



AHSANULLAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING (EEE)

COURSE TITLE: MEASUREMENT AND INSTRUMENTATION

COURSE NO: EEE 2211

COURSE OUTLINE (FALL 2015)

LECTURE	CONTENT	REFERENCE*	QUIZ / TEST
1	Introduction	1	CLASS TEST 1
2-6	Resistance Measurement (Different Methods)	1	
	Localization of Cable faults	1	
	Measurement of Inductance,	1	
	Measurement of Capacitance.	1,2	
7-16	Measurement of Electrical Quantities: Current and voltage, power and energy measurement, current and voltage, power and energy measurement, current and potential transformer.	1	CLASS TEST 2
17-19	Transducers: Mechanical, Electrical and Optical transducers.	1	CLASS TEST 3
20-26	Measurement of Non Electrical Quantities: Temperature, pressure, flow, level, strain, force and torque, earthquake, speed, frequency, phase difference.	1	
27-33	Basic Elements of DC and AC Signal Conditioning: Instrumentation Amplifier, noise and source of noise, noise elimination compensation, function generation and linearization, A/D and D/A Converters, sample and hold circuits.	1,2	
34-39	Data transmission and Telemetry: Methods of data transmission, DC/AC telemetry system and digital data transmission. Recording and display devices. Data acquisition system and microprocessor applications in instrumentation.	1	CLASS TEST 4

*REFERENCE BOOKS

1. A Course in Electrical and Electronic Measurements and Instrumentation By A. K. SAWHNEY
2. Operational Amplifiers and Linear Integrated Circuits By ROBERT F. COUGHLIN AND FRREDERICK F. DRISCOLL
3. Modern Electronic Instrumentation and Measurement Techniques BY A.D. HELFRICK, W.D. COOPER.

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