

Name of Faculty: MOHIT JINDAL		
Discipline: FOOD TECHNOLOGY		
Semester: 3rd		
Subject: Unit operations in Food Processing		
Lesson Plan Duration: 15 Weeks (July 2018-Nov. 2018)		
Work load (Theory/Practical) per week (in hours): Theory: 03, Practical: 02		
Week	Lecture day	Theory
1st	1	Introduction to Syllabus and Evaluation Scheme.
	2	Introduction to preliminary unit operations.
	3	Cleaning- aim, methods and applications.
	4	Introduction to Laboratory and its equipments. (Practical)
2nd	5	Sorting- aim, methods and applications.
	6	Grading- aim, methods and applications.
	7	Revision of unit 1.
	8	Understanding of units of measurement and their conversion
3rd	9	Introduction to Size Reduction and Sieve Analysis.
	10	Theory of comminution.
	11	Calculation of energy required during size reduction.
	12	To study critical speed of ball mill (written). (Practical)
4th	13	Crushing efficiency.
	14	Size reduction equipment.
	15	Size reduction of fibrous Foods
	16	To study size reduction with the help of Hammer mill (Practical)
5th	17	Size reduction for dry foods.
	18	Size reduction for liquid foods.
	19	Effects of size reduction on sensory characteristics and nutritive value of food.
	20	Determination of steam distillation process of herbs. (Practical)
6th	21	Revision for size reduction.
	22	Sieving: Separation based on size (mesh size).
	23	Types of screens.
	24	Concentration by crystallization (Practical)
7th	25	Effectiveness of screens.
	26	Revision for unit 2 nd .
	27	Class test for unit 1 st and 2 nd .
	28	Clarification of apple juice using filter press (Practical)
8th	29	Mixing- methods and equipments.
	30	Agitating- methods and equipments.
	31	Kneading- methods and equipments.
	32	To study different types of mixing equipments. (Practical)
9th	33	Blending- methods and equipments.
	34	Homogenization- methods and equipments.

9 th	35	Revision for unit 3 rd .
	36	To study homogenization process for milk (Practical)
10 th	37	Class test for unit 3 rd .
	38	Introduction to separation processes.
	39	Principle of filtration.
	40	Analysis of sampled foods for physical characteristics (Practical)
11 th	41	Filtration methods.
	42	Filtration equipments.
	43	Filtration equipments.
	44	Demonstration of working simple distillation unit. (Practical)
12 th	45	Principle of Sedimentation.
	46	Sedimentation methods.
	47	Sedimentation equipments.
	48	To study different types of sedimentation processes used in food industry. (Practical)
13 th	49	Principle of Crystallization.
	50	Crystallization methods.
	51	Different types of crystallizers.
	52	To study different types of crystallizers used in food industry (written). (Practical)
14 th	53	Principle of distillation.
	54	Methods of distillation.
	55	Distillation equipments.
	56	To study effectiveness of screens (Practical)
15 th	57	Distillation equipments.
	58	Revision of unit 4 th .
	59	Class test of unit 4 th .
	60	To study different types of filtration processes used in food industry. (Practical)