Energy Systems	2		Dt. 22.06.22 & Dt. 23.06.22
	5.5. Need for Hybrid Systems	2		Dt. 24.06.22 & Dt. 27.06.22
	5.6. Diesel-PV, Wind-PV, Microhydel-PV	2		Dt. 28.06.22
	5.7. Electric and hybrid electric vehicles	3		Dt. 29.06.22 & Dt 30.06.22

SIGNATURE OF THE CONCERNED FACULTY

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

30/06/2022
PRINCIPAL
P.C.I.E.T., CHHENDIPADA

PRINCIPAL
Purna Chandra Institute of Engineering & Technology
CHHENDIPADA, ANGUL