

SYNERGY POLYTECHNIC, BHUBANESWAR
(DEPARTMENT OF MINING ENGINEERING)
(LESSON PLAN 5TH Sem 2025-26)

Discipline: Mining Engr.	Semester: 5 TH	Name of the Teaching Faculty: Niyabrata Behera
Subject: Th.5 UMM	No of days/per week class allotted: 4	Semester from Date: to Date: No of weeks:
Week	Class/ Day	Theory/ Practical Topics
1st	1 st	Describe various methods to access an ore body.
	2 nd	-do-
	3 rd	Classify modes of entries – Adits , inclines and shafts ,applicability of entries.
	4 th	-do-
2nd	1 st	-do-
	2 nd	-do-
	3 rd	-do-
	4 th	Explain various methods of development used in underground metal mines
3rd	1 st	-do-
	2 nd	Explain formation of blocks of mineral deposit
	3 rd	Explain level interval
	4 th	Describe Open raising method AND Jora raise lift
4th	1 st	Two compartment method
	2 nd	Long hole drilling method./Vertical Crater retreat (VCR) method
	3 rd	Development of Ore passe system.
	4 th	-do-
5th	1 st	Give a comparative study between coal and metal Mining.
	2 nd	-do-
	3 rd	Classify stoping methods with application and factors affecting methods of stopping.-
	4 th	-do-
6th	1 st	Preparatory arrangement for stoping
	2 nd	Describe the following methods with layout including drilling, blasting, transportation and supports.
	3 rd	-do-
	4 th	-do-

Niyabrata Behera
11/07/25
Sign of Faculty

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Principal

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7 th	1 st	Explain Open stoping. And Open stoping with pillar support
	2 nd	Explain Shrinkage stoping.
	3 rd	Explain Cut & fill stoping.
	4 th	Explain Square set stoping.
8 th	1 st	Explain Block caving
	2 nd	Explain Sub-level caving.
	3 rd	Explain Top slicing.
	4 th	Describe conventional methods of drifting. Find out direction gradient of drift.
9 th	1 st	-do-
	2 nd	-do-
	3 rd	Describe drilling and blasting, support, transportation, drainage, ventilation
	4 th	-do-
10 th	1 st	-do-
	2 nd	-do-
	3 rd	-do-
	4 th	Describe lighting arrangements, organization and supervision in mechanised method of drifting.
11 th	1 st	-do-
	2 nd	-do-
	3 rd	Explain causes and prevention of rock burst
	4 th	-do-
12 th	1 st	Describe use of jumbo drill with air leg
	2 nd	Describe various Loading & Transportation System like ♣ L.H.D., L.P.D.T.(Low Profile Dump Truck), rocker shovel, spiral chutes and draw points, Scraper etc.
	3 rd	-do-
	4 th	-do-
13 th	1 st	-do-
	2 nd	-do-

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