

KALAM INSTITUTE OF TECHNOLOGY (P), BERHAMPUR

2024(S)

LESSON PLAN

DISCIPLINE	SEMESTER	NAME OF THE FACULTY
Electrical Measurement & Instrumentation	4TH	Sibaram Pattnaik
SUBJECT	NO. OF DAY/ WEEK CLASS ALLOTTED	SEMESTER FROM DATE: 16.01.2024 TO DATE: 26.04.2024
	5	NO. OF WEEKS: 15
WEEK	CLASS/DAY	THEORY/ PRACTICAL TOPIC
1	16/01/2024	Define accuracy, Precision, Errors, Resolution, Sensitivity, Tolerance
	27/01/2024	Classification of measuring instruments
	31/01/2024	Deflecting, Controlling and Damping Torque
	4/02/2024	Controlling and damping arrangement
2	12/02/2024	Calibration of instrument
	24/02/2024	Construction and Operating Principle of PMMC
	3/03/2024	Construction and principle of PMMC
3	12/02/2024	Construction and Operating principle of MI Attraction.
	25/02/2024	Construction & Operating Principle of MI Repulsion.
	3/03/2024	Rectifier type instruments.
	4/03/2024	Principle of dynamometer type instrument
4	5/03/2024	Operation and principle of dynamometer watt meter
	10/03/2024	Error and Connection of dynamometer type watt meter
	20/03/2024	Error and Connection of dynamometer type watt meter
	31/03/2024	Doubt clearing and Revision.
	4/04/2024	Principle of induction type instrument.
5	10/03/2024	Induction type watt meter
	12/03/2024	Error and Connection of Induction watt meter
	23/03/2024	Extension of PMMC instrument eg MI by shunt
	31/03/2024	Extension of Range of instrument by multiplier
	4/04/2024	Numerical solving.
6	19/03/2024	Rectifier type instrument.
	20/03/2024	Dynamometer type wattmeter operating principle.
	31/03/2024	Error and Connection of dynamometer type watt meter
	4/04/2024	LPF and VPF type dynamometer type wattmeter
7	24/03/2024	Induction type wattmeter
	1/04/2024	Introduction to energy meter.
	2/04/2024	1 ϕ induction type energy meter working principle
	3/04/2024	Construction of 1 ϕ Induction type energy meter.
	4/04/2024	Compensation and adjustment of 1 ϕ Induction type energy meter
8	5/04/2024	Testing of energy meter
	10/04/2024	Working Principle of Tachometer.
	20/04/2024	Types of Tachometer
	3/05/2024	Construction and Operating principle of Mechanical Frequency meter.

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WEEK	CLASS/DAY	THEORY/ PRACTICAL TOPIC
9	1 11/03/2024	Construction and Operating principle of Electrical Resonance
	2 12/03/2024	Principle and Operation of Dynamometer type P.F. meter
	3 13/03/2024	Principle & Operation of 3 ϕ dynamometer type P.F. meter
	4 14/03/2024	Classification of Resistance
	5 15/03/2024	Low resistance measurement by potentiometer
10	1 16/03/2024	High Resistance measurement by loss of charge method
	2 17/03/2024	Introduction to DC bridge and
	3 18/03/2024	Medium resistance measurement by Wheatstone bridge
	4 19/03/2024	Introduction to AC bridge
	5 20/03/2024	Measurement of Inductance by Maxwell's bridge
11	1 21/03/2024	Measurement of Capacitance by Schering bridge
	2 22/03/2024	Megger
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12	1 23/04/2024	Construction and Principle of analog multimeter
	2 24/04/2024	Principle of digital multimeter
	3 25/04/2024	Introduction to Oscilloscope
	4 26/04/2024	Principle and Operation of Cathode Ray Tube
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13	1 27/04/2024	Oscilloscope block diagram
	2 28/04/2024	Measurement of DC Voltage & current
	3 29/04/2024	Measurement of AC Voltage & current
	4 30/04/2024	Measurement of Phase and Frequency
	5 01/05/2024	Introduction to transducer and Introduction element
14	1 02/05/2024	Resistive transducer, Potentiometer, Thermistor
	2 03/05/2024	Strain gauge, Inductive Transducer
	3 04/05/2024	LVDT, Principle and Use
	4 05/05/2024	Capacitive transducer General Principle
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15	1 06/05/2024	Variable area capacitive transducer
	2 07/05/2024	Piezo electric transducer
	3 08/05/2024	Hall effect transducer
	4 09/05/2024	Application of transducer
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Sibanam Pattnaik
SIGN OF FACULTY 16/05/24

