

**HARYANA COLLEGE OF TECHNOLOGY AND MANAGEMENT,
KAITHAL**

Lesson plan

IV SEMESTER EEE (Feb-June-2009)

Course Handout of **ANALOG INSTRUMENTS & MEASUREMENTS**

Details regarding the course lesson plan

Course No.: EEcT-206-E

Course Title: ANALOG INSTRUMENTS & MEASUREMENTS

Instructor-in-charge: Er. SEEMA NARA

Course Website

Sessional: 50 Marks

Exam: 100 Marks

Total: 150 Marks

Duration of Exam: 3 Hrs.

Text and Reference:

- (1) AK Sawhney: A course in Electrical & Electronics measurement and instrumentation (Dhanpat Rai & Sons)
- (2) J.B .Gupta:- Electrical & Electronics measurement & instrumentation
- (3) W.D. Copper :- Electronic instrumentation & measurement Techniques(PHI).
- (4) P.W. Golding:- Electrical Measurements & Measuring Instruments (WP)

UNIT NO.	Lecture No.	Syllabus Planned
1	1	Introduction about subject
	2	SI system of Units & dimensional analysis in mechanical, electrostatic, electromagnetic system
	3	Errors and its types
	4	Error Estimation in measurement technique
	5	Recorders, strip chart recorders & X-Y recorders
	6	Magnetic recorder & digital display methods
	7	LED, LCD and remaining portion of unit 1
2	8	Principles, constructional features, analysis and performance of moving coil instruments
	9	D'assonvan galvanometer, Ballistic galvanometer, vibration galvanometer.
	10	Flux meter, ratio meter and meggar
	11	Moving iron instruments, electrodynamic instrument
	12	Electrostatic instrument, induction instruments
	13	Measurement of potential , current
	14	Measurement of power and energy
	15	Measurement of high direct and alternating voltages and current
	16	Measurement of transmission lines parameters
3	17	Measurement of resistance low , medium
	18	Measurement of high resistance , Measurement of inductance using bridges
	19	Measurement of mutual inductance for low and high Q- coils
	20	Measurement of capacitance using bridges
	21	Shielding and grounding of bridges
	22	Magnetic Measurement sample forms, Lloyds- fisher square
	23	Separation of hysteresis and eddy current loss
	24	Instrument transformer , current transformer and their performance characteristics
	25	Potential transformer and their performance characteristics
4	26	Principle of Telemetry and its types
	27	Introduction to transducers , LVDT
	28	Strain -Gauge transducers, Measurement of pressure, humidity
	29	Measurement of temperature , flow , velocity and vibration
	30	Measurement of speed, force and torque

Prepared By: Er. Seema Nara