PANIPAT INSTITUTE OF ENGINEERING & TECHNOLOGY
Department of Electronics & Communication Engineering

LESSON PLAN

Subject Name: - Transducers & Their Applications **Subject Code: - ECO-8A**
Year: - 3rd **Semester: - 6th**

Lecture No	Unit No	Topic	References
1	1	Definition of Transducer, Advantages of electrical signals	A.K. Sawhney, " A Course in Electrical and Electronic Measurements and Instrumentation," Dhanpat Rai & Sons
2	1	Basic principal of transducers, Measurement system	
3	1	Basic requirements of Transducers	
4	1	Primary and secondary transducers	
5	1	Analog and digital types of transducers	
6	1	Different types of transducers	
7	1	Resistive Transducers	
8	1	Capacitive Transducers	
9	1	Piezoelectric Transducers	
10	1	Inductive Transducers LVDT	
11	1	RVDT	
12	2	Measurement of pressure	A.K. Sawhney, " A Course in Electrical and Electronic Measurements and Instrumentation," Dhanpat Rai & Sons
13	2	Different pressure measuring devices	
14	2	Manometers	
15	2	Force summing devices	
16	2	Measurement of temperature	
17	2	Metallic resistance	
18	2	Pyrometers	
19	2	Concept of black body	
20	2	Thermoelectric sensors	
21	3	Measurement of displacement	1) A.K. Sawhney, " A Course in Electrical and Electronic
22	3	Resistance Type Transducers	
23	3	Hall effect transducers	

24	3	Measurement of linear velocity	Measurements and Instrumentation," 2) B.C. Nakra, K.K. Chaudhry, "Instrumentation Measurement and Analysis
25	3	Measurement of angular velocity	
26	3	Tachometers, AC Tachometers	
27	3	DC Tachometers	
28	3	Potentiometric type resistance transducers	
29	4	Force transducers	A.K. Sawhney, " A Course in Electrical and Electronic Measurements and Instrumentation," Dhanpat Rai & Sons
30	4	LVDT type force transducers	
31	4	Stroboscope	
32	4	Load cells	
33	4	Strain Gauge Load Cells	
34	4	Pneumatic Load Cells	
35	4	Measurement of torque	B.C. Nakra, K.K. Chaudhry, "Instrumentation Measurement and Analysis
36	4	Torque meter	
37	4	Torsion meter	
38	4	Absorption dynamometers,,	
39	4	Inductive torque transducer	
40	4	Digital methods	

Text Books:

1. B.C. Nakra, K.K. Chaudhry, "Instrumentation Measurement and Analysis," Tata McGraw-Hill Publishing Company Limited, New Delhi.
2. Thomas G. Beckwith etc. all, "Mechanical Measurements (International Student Edition), Addison-Wesley Longman, Inc. England.
3. A.K. Sawhney, " A Course in Electrical and Electronic Measurements and Instrumentation," Dhanpat Rai & Sons, Delhi-6