

NAME OF FACULTY-----SACHIN

DISCIPLINE----- CHEMICAL

SEMESTER-----5th

SUBJECT-----MASS TRANSFER-II

LESSON PLAN DURATION -15 WEEKS (FROM JULY TO NOV. 2019)

WEEK	THEORY		PRACTICALS	
	LECTURE DAY	TOPIC	PRACTICAL WEEK	TOPIC
1st	1 st	Introduction of Distillation	1 st	To separate given solution mixture with the help of a bubble cap distillation column
	2 nd	Vapor Liquid Equilibrium		
	3 rd	Roault's Law, Dalton's Law		
	4 th	Relative Volatility With Derivation		
2nd	1 st	Methods of Distillation: Differential or simple Distillation	2 nd	To separate given solution mixture with the help of a bubble cap distillation column
	2 nd	Rayleigh's equation.		
	3 rd	Flash or Equilibrium Distillation.		
	4 th	Fractionating Column,		
3rd	1 st	McCabe Thiele Method	3 rd	To draw calibration curve for a given mixture using refractive index and to find out the unknown concentration from this calibration curve
	2 nd	McCabe Thiele Method		
	3 rd	Feed plate, feed line		
	4 th	effect of feed condition		
4th	1 st	Reflux ratio and their type	4 th	To draw calibration curve for a given mixture using refractive index and to find out the unknown concentration from this calibration curve
	2 nd	Azeotropic Distillation		
	3 rd	Extractive Distillation		
	4 th	steam Distillation		
5th	1 st	Steam Distillation.	5 th	Experiment on extraction of oil from solids
	2 nd	plate column, packed column		
	3 rd	Concept of flooding, Weeping		
	4 th	Entrainment and loading in distillation		
6th	1 st	Definition and application of extraction	6 th	Experiment on extraction of oil from solids
	2 nd	Mixer settler		
	3 rd	Spray Tower		
	4 th	Packed extraction towers		
7th	1 st	Perforated plate extraction tower	7 th	Experiment on crystallizer
	2 nd	Agitated tower extractor		
	3 rd	Definition and application of leaching		
	4 th	Leaching through stationary solid beds		
8th	1 st	Moving beds	8 th	Experiment on crystallizer
	2 nd	Ideal stages in counter current leaching		
	3 rd	Concept of crystallization		
	4 th	saturation and super saturation and solubility curve		
9th	1 st	Mechanism of crystallization	9 th	To study the reverse osmosis set up
	2 nd	Mires saturation theory		
	3 rd	construction and working of agitated tank crystallizer		

	4 th	construction and working of draft tube crystallizer		
10th	1 st	Concept of Adsorption operation,	10th	To study the reverse osmosis set up
	2 nd	types of adsorption		
	3 rd	Nature of adsorbent		
	4 th	Effect of temp. on adsorption		
11th	1 st	Industrial application	11th	To separate a mixture of two liquids using liquid extraction
	2 nd	Adsorption isotherms		
	3 rd	Introduction to Membrane Separation		
	4 th	Types of Membrane		
12th	1 st	Membrane Separation Processes	12th	To separate a mixture of two liquids using liquid extraction
	2 nd	Reverse osmosis		
	3 rd	Reverse osmosis		
	4 th	Reverse osmosis		
13th	1 st	Microfiltration	13th	To verify Rayleigh's equation using batch distillation set up
	2 nd	ultra filtration		
	3 rd	Dialysis.		
	4 th	Revise		
14th	1 st	Revise	14th	To verify Rayleigh's equation using batch distillation set up
	2 nd	Revise		
	3 rd	Revise		
	4 th	Revise		
15th	1 st	Revise	15th	To verify Rayleigh's equation using batch distillation set up

Name of Faculty		ARVIND
Discipline		Chemical Engineering
Semester		5 th
Subject		Stock Preparation-II
Lesson plan duration		15weeks
Week	Lecture Day	Theory
1 st	1 st	Introduction to Sizing materials
	2 nd	Introduction to Sizing materials
	3 rd	Preparation of resin size
2 nd	1 st	Preparation of resin size
	2 nd	Wet Strength chemicals
	3 rd	Wet Strength chemicals
3 rd	1 st	Wet Strength chemicals
	2 nd	Alum
	3 rd	Method of preparation of alum
4 th	1 st	Method of preparation of alum
	2 nd	Substitute of alum
	3 rd	Substitute of alum
6 th	1 st	Various types of beater additives
	2 nd	Various types of beater additives
	3 rd	CMC
7 th	1 st	CMC
	2 nd	Retention aids
	3 rd	Retention aids
8 th	1 st	Pigments and coloring matter
	2 nd	Pigments and coloring matter
	3 rd	Different types of dyes
9 th	1 st	Different types of dyes
	2 nd	Fiber recovery systems
	3 rd	Fiber recovery systems
10 th	1 st	Filtration
	2 nd	Filtration
	3 rd	Filtration
11 th	1 st	Sedimentation types
	2 nd	Sedimentation types
	3 rd	Flow diagrams of various stock systems
12 th	1 st	Flow diagrams of various stock systems
	2 nd	Flow diagrams of various stock systems
	3 rd	Stock chest agitators
13 th	1 st	Stock chest agitators
	2 nd	Stock chest agitators
	3 rd	Simple numerical problem
14 th	1 st	Simple numerical problem
	2 nd	Simple numerical problem
	3 rd	Simple numerical problem
15 th	1 st	Revision
	2 nd	Revision
	3 rd	Revision

NAME OF FACULTY----- RAJESH KUMAR CHAWLA

DISCIPLINE----- CHEMICAL

SEMESTER-----5TH

SUBJECT----- CHEMICAL RECOVERY

LESSON PLAN DURATION -15 WEEKS (FROM JULY TO NOV. 2018)

WORK LOAD--PRACTICALS- 2 HRS/WEEK

WEEK	LECTURE DAY	TOPIC
1 st	1 st	find out the residual active alkaline in their black liquor sample
2 nd	2 nd	find out the °T _w and Be of a black liquor sample
3 rd	3 rd	To draw a curve between °T _w and solids content concentration in a black liquor sample
4 th	4 th	Analysis of black liquor (to find out the organic and inorganic content and various ingredients)
5 th	5 th	Analysis of salt cake
6 th	6 th	To find out the purity of available lime sample
7 th	7 th	Analysis of smelt of recovery furnace
8 th	8 th	To find out the residual alkali and lime in a lime mud sample
9 th	9 th	Analysis of green liquor sample
10 th	10 th	To find out the purity of soda ash
11 th	11 th	To find out the reduction ratio of salt cake in the smelt
12 th	12 th	To find out the temporary and permanent hardness of water
13 th	13 th	To find out the temporary and permanent hardness of water
14 th	14 th	To draw a curve between °T _w and specific gravity
15 th	15 th	To draw a curve between °T _w and specific gravity