CH254	MECHANICAL OPERATIONS LAB	L	T	P	C	Int	Ext
		-	-	2	1.0	30	70

Semester III [Second Year]

COURSE OBJECTIVES:

1. Gain practical experience with different mechanical operations like size reduction, size separation, and fluid mechanics
2. Develop a strong understanding of safety protocols and practices relevant to mechanical operations
3. Apply theoretical knowledge from related courses to practical laboratory experiments and real-world scenarios
4. Learn about different separation techniques like sieving, filtration, and sedimentation

COURSE OUTCOMES:

After the successful completion of the course,students are able to

1. Understand the properties of solids and different types of size reduction principles
2. Acquire the knowledge to determine the crushing efficiency of different size reduction equipments like crushers and grinders
3. Decide the best separation operation needed in chemical process industries
4. Acquaint with theories of sedimentation and to study settling characteristics of batch settling

EXPERIMENTS:

1. Sampling by Riffle, Cone & Quartering and Bulk method
2. Grindability index (G.I.) of coal
3. Ball Mill
4. Sink and float
5. Optimum time of sieving
6. Verify the laws of crushing
7. Effectiveness of a given screen by hand sieving
8. Effectiveness of a given screen using vibrating/Rotap sieving
9. Sieve analysis
10. Terminal settling velocity in viscous medium
11. Plate & Frame filter press
12. Centrifugal separator
13. Froth Floatation