Department of Electrical & Electronics Engineering

Lesson Plan & Work-done Diary for AY: 2023-2024, ODD Semester

Course with Code: BEE306B / Electrical Measurement and Instrumentation				Faculty: Kavyashree S		Semester & Section: III	
Class No.	**Date planned (DD/MM)**	**Topics to be covered**	**TLP Planned**	**Date of Conduction (DD/MM)**	**Topics Covered**	**TLP Executed**	**Remarks if any deviation**
		MODULE-1					
1		**Measurements and Measurement systems:** Introduction, significance and methods of Measurements	ICT				
2		Instruments and measurement systems, Mechanical, electrical and electronic instruments	ICT (PPT)				
3		Classification of instruments, Functions and applications of Measurement systems	ICT (PPT)				
4		Types of Instrumentation systems, information and signal processing	ICT (PPT)				
5		Elements of generalized measurement system	ICT (PPT)				
6		Input-output configurations of measuring instruments and measurement systems	ICT (PPT)				
7		Methods of correction for interfering and modifying inputs, errors in measurements, Accuracy and precision	Chalk & Talk				
8		SRS conduction	ICT				

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MODULE 2							
9		**Measurement of Resistance**: Wheatstone's bridge, sensitivity, limitations.	Chalk & Talk		,).		
10		Kelvin's double bridge.	Chalk & Talk				
11		Earth resistance measurement by fall of potential method and by using Megger.	Chalk & Talk				
12		Problems	Chalk & Talk				
13		**Measurement of Inductance and Capacitance**: Sources and detectors, Maxwell's inductance and capacitance bridge	Chalk & Talk				
14		Hay's bridge, Anderson's bridge, Desauty's bridge	Chalk & Talk				
15		Schering bridge. Shielding of bridges. (Derivations and Numerical as applicable) Problems	Chalk & Talk				
16		SRS conduction	ICT (PPT)				

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MODULE 3							
17		**Instrument Transformers:** Introduction, Use of Instrument transformers. Burden on Instrument Tra.	ICT (PPT)				
18		**Current transformer (CT):** Relationships in CT, Errors in CT, characteristics of CT	Chalk & Talk				
19		Causes and reduction of errors in CT, Construction and theory of CT.	Chalk & Talk				
20		**Potential transformer (PT):** Difference between CT and PT, Relationships in PT, Errors in PT	Chalk & Talk				
21		Characteristics of PT, reduction of errors in PT.	Chalk & Talk				
22		**Magnetic measurements**: Introduction, measurement of flux/ flux density, magnetizing force and leakage factor	ICT (PPT)				
23		Problems	Chalk & Talk				
24		SRS conduction	ICT (PPT)				

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MODULE 4							
25		**Electronic and Digital Instruments:** Introduction	ICT		.		
26		Essentials of electronic instruments, Advantages of electronic instruments	ICT (PPT)				
27		True RMS reading voltmeter. Electronic multimeters.	ICT (PPT)				
28		Digital voltmeters (DVM) - Ramp type DVM	ICT (PPT)				
29		Integrating type DVM	ICT (PPT)				
30		Successive - approximation DVM Q meter.	ICT (PPT)				
31		Principle of working of electronic energy meter (with block diagram	ICT (PPT)				
32		extra features offered by present day meters and their significance in billing	ICT (PPT)				

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MODULE 5							
33		**Display Devices:** Introduction, character formats, segment displays	ICT (PPT)				
34		Dot matrix displays, Bar graph displays	ICT (PPT)				
35		Cathode ray tubes, Light emitting diodes, Liquid crystal displays	ICT (PPT)				
36		Nixes, Incandescent, Fluorescent, Liquid vapor and Visual displays.	ICT (PPT)				
37		**Recording Devices:** Introduction, Strip chart recorders, Galvanometer recorders	ICT (PPT)				
38		Null balance recorders, Potentiometer type recorders, Bridge type recorders	ICT (PPT)				
39		LVDT type recorders, Circular chart	ICT (PPT)				
40		xy recorders. Digital tape recording, Ultraviolet recorders. Electro Cardio Graph (ECG).	ICT (PPT)				

	Activity	Planned	Actual	Remarks
1	Theory Classes	40		
2	Assignments/Quizzes/ Self study	1: Write Up and (Mock Test) 1: Seminar 1: SRS:3		
3	Tutorials/ Extra classes	-		
4	Internal Assessments	3		
5	ICT based Teaching (% of usage in Curriculum)	27		
Planning			**Execution**	
Faculty Signature:			**Faculty Signature:**	
HoD Signature:			**HoD Signature:**	