H. G. Das
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KALAM INSTITUTE OF TECHNOLOGY (P), BERHAMPUR

LESSON PLAN

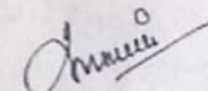
DISCIPLINE	SEMESTER	NAME OF THE FACULTY
Energy Conversion - II	5 th	En. Sibaram Pattnaik
SUBJECT	NO. OF DAY/WEEK CLASS ALLOTTED	SEMESTER FROM DATE TO DATE
Energy Conversion - II	04/WEEK	01/08/2023 TO DATE: 30/11/2023
WEEK	CLASS/DAY	THEORY/ PRACTICAL TOPIC
1	1 02/08/23	Introduction and types of alternator
1	2 03/08/23	Constructional details of stator and excitation system
	3 05/08/23	Constructional details of cylindrical and salient pole rotor
	4 07/08/23	Armature winding Short pitch winding, pitch
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2	1 09/08/23	Pitch factor and distribution factor, harmonics
	2 10/08/23	E.M.F equation (Derivation and problem)
	3 12/08/23	Armature reaction (No load, VPF, Lag PF, lead PF)
	4 14/08/23	Phasor diagram of loaded alternator (problem and derivation)
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3	1 16/08/23	Alternator on load (problem) / Testing of alternator
	2 17/08/23	Char of alternator and problems
	3 19/08/23	Determination of voltage regulation by direct loading & synchronizing
	4 21/08/23	Synchronizing and parallel operation of alternator
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4	1 23/08/23	Review class and doubt clearing
	2 24/08/23	Construction, phasor diagram, principle of operation of synch motor
	3 26/08/23	Torque power developed
	4 28/08/23	Effect of varying load with constant excitation and effect of varying excitation with constant load
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5	1 31/08/23	power angle characteristics of cylindrical rotor motor
	2 02/09/23	Effect of excitation on armature current and power factor
	3 04/09/23	Hunting and Damper bar function and appl.
	4 07/09/23	Review class and numerical.
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6	1 09/09/23	Production of rotating magnetic field.
	2 11/09/23	Construction of SCIM and SRM.
	3 13/09/23	Relation b/w full load torque and starting torque
	4 15/09/23	Condition for maximum torque under running condition
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7	1 16/09/23	Torque during starting and running
	2 18/09/23	RCL, Rotor output and gross torque
	3 20/09/23	Torque speed and load current speed char.
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8	1 22/09/23	Numerical Solving
	2 25/09/23	Method of starting and types of starters
	3 27/09/23	Speed control
	4 30/09/23	Motor enclosures.

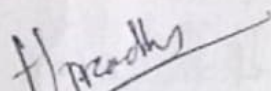
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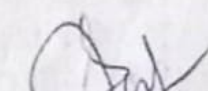
LESSON PLAN

