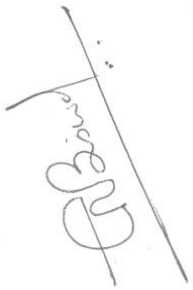
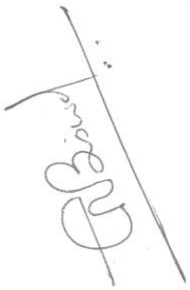
VEER SURNDRA SAI UNIVERSITY OF TECHNOLOGY, BURLA, ODISHA

LESSON PLAN

Semester: 4th B.Tech. (Electrical & Electronics Engineering), Session: 2020-21

Subject: Measurement and Instrumentation, (Theory)

Branch: EEE Name of Faculty: Dr. Gyan Ranjan Biswal

Period No.	Module No.	Topics to be Covered	Signature of Faculty
1	I	Measuring Instruments: *Defiing imporatmt term, namely, Measurement, Instruments and Instrumentation*	
2	I	Classifications of instruments	
3	I	Types of damping and errors in measurment due to damping only	
4	I	PMMC method of V/I - AC/DC meansurment; why suitable for DC?	
5	I	MI type instrument of V/I - AC/DC meansurment; why suitable for AC/ DC both. Errors in measurment of AC variables	
6	I	Electrostatic Voltmeters: electrometer type and attracted disc type	
7	I	Test & Doubt clearing session	
8	II	Electrodynamometer: transfer type instrument of V/I - AC/DC meansurment; why suitable for AC/ DC both.	
9	II	Calibration of wattmeter, energy meter	
10	II	Measurement of active and reactive powers in balanced and unbalanced systems.	
11	II	Galvanometers: General principle & classification	
12	II	Test & Doubt clearing session	
13	III	DC/AC Bridges:general equations of bridge balancing	
14	III	Measurment of self inductance by Maxwell Bridge (with variable inductance and variable capacitance)	
15	III	Hay's Bridge and Owen's bridge	
16	III	Measurement of capacitance by Schering Bridge	
17	III	Wagner's earth device and Kelvin's double bridge	
18	III	Wheat-stone’s bridge for measurement of medium resistances & Loss of charge method for measurement of high resistances	
19	III	Test & Doubt clearing session	
20	IV	Instrument Transformers:classifications in terms of CT and PT types	

21	IV	Ratio and Phase angle errors; Methods of minimizing errors; testing and applications	
22	IV	*Potentiometers:* DC type and Crompton types	
23	IV	AC potentiometers: Drysdale polar type.	
24	IV	Test & Doubt clearing session	
25	V	Digital Multimeters : Block diagrams and principle of operation	
26	V	Electronic voltmeter: Principle of operation and applications	
27	V	Digital frequency meter: introduction, Block diagrams and principle of operation	
28	V	Transducers: defining and classifing terms transducer, sensor and actuator; Capacitive	
29	V	LVDT and Strain gauges; Optical transducers, Torque meters and Photoelectric Tachometers	
30	V	Test & Doubt clearing session	

Signature of dealing Faculty

Signature of HOD (EEE)