

Lesson Plan

Name of the Faculty : Dr Vikas Sharma
Discipline : Biotechnology Engineering
Semester : 8th
Subject : Advanced Techniques in Biotechnology Lab
Lesson Plan Duration : 15 Weeks (From Feb, 2021 to Jun, 2021)

**Work Load (Lecture/Practical) per week (in hours): 02

Week	Practical	
	Practical Day	Topic
1 st	1 st	Characteristics of Transducers(Temperature)
2 nd	2 nd	Characteristics of Transducers (Pressure)
3 rd	3 rd	Characteristics of Transducers (Flow)
4 th	4 th	Dynamics of First order system for step/ impulse input
5 th	5 th	Non Interacting system
6 th	6 th	Interacting system
7 th	7 th	Control of temperature in a bioprocess
8 th	8 th	Control of pH in a bioprocess
9 th	9 th	Control of Pressure in a bioprocess
10 th	10 th	Control of Flow rates in a bioprocess
11 th	11 th	Optical density measurement of bacterial culture
12 th	12 th	Measurement of dissolved oxygen in the growth media
13 th	13 th	Measurement of CO ₂ in a given sample
14 th	14 th	Measurement of Temperature, light & Humidity in growth chambers