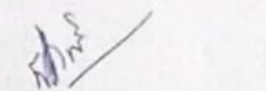
DISCIPLINE	EE	SEMESTER	6th	NAME OF THE FACULTY	Er. Manisha Muni
SUBJECT	NO. OF DAY/ WEEK CLASS	SEMESTER FROM DATE	16-01-2024	TO DATE	26-04-2024
SGPD (TH-02)	ALLOTTED 05	NO OF WEEKS	15		
WEEK	CLASS/DAY	THEORY/ PRACTICAL TOPIC			
1	16/01/2024	Introduction to Switchgear, Essential features of SGPD			
	21/01/2024	Switchgear equipment, Busbar Arrangement			
	31/01/2024	Switchgear Accommodation			
	42/01/2024	Short Circuit Concept			
	52/01/2024	Short circuit current			
2	12/01/2024	Faults in a power system			
	22/01/2024	Fault Calculation - Symmetrical faults on three-phase			
	32/01/2024	Limitation of fault current, percentage reactance			
	4	Percentage reactance & Base KVA, Short circuit KVA			
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3	13/01/2024	Reactor Control of short circuit currents			
	20/02/2024	Location of reactors			
	30/02/2024	Steps for symmetrical fault calculations			
	40/02/2024	Solve numerical problems on symmetrical fault			
	50/02/2024	Fuses - characteristics of fuse element, fuse materials			
4	10/02/2024	Types of fuse & important terms used for fuse			
	20/02/2024	Low & High voltage fuses, current carrying capacity of			
	30/02/2024	Diffusion ch ^o fuse & circuit breaker			
	40/02/2024	Circuit breakers - definition & principle			
	51/02/2024	Arc phenomenon & principle of Arc extinction			
5	11/02/2024	Methods of Arc extinction			
	21/02/2024	Definitions of Arc Voltage, re-striking & Recovery voltage			
	31/02/2024	classification of circuit breakers			
	41/02/2024	Oil circuit breakers & its classification			
	51/02/2024	plain break oil circuit breaker			
6	12/02/2024	Arc control oil circuit breaker			
	22/02/2024	Low oil circuit breaker, Maintenance of OCB			
	32/02/2024	Air-Blast circuit breaker & its classification			
	42/02/2024	SF ₆ & Vacuum circuit breaker			
	52/02/2024	Switchgear component			
7	12/02/2024	problems of circuit interruption			
	22/02/2024	Resistance switching			
	30/03/2024	Circuit breaker Rating			
	40/03/2024	Protective relays - Definition			
	50/03/2024	Fundamental requirement of protective relay			
8	10/03/2024	Basic relay operation - Electromagnetic induction			
	20/03/2024	Definition of following important terms			
	31/03/2024	Pickup current, current setting, PSM, TSM			
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WEEK	CLASS/DAY	THEORY/ PRACTICAL TOPIC
9	1 12/03/2024	classification of functional relays
	2 14/03/2024	Induction-type overcurrent relay (Non-directional)
	3 15/03/2024	Induction-type directional power relay
	4 16/03/2024	Induction-type directional overcurrent relay
	5 18/03/2024	Differential Relay
10	1 19/03/2024	current differential & voltage balance diff. relay
	2 21/03/2024	Types of protection
	3 22/03/2024	protection of electrical power equipment & lines
	4 23/03/2024	protection of alternator
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11	1 28/03/2024	Differential protection
	2 30/03/2024	Balanced earth fault protection
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12	1 02/04/2024	protection systems for transformers
	2 04/04/2024	Buchholz relay
	3 05/04/2024	Protection of busbar
	4 06/04/2024	protection of transmission line
	5 08/04/2024	Different pilot wire protection
13	1 09/04/2024	Merz-price voltage balance
	2 12/04/2024	Explain protection of feeder by overcurrent & earth-fault
	3 13/04/2024	protection against over voltage & lightning relay
	4 15/04/2024	voltage surge & causes of over voltage & internal
	5	causes
14	1 16/04/2024	External cause of over voltage (lightning)
	2 18/04/2024	Mechanism of lightning discharge
	3 19/04/2024	Types of lightning strokes, harmful effect of lightning
	4 20/04/2024	lightning arresters & type of lightning arresters
	5 22/04/2024	Rod-gap, Horn-gap, valve type arresters
15	1 23/04/2024	Surge Absorbers
	2 25/04/2024	Static relay, Advantages of Static Relay
	3 26/04/2024	Instantaneous Overcurrent, principle of IDMT
	4	Relay
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