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| 6th Semester | | Dewatering and Drying | L-T-P 3-0-0 | 3 CREDITS |
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Module I:**(10 hours)**

Introduction to dewatering and drying, Flocculation, coagulation and Dispersion: Fundamental factors underlying flocculation and dispersion phenomena. Mechanism of reagent adsorption, factors affecting flocculation and dispersion, selective flocculation.

Module II:**(8 hours)**

Gravity classification and thickening, Dewatering by sedimentation principles. Sizing and selection of thickeners, Different types of thickeners and their use in mineral industries.

Module III:**(8 hours)**

Filtration: Principles and types of filtration, Flow through packed beds, factors affecting the filtration. Different types of filters and their design features.

Module IV:**(8 hours)**

Centrifuging & Drying: Different types of thermal dryers and their applications

Module V:**(6 hours)**

Design and selection of thickener and filtration unit, Application and practice of dewatering processes in mineral industries.

Books:

- [1] Tarleton S. and Wakeman R., Solid-Liquid Separation: Equipment Selection and Process Design, Elsevier Science
- [2] Concha F., Solid-Liquid Separation in the Mining Industry, Springer International Publishing
- [3] Svarovsky L., Solid-Liquid Separation, Butterworth-Heinemann