MICRO LESSON PLAN

ELECTRICAL AND ELECTRONICS INSTRUMENTATION
(III B.Tech. II Sem.)

Sl. No.	Name of the Topic	No. of Classes required	Cumulative No.of Classes	Teaching Aid
UNIT – I : Introduction to Measuring Instruments				
1	Classification – deflecting, control and damping torques	3	3	Chalk & Talk
2	PMMC, moving iron type instruments – expression for the deflecting torque and control torque	3	6	Chalk & Talk
3	Errors in PMMC and compensations, extension of range using shunts and series resistance. Numerical Problems	3	9	Chalk & Talk
4	Electrostatic Voltmeters-electrometer type and attracted disc type – Extension of range of E.S. Voltmeters.	2	1	Chalk & Talk
5	**Problems on extension of range using shunts and series resistance**	1	12	Chalk & Talk
6	**Problems on Extension of range of E.S. Voltmeters**	1	13	Chalk & Talk
7	**Gaps in the syllabus**	1	14	Chalk & Talk
UNIT – II : Potentiometers& Instrument transformers				
8	Principle and operation of D.C. Crompton's potentiometer – standardization	2	16	Chalk & Talk
9	Measurement of unknown resistance, current, voltage	2	18	Chalk & Talk
10	A.C. Potentiometers: polar and coordinate type's standardization – applications.	2	20	Chalk & Talk
11	Current Transformer and Potential Transformer, Ratio and phase angle errors of CT&PT	2	22	Chalk & Talk
12	**Gaps in the syllabus**	1	23	Chalk & Talk
13	**Special descriptive test-I**	1	24	
14	**Remedial Class**	1	25	Chalk & Talk
UNIT – III: Measurement of Power & Energy				
15	Single phase dynamometer wattmeter, LPF and UPF, Double element and three element dynamometer wattmeter, expression for deflecting and control torques	3	28	Chalk & Talk
16	Extension of range of wattmeter using Instrument Transformers	1	29	Chalk & Talk
17	Measurement of Active and Reactive powers in balanced and unbalanced systems	3	32	Chalk & Talk
18	Single phase induction type energy meter – driving and braking torques	2	34	Chalk & Talk
19	Errors and compensations	1	35	Chalk & Talk
20	Testing by phantom loading using R.S.S meter	2	37	Chalk & Talk
21	Three phase energy meter – Trivector meter, maximum demand meters.	3	40	Chalk & Talk
UNIT – IV: DC and AC Bridges				

22	Method of measuring low, medium and high resistance	1	41	Chalk & Talk
23	Sensitivity of wheatstone's bridge	1	42	Chalk & Talk
24	Carey foster's bridge,kelvin's double bridge method for low resistance	2	44	Chalk & Talk
25	Measurement of high resistance-Loss of charge method	1	45	Chalk & Talk
26	Measurement of inductance, Quality Factor	2	47	Chalk & Talk
27	Maxwell's bridge ,Hay's bridge ,Anderson'sbridge , Owen's bridge	4	51	Chalk & Talk
28	Measurement of capacitance and loss angle-Desauty bridge,Wien's bridge	2	53	Chalk & Talk
29	Schering bridge	1	55	Chalk & Talk
30	**Problems on bridges**	1	56	Chalk & Talk
UNIT – V : Transducers & Oscilloscopes				
31	Definition of Transducers,classification of Transducers,advantages of elelctrical Transducers	2	58	Chalk & Talk
32	Characteristics and choice of Transducers	1	59	Chalk & Talk
33	Principle and operation of LVDT and Capacitor Transducers,LVDT applications	3	62	Chalk & Talk
34	Strain gauge and its principle of operation,gauge factor	1	63	Chalk & Talk
35	Thermistors,Thermocouples,Piezo elelctric transducers	3	66	Chalk & Talk
36	Photovoltaic,photoconductive cells,photo diodes	2	68	Chalk & Talk
37	Cathode Ray Oscilloscope-Cathode ray Tube	2	70	LCD Projector
38	Time base generator	2	72	Chalk & Talk
39	Horizontal and vertical amplifiers	2	74	Chalk & Talk
40	CRO probes	1	75	Chalk & Talk
41	Applications of CRO-Measurement of phase and frequency-lissajous patterns	2	77	Chalk & Talk
42	Special descriptive test	1	78	
43	Remedial class	1	80	Chalk & Talk