UTKAL INSTITUTE OF ENGINEERING & TECHNOLOGY

DISCIPLINE: ETC	SEMESTER: 3rd Sem	NAME OF THE TEACHING FACULTY: Er.Y Rajani		
SUBJECT: ELECTRONICS MEASUREMENT & INSTRUMENTATION	No of Days/Per week class allotted: **4** Class P/W**(60)**	Semester From Date:15/09/2022 To Date:22/12/2022 No. Of Weeks: **15**		
WEEK	**CLASS DAY**	**THEORY TOPICS**	**REMARKS**	
			Date	Dean/Principal
1st	1st	Discuss the Static Characteristics		
	2nd	Accuracy, sensitivity, reproducibility & static error of instruments		
	3rd	Dynamic characteristics& speed of instruments.		
	4th	Errors of an instrument & explain various types.		
2nd	1st	Introduction to Indicator & Display devices & its types		
	2nd	Basic principle of meter movement, permanent magnetic moving coil movement & its advantages & disadvantages.		
	3rd	Doubt Clear Class		
	4th	Operation of Moving Iron Instrument		
3rd	1st	Basic principle of operation of DC Ammeter and Multi range Ammeter		
	2nd	Basic principle of operation of AC Ammeter and Multi range Ammeter., Basic principle of operation of DC Voltmeter and its applications		
	3rd	Basic principle of operation of AC Voltmeter and its application		
	4th	Basic principle of Ohm Meter (Series & Shunt type)		
	1st	**Revision of last few class**		
	2nd	**Basic principle of Analog Multimeter, its types & applications**		
4th				

4	3rd	Operation of Q meter and its essentials			
	4th	Principle of operation of Ramp type Digital Voltmeter & applications			
5th	1st	Operation of display of 3 1/2, 4 1/2– Digital Multimeter & Resolution and Sensitivity			
	2nd	Basic principle of operation of working of Digital Multimeterits types & applications			
	3rd	Basic principle of operation of working of Digital Frequency Meter			
	4th	Operation of working of Digital Measurement of Time			
6th	1st	Measurement of Frequency.			
	2nd	Principle of operation of working of Digital Tachometer			
	3rd	Principle of operation of working of Automation in Digital Instruments (Polarity Indication, Ranging, Zeroing & Fully Automatic)			
	4th	Block diagram of LCR meter & its working principle.			
7th	1st	2 Basic principle & Block diagram of CRO, Dual Trace Oscilloscope & its specification			
	2nd	Basic principle of Oscilloscope& its Block Diagram			
	3rd	CRO Measurements, Lissajous figures			
	4th	Applications of Oscilloscope (Voltage period & frequency measurement)			
8th	1st	Operation of Digital Storage Oscilloscope& High frequency Oscilloscope			
	2nd	Types of Bridges (DC& Ac Bridges)			
	3rd	DC Bridges (Measurement of Resistance by Wheatstone's Bridge)			
	4th	AC bridges (Measurement of inductance by Maxwell's Bridge & by Hay's Bridge)			

9th	1st	Measurement of capacitance by Schering's Bridge & DeSauty Bridge		
	2nd	Working principle of Q meter its circuit diagram & measurement of Low impedance 5.6 Measurement of frequency		
	3rd	Revision Class		
	4th	LCR Meter & its measurements		
10th	1st	Parameter, method of Selecting & advantage of Electrical Transducer & Resistive Transducer		
	2nd	Working principle of Strain Gauges, define Strain Gauge (No mathematical Derivation)		
	3rd	Working principle of LVDT		
	4th	Working principle of capacitive transducers (pressure)		
11th	1st	Working principle of Load Cell (Pressure Cell)		
	2nd	Working principle of Temperature Transducer (RTD, Optical Pyrometer, Thermocouple, Thermister)		
	3rd	Working principle of Current transducer and KW Transducer.		
	4th	Working principle of Proximity & Light sensors.		
12th	1st	Working principle of Proximity & Light sensors.		
	2nd	General aspect & classification of Signal generators		
	3rd	Working principle of AF Sine & S		
	4th	Working principle of the Function Generator		
13th	1st	Working principle of the Function Generator		
	2nd	Revision		
	3rd	Function of basic Wave Analyser& Spectrum Analyser		
	4th	Function of basic Wave Analyser& Spectrum Analyser		

14th	1st	Function of basic Wave Analyser& Spectrum Analyser		
	2nd	Basic concept of Data Acquisition System (DAS)		
	3rd	Basic concept of Data Acquisition System (DAS)		
	4th	Basic concept of Data Acquisition System (DAS)		
15th	1st	Last class Discussion		
	2nd	Discussion Sample paper question		
	3rd	Discussion Sample paper question		
	4th	Discussion Sample paper question		

HOD   **DEAN**   **PRINCIPAL**