

No	Information on Every Subject	
1	Unit name:	Extractive Metallurgy I
2	Code:	Met- 41016
3	Classification:	Engineering subject
4	Credit value:	3.5
5	Semester/ Year Offered:	1/4
6	Pre-requisite:	Met-31012, Met-32012 Min-22011
7	Mode of delivery:	Lecture, Tutorial, Practical
8	Assessment system and breakdown of marks:	
	Test	30%
	Mid-term/ final Examination	70%
9	Academic staff teaching unit:	
10	<p>Course outcome of unit:</p> <p>In this course, students will be able</p> <ul style="list-style-type: none"> -To apply the application process of mineral processing. -To categorize the classification of minerals, flotation reagent types. -Design calculation of flotation process. 	
11	<p>Synopsis of unit:</p> <p>This subject deals with the application of process principles to minerals processing operations including the physical and chemical aspects of flotation, types of frothers, collectors, and modifiers, industrial flotation practice, selection of flotation machines and chemical processing.</p>	
12	<p>Topic 1:</p> <ul style="list-style-type: none"> • Flotation • Hydrophobic Surface • Froth stability • Flotation Practice • Classification of Mineral <p>Topic 2:</p> <ul style="list-style-type: none"> • Classification of Flotation Reagents • Collectors 	

	<ul style="list-style-type: none"> • Frother • Modifiers • Activators and Depressants <p>Topic 3:</p> <ul style="list-style-type: none"> • Factors Affecting Flotation • Pulp Preparation • Conditioning • Aeration • Industrial Flotation Practice <p>Topic 4:</p> <ul style="list-style-type: none"> • Flotation Cells • Flotation Circuits • Design Calculation • Flotation of Sulphide Minerals • Flotation Machine • Pulp Dilution • Particle Size
13	<p>Main Reference</p> <p>-U Tin Tun (1982) "Ore Dressing II"</p>
14	<p>Additional references:</p> <p>-A.M Gavding (1939), "<i>Principles of Mineral Dressing</i>"</p> <p>-B.A. Wills and Tim Napier-Munn (7th Edition 2006), "<i>Mineral Processing Technology</i>"</p> <p>-Errol G.Kelly David, J. Spottiswood (1982), "<i>Introduction to Mineral Processing</i>"</p> <p>-Joseph Newton (1959), "<i>Extractive Metallurgy</i>"</p>
Laboratory	
L 1	Flotation of Graphite
L 2	Flotation of Lead-Zinc Sulphite Ore
L 3	Flotation of Copper Sulphate Ore