

Lesson Plan

Name of the Faculty Loveleena
Discipline Instrumentation and control
Semester 3rd
Subject BI

Lesson Plan Duration : 15 weeks(from Sept 2022 to Jan 2023)

Work Load (lecture/practical)per week (in hours) : Lectures- 03, practical- 02

Week	Theory			Practicals
	Lecture Day	Topic (including assignment/test)	Practical week	Topic
1st	1st	Unit 1: Brief introduction about subject and syllabus	1	To assemble seven segment display using LEDs
	2nd	Basics of Instrumentation Systems - Scope and necessity of instruments		
	3rd	Measurement, its significance and types		
2nd	4th	Building blocks of instrumentation systems	2	To make fourteen segments display using LED/LCD and verify it
	5th	Various testing signals		
	6th	Important process variables and their units		
3rd	7th	unit2: Performance Characteristics of Instruments	3	Make any word using LCD and LED
	8th	Static characteristics of instruments-accuracy, precision, linearity		
	9th	resolution, sensitivity, hysteresis, drift, dead time, loading effects		
4th	10th	Test of previous topics	4	To study circular and strip chart recorder
	11th	Dynamic inputs and dynamic characteristics-time constant, response time		
	12th	natural frequency, damping coefficient		
5th	13th	selection criteria of instruments	5	To use IC 741 (op-amplifier) as adder and subtractor
	14th	calibration		
	15th	definition and importance of calibration		
6th	16th	test of previous topics	6	To use IC 741 (op-amplifier) as inverter and non inverter
	17th	Revision		
	18th	unit 3: Display and recording devices - working principle		
7th	19th	construction of strip chart recorder	7	To use IC 741 (op-amplifier) as integrator and differentiator
	20th	components and elements of circular chart and strip chart recorder		
	21st	Basics of printing devices		

8th	22nd	Scanning, data logging and field buses	8	To make the DOT Matrix display and its verification
	23rd	Revision		
	24th	class test 2		
9th	25th	LCD, Seven segment display	9	Make any word using LC
	26th	X-Y recorder, scanning		
	27th	revision		
10th	28th	GPIB, RS-232C	10	viva voice of previous practiclas done so far
	29th	unit 4: Errors - Calibration of instruments		
	30th	Sources of errors		
11th	31st	Classification of errors	11	To study circular and str
	32nd	Grounding/earthing - Precautions		
	33rd	Assignment discussion/viva-voice		
12th	34th	class test 3	12	All files are checked
	35th	unit		All files are checked
	36th	Revision		All files are checked
13th	37th	unit5: operational amplifier	13	viva voice of previous practiclas done
	38th	characteristics of an ideal operational amplifier		viva voice of previous practiclas done
	39th	IC- 741 and its pin configuration		viva voice of previous practiclas done
14th	40th	definition of differential voltage gain.	14	viva voice of previous practiclas done
	41st	CMMR		viva voice of previous practiclas done
	42nd	PSSR		viva voice of previous practiclas done
15th	43rd	slew rate and input offset current	15	viva voice of previous practiclas done
	44th	operational amplifier as an inverting mode		viva voice of previous practiclas done
	45th	subtractor, differentiator, adder, integrator, operational amplifier as an instrumental amplifier		viva voice of previous practiclas done