LESSON PLAN (WINTER-2021)

Discipline: ETC	**Semester: 3rd**	**Name of the Teaching Faculty: P. Bhawani**
Subject: Electronics Meas. & Inst.	**No of Days /per week class allotted: 4**	**Semester From date: 01.10.2021 To 08.01.2022** **No of Weeks:15**
Date	**Class Day**	**Theory / Practical Topics**
4.10.21	1st	**Unit-1: Qualities of Measurement(05)** 1.1 Discuss the Static Characteristics,
5.10.21	2nd	1.2 Accuracy, sensitivity, reproducibility,static error of instruments
7.10.21	3rd	1.3 Dynamic characteristics& speed of instruments.
7.10.21	4th	contine
	1st	**PUJA VACATION**
	2nd	
	3rd	
	4th	
11.10.21	1st	1-4 Errors of an instrument & explain various types.
18.10.21	2nd	**Unit-2: Indicating Instruments (10)** 2.1 Introduction to Indicator & Display devices & its types
21.10.21	3rd	2.2 Basic principle of meter movement, permanent magnetic moving coil movement & its advantages & disadvantages.
25.10.21	4th	2.3 Operation of Moving Iron Instrument
26.10.21	1st	2.4 Basic principle of operation of DC Ammeter and Multi range Ammeter
27.10.21	2nd	2.5 Basic principle of operation of AC Ammeter and Multi range Ammeter
27.10.21	3rd	2-6 Basic principle of operation of DC Voltmeter and its applications
28.10.21	4th	2.7 Basic principle of operation of AC Voltmeter and its application
1.11.21	1st	2.8 Basic principle of Ohm Meter (Series & Shunt type)
2.11.21	2nd	2.9 Basic principle of Analog Multimeter, its types & applications
3.11.21	3rd	2-10 Operation of Q meter and its essentials
8.11.21	4th	**Unit-3: Digital Instruments(10)** 3.1 Principle of operation of Ramp type Digital Voltmeter & applications
9.11.21	1st	3.2 Operation of display of 3 1/2, 4 1/2– Digital Multimeter & Resolution and Sensitivity
9.11.21	2nd	3.3 Basic principle of operation of working of Digital Multimeterits types & applications
10.11.21	3rd	3.4 Basic principle of operation of working of Digital Frequency Meter
11.11.21	4th	3.5 Operation of working of Digital Measurement of Time
15.11.21	1st	3.6 Measurement of Frequency.
16.11.21	2nd	3.7 Principle of operation of working of Digital Tachometer
17.11.21	3rd	3.8 Principle of operation of working of Automation in Digital Instruments
18.11.21	4th	(Polarity Indication, Ranging, Zeroing & Fully Automatic)

22.11.21	1st	3.9 Block diagram of LCR meter & its working principle.
22.11.21	2nd	**Unit-4: Oscilloscope(08)** 4.1 Basic principle of Oscilloscope& its Block Diagram
23.11.21	3rd	4.2 Basic principle & Block diagram of CRO,
24.11.21	4th	Dual Trace Oscilloscope & its specification
25.11.21	1st	4.3 CRO Measurements,
29.11.21	2nd	Lissajous figures
30.11.21	3rd	4.4 Applications of Oscilloscope (Voltage period & frequency measurement)
1.12.21	4th	4.5 Operation of Digital Storage Oscilloscope
2.12.21	1st	& High frequency Oscilloscope
6.12.21	2nd	**Unit-5: Bridges (11)** 5.1 Types of Bridges (DC& Ac Bridges)
7.12.21	3rd	5.2 DC Bridges (Measurement of Resistance by Wheatstone's Bridge)
8.12.21	4th	5.3 AC bridges (Measurement of inductance by Maxwell's Bridge
9.12.21	1st	& by Hay's Bridge)
13.12.21	2nd	5.4 Measurement of capacitance by Schering's Bridge
13.12.21	3rd	& DeSauty Bridge.
14.12.21	4th	5.5 Working principle of Q meter its circuit diagram
15.12.21	1st	& measurement of Low impedance
16.12.21	2nd	5.6 Measurement of frequency
20.12.21	3rd	5.7 LCR Meter
21.12.21	4th	& its measurements
22.12.21	1st	**Unit-6: Transducers & Sensors(11)** 6.1 Parameter, method of Selecting
22.12.21	2nd	& advantage of Electrical Transducer & Resistive Transducer
23.12.21	3rd	6.2 Working principle of Strain Gauges, define Strain Gauge (No mathematical Derivation)
27.12.21	4th	6.3 Working principle of LVDT
28.12.21	1st	6.4 Working principle of capacitive transducers (pressure)
29.12.21	2nd	6.5 Working principle of Load Cell (Pressure Cell)
29.12.21	3rd	6.6 Working principle of Temperature Transducer (RTD, Optical Pyrometer
30.12.21	4th	Thermocouple, Thermister)
3.1.22	1st	6.7 Working principle of Current transducer and KW Transducer
4.1.22	2nd	6.8 Working principle of Proximity & Light sensors. **Unit-7: Signal Generator, Wave Analyser & DAS (05)** 7.1 General aspect & classification of Signal generators
5.1.22	3rd	7.2 Working principle of AF Sine & Square wave generator . 7.3 Working principle of the Function Generator
6.1.22	4th	7.4 Function of basic Wave Analyser& Spectrum Analyser 7.5 Basic concept of Data Acquisition System (DAS)

Signature of the Faculty