



RYMEC

DATEWISE LESSON PLAN 2017-2018

Staff Name: DR S.M.SHASHIDHAR	Sem:VI	Sec:A
Course Name: SENSORS & TRANSDUCERS	Course Code: 15EE662	Total Contact Hours:50
Lesson plan author name: DR S.M.SHASHIDHAR	Checked by:	Date: 20 FEB 2018
Prerequisites: Basic Knowledge of SI units, Electrical & Electronic Measurements		

Course outcomes:

At the end of the course the student will be able to:

- Discuss need of transducers, their classification, advantages and disadvantages.
- Show an understanding of working of various transducers and sensors.
- Discuss recent trends in sensor technology and their selection.
- Discuss basics of signal conditioning and signal conditioning equipment.
- Discuss configuration of Data Acquisition System and data conversion.
- Show knowledge of data transmission and telemetry.
- Explain measurement of non-electrical quantities -temperature, flow, speed, force, torque, power and viscosity. ■

Mod ule No	Topic to be covered	Hrs	Class Number	Date Planned	Date covered
01	Sensors and Transducers: Introduction, Classification of Transducers,	01	1	16-2-2018	
	Advantages and Disadvantages of Electrical Transducers, Transducers Actuating Mechanisms	01	2	17-2-2018	
	Resistance Transducers, Variable Inductance Transducers	01	3	19-2-2018	
	Capacitive Transducers	01	4	20-2-2018	
	Piezoelectric Transducers,	01	5	22-2-2018	
	Hall Effect Transducers	01	6	23-2-2018	
	, Thermoelectric Transducers	01	7	24-2-2018	
	, Photoelectric Transducers. ■	01	8	26-2-2018	
	Revision & Solving previous QP/Tutorial	01	9	27-2-2018	
	Revision & Solving previous QP/Tutorial	01	10	1-3-2018	
02	Sensors and Transducers (continued): Stain Gages,	01	11	2-3-2018	
	Load Cells, Proximity Sensors,	01	12	3-3-2018	
	Pneumatic Sensors, Light Sensors,	01	13	5-3-2018	
	Tactile Sensors, Fiber Optic Transducers,	01	14	6-3-2018	

	Digital Transducers, Recent Trends –	01	15	8-3-2018	
	Smart Pressure Transmitters, Selection of Sensors, Rotary	01	16	9-3-2018	
	– Variable Differential Transformer	01	17	10-3-2018	
	Synchros and Resolvers, Induction Potentiometers,	01	18	12-3-2018	
	Micro Electromechanical Systems. ■	01	19	13-3-2018	
	Revision & Solving previous QP/Tutorial	01	20	15-3-2018	
03	Signal Condition: Introduction, Functions of Signal Conditioning Equipment	01	21	16-3-2018	
	, Amplification, Types of Amplifiers, Mechanical Amplifiers Fluid Amplifiers,	01	22	17-3-2018	
	Optical Amplifiers,	01	23	19-3-2018	
	Electrical and electronic Amplifiers	01	24	20-3-2018	
	Data Acquisition Systems and Conversion: Introduction	01	25	22-3-2018	
	, Objectives and Configuration of Data Acquisition System	01	26	23-3-2018	
	, Data Acquisition Systems,	01	27	24-3-2018	
	Data Conversion. ■	01	28	26-3-2018	
	Revision & Solving previous QP/Tutorial	01	29	27-3-2018	
Revision & Solving previous QP/Tutorial	01	30	31-3-2018		
04	Data Transmission and Telemetry: Data/Signal Transmission	01	31	2-4-2018	
	Telemetry	01	32	3-4-2018	
	Telemetry.	01	33	5-4-2018	
	Telemetry.	01	34	6-4-2018	
	Measurement of Non – Electrical Quantities:	01	35	7-4-2018	
	Pressure Measurement	01	36	9-4-2018	
	Pressure Measurement	01	37	10-4-2018	
	Pressure Measurement	01	38	12-4-2018	
	Revision & Solving previous QP/Tutorial	01	39	13-4-2018	
	Revision & Solving previous QP/Tutorial	01	40	14-4-2018	
	Measurement of Non – Electrical Quantities (continued): Temperature Measurement	01	41	16-4-2018	

