

Lesson Plan

Name of the faculty : Mr. Dayanand (Theory & Practical)
Discipline : Electrical
Semester : 4th
Subject : instrumentation
Lesson Plan Duration : 15 weeks (from January 18 to April 2018)

Work load (Lecture/Practical) per week (55 minutes) : Lectures-03 , Practicals-04

Week	Theory		Practical
	Lecture day	Topic (Including assignment/test)	Practical Day
1st	1st	Importance of measurement Need of measurement	1st
	2nd	Basic measurement system Advantages & Limitations of each measuring systems	2nd
	3rd	Generalized measurement system Signal conditioning system	
2nd	4th	Display devices, Introduction of transducer, importance of transducer	3rd
	5th	Characteristics of transducer ,construction	4th
	6th	Use of resistance, inductance transducer	
3rd	7th	Use of capacitive ,electromagnetic transducer	5th
	8th	Use of piezo electric type transducer,application of transducer	6th
	9th	Displacement Measuring Devices: wire wound potentiometer	
4th	10th	Assignment work	7th
	11th	Assignment work	
	12th	Sessional test	8th
5th	13th	LVDT, strain gauges	9th
	14th	Different types such as inductance type, resistive type	10th
	15th	Capacitive type,wire and foil type	
6th	16th	Different types of force measuring devices and their principle	11th
	17th	load measurements by using elastic transducers and electrical strain gauges	12th
	18th	Gauge factor, gauge materials and their selections	
7th	19th	Use of electrical strain gauges	13th
	20th	strain gauge bridges and amplifiers	14th

	21th	Different types of force measuring devices and their principles	
8th	22th	load measurements by using elastic transducers and electrical strain gauges	15th
	23th	Load cells, measurements of torque by brake, dynamometer	16th
	24th	electrical strain gauges	
9th	25th	Assignment work	17th
	26th	Assignment work	18th
	27th	Sessional test	
10th	28th	speed measurements; different methods, devices.	19th
	29th	Bourdon pressure gauges	20th
	30th	Electrical pressure pick ups and their principle	
11th	31th	Construction and applications. Use of pressure cells.	21th
	32th	Basic principles of magnetic	22th
	33th	Ultrasonic flow meters	
12th	34th	Bimetallic thermometer	23th
	35th	Thermoelectric thermometers, resistance thermometers	24th
	36th	Thermocouple, thermistors	
13th	37th	Pyrometer, Temperature recorders	25th
	38th	Measurement of other non electrical quantities such as humidity	26th
	39th	Measurement of other non electrical quantities such as pH	
14th	40th	Measurement of other non electrical quantities such as level	27th
	41th	Inductive & capacitive method of level measurement	28th
	42th	Measurement of other non electrical quantities such as vibrations	
15th	43th	Assignment work	29th
	44th	Assignment work	30th
	45th	Sessional test	

Day
Topic
To measure the level of a liquid using a transducer
To measure temperature using a thermocouple
To measure temperature using a thermocouple
To measure the level of a liquid using a transducer
Study and use of digital temperature controller
Use of themistor in ON/OFF transducer
viva
viva
Use of themistor in ON/OFF transducer
Study and use of digital temperature controller
Study of variable capacitive transducer
Draw the characteristics of a potentiometer
Draw the characteristics of a potentiometer
Study of variable capacitive transducer

To measure linear displacement using LVDT
To study the use of electrical strain gauge
To study the use of electrical strain gauge
To measure linear displacement using LVDT
viva
viva
To study weighing machine using load cell
To study pH meter
To study pH meter
To study weighing machine using load cell
review of practical 1-5
review of practical 1-5
review of practical 6-10
review of practical 6-10
viva
viva