Academic lesson plan for summer semester - 2025

Name of the teaching faculty: **KISHORE CHANDRA PRUSTY**
Semester: **4th**
No. of periods per week: **5**
semester Exam: **80**
Total Marks: **100**

Discipline / Dept.: **EE**
Subject (Theory): **EM&I**
Total Periods: **75**
Class Test: **20**

Week	Period	Topic to be covered
1ST	1st	Define Accuracy, precision, Errors, Resolutions Sensitivity and tolerance
	2nd	Classification of measuring instruments.
	3rd	Explain Deflecting, controlling and damping arrangements in indicating type of
	4th	Calibration of instruments
	5th	Objective Questions related to Basic instrument
2ND	1st	Describe Construction, principle of operation, errors, ranges merits and demerits of Moving iron type instrument
	2nd	Permanent Magnet Moving coil type instruments
	3rd	Dynamometer type instruments
	4th	Rectifier type instruments
	5th	Doubt clear class & Objective type question
3RD	1st	Induction type instruments
	2nd	Extend the range of instruments by use of shunts and Multipliers
	3rd	Solve Numerical
	4th	
	5th	
4TH	1st	Describe Construction, principle of working of Dynamometer type wattmeter. (LPF and UPF type)
	2nd	Describe Construction, principle of working of Dynamometer type wattmeter. (LPF and UPF type)
	3rd	The Errors in Dynamometer type wattmeter and methods of their correction.

	4th	
	5th	Objective Questions related to power measurement
5TH	1st	Induction type watt meters.
	2nd	Introduction of energy meter
	3rd	Single Phase Induction type Energy meters – construction, working principle and their compensation & adjustments & Testing of Energy Meters
	4th	
	5th	Objective Questions related to wattmeter
6TH	1st	Tachometers, types and working principle
	2nd	Principle of operation and construction of Mechanical and Electrical resonance Type frequency meters.
	3rd	
	4th	Principle of operation and working of Dynamometer type single phase and three phase power factor meters.
	5th	Objective Questions related to frequency
7TH	1st	Measurement of high resistance by loss of charge method
	2nd	Construction, principle of operations of Megger & Earth tester for insulation resistance and earth resistance measurement respectively
	3rd	
	4th	Construction and principles of Multimeter. (Analog and Digital)
	5th	Objective Questions related to equipment
8TH	1st	Measurement of inductance by Maxewell's Bridge method.
	2nd	
	3rd	Measurement of capacitance by Schering Bridge method
	4th	
	5th	Objective Questions related to resistance measurement
9TH	1st	Define Transducer, sensing element or detector element and transduction elements.
	2nd	
	3rd	Classify transducer. Give examples of various class of transducer

	4th	
	5th	Objective Questions related to sensors
10TH	1st	Resistive transducer
	2nd	Linear and angular motion potentiometer
	3rd	Thermistor and Resistance thermometers
	4th	
	5th	Objective Questions related to Basic instrument
11TH	1st	Wire Resistance Strain Gauges
	2nd	
	3rd	. Inductive Transducer & Principle of linear variable differential Transformer (LVDT)
	4th	
	5th	Objective Questions related to Basic instrument
12TH	1st	Uses of LVDT.
	2nd	
	3rd	Capacitive Transducer.& General principle of capacitive transducer
	4th	Variable area capacitive transducer
	5th	Objective Questions related to Basic instrument
13TH	1st	. Change in distance between plate capacitive
	2nd	
	3rd	Piezo electric Transducer and Hall Effect Transducer with their applications
	4th	
	5th	Objective Questions related to Basic instrument
14TH	1st	Principle of operation of Cathode Ray Tube
	2nd	
	3rd	. Principle of operation of Oscilloscope (with help of block diagram.
	4th	
	5th	Objective Questions related to instrument
15TH	1st	Measurement of DC Voltage & current
	2nd	
	3rd	Measurement of AC Voltage, current, phase & frequency
	4th	
	5th	Objective Questions related to instrument

The lesson plan prepared by the concerned faculty.

KISHORE CHANDRA PRUSTY

Guest Faculty
Electrical . Engineering. Deptt.