Vedang Institute of Technology, 2nd Shift

Khurda

Department of Electrical & Electronics Engineering

Lesson Plan for Even Semester

Course: Diploma in Engineering

Teachers Name: Sradhanjali Mishra

Semester: 4th

Subject : Electrical Measurement & Instrumentation

Session Duration: 2020-21 Classes from19/04/2021 to 13/08/2021

Date	Module	Topics To Be Covered
1st	1st	Define Accuracy, precision, Errors, Resolutions Sensitivity and tolerance.
	2nd	Classification of measuring instruments.
	3rd	
	4th	Explain Deflecting, controlling and damping arrangements
2nd	1st	
	2nd	Describe Construction, principle of operation, errors, ranges merits and demerits of
	3rd	
	4th	Moving iron type instruments.
3rd	1st	Permanent Magnet Moving coil type instruments.
	2nd	Dynamometer type instruments
	3rd	Rectifier type instruments
	4th	Induction type instruments
4th	1st	Extend the range of instruments by use of shunts and Multipliers.
	2nd	Solve Numerical
	3rd	
5th	1st	Describe Construction, principle of working of Dynamometer type wattmeter
	2nd	
	3rd	What are the Errors in Dynamometer type wattmeter and methods of their correction
	4th	Introduction to meters
6th	1st	Single Phase Induction type Energy meters – construction.
	2nd	Single Phase Induction type Energy meters – working principle

		and their compensation and adjustments.
	3rd	Testing of Energy Meters
	4th	Tachometers, types and working principles
7th	1st	Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters.
	2nd	
	3rd	Principle of operation and working of Dynamometer type single phase and three phase power factor meters.
	4th	
8th	1st	Synchroscopes – objectives and working.
	2nd	Phase Sequence Indicators and its working
	3rd	Classification of resistance
	4th	Explain Measurement of low resistance by voltage drop and potentiometer method & its use to Measure resistance.
9th	1st	
	2nd	Explain Measurement of medium resistance by wheat Stone bridge method and substitution Method.
	3rd	
	4th	Explain Measurement of high resistance by loss of charge method.
	1st	Explain construction & principle of operations (meggers) insulation resistance & Earth resistance megger.
10th	2nd	
	3rd	Explain construction and principles of Multimeter.
	4th	Explain measurement of inductance by
	1st	Maxewell's Bridge method.
11th	2nd	Owen Bridge method
	3rd	Explain measurement of capacitance by
	4th	De Sauty Bridge method
	1st	Schering Bridge method
12th	2nd	LCR Bridge method
	3rd	Define Transducer, sensing element or detector element and transductionelements.
	4th	Classify transducer. Give examples of various class of transducer.
	1st	
13th	2nd	Resistive transducer
	3rd	Linear and angular motion potentiometer.
	4th	Thermistor and Resistance thermometers.
	1st	Wire Resistance Strain Gauges
14th	2nd	Inductive Transducer
	3rd	Principle of linear variable differential Transformer (LVDT)
	4th	Uses of LVDT.

	1st	Capacitive Transducer.
15th	2nd	General principle of capacitive transducer.
	3rd	Variable area capacitive transducer.
	4th	Change in distance between plate capacitive transducer.
	1st	Piezo electric Transducer and Hall Effect Transducer with their applications.
16th	2nd	Principle of operation of Cathode Ray Tube.
	3rd	Principle of operation of Oscilloscope (with help of block diagram).
	4th	Measurement of DC Voltage & current.
	1st	Measurement of AC Voltage, current, phase & frequency.
17th	2nd	Revision of all topics and discussion of Previous Years Question Papers
	3rd	
	4th	

Sandhanjali meshra

Signature of the Teacher