

ARYAN SCHOOL OF ENGINEERING & TECHNOLOGY, BHUBANESWAR

Discipline: MINING ENGG.		Semester: 5TH	Name of the Teaching Faculty Debashish pradhan	
Subject: UNDERGROUND METAL MINING		No of Days/Week Class Allotted: _____	Semester From date: 1/10/21 To date 18/1/22	No. of Weeks: _____
WEEK	Class Day	Theory Topics		
1st	1st	Introduction to access to ore body & introduction to metal mines.		
	2nd	classity mode of entries - Adits, inclines and shafts and applicability of entries.		
	3rd	Introduction to development in underground metal mines <small>Explain formation of blocks of mineral deposits</small>		
	4th	Explain level interval		
	5th	Description of open raising method		
2nd	1st	Describe of Two compartment method with sketches.		
	2nd	Description of Jora raise lift		
	3rd	Description ^{of} Long hole drilling method		
	4th	vertical creater retreat (VCR) method.		
	5th	— do —		
3rd	1st	Description of Alimak raise climber		
	2nd	2)		
	3rd	Raise boxes		
	4th	Development of Ore pass system		
	5th	A comparative study between coal and metal mining.		

4th	1st	
	2nd	Introduction about stoping methods and classify stoping methods with applications.
	3rd	Factors affecting methods of stoping and preparatory arrangement for stoping
	4th	Description of the open stoping method with layout including drilling, blasting, transportation & supports.
	5th	
5th	1st	Description of open stoping with pillar support with layout including drilling, blasting, transportation and supports.
	2nd	Description of shrinkage stoping method with layouts including drilling, blasting, transportation and supports.
	3rd	
	4th	"cut and fill stoping"
	5th	
6th	1st	"square set stoping method"
	2nd	
	3rd	"Block caving" method
	4th	
	5th	"Sub-level caving method"

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7 th	1st	"		
	2nd	"		
	3rd	"Top slicing method"		
	4th	"		
	5th	Explanation about stone drifting in mines. Description of Conventional methods of drifting.		
8 th	1st	Finding out direction & gradient of drift.		
	2nd	Description of drilling & blasting, support		
	3rd	transportation, drainage,		
	4th	ventilation & lighting arrangements		
	5th	organisation and supervision in mechanised method of drifting		
9 th	1st	Introduction & various terms related to rock burst.		
	2nd	Causes of Rock Burst.		
	3rd	"		
	4th	Prevention of Rock burst		
	5th	Introduction of face mechanization and description of the use of jumbo drill with air leg.		

10th	1st	Description about L.H.D.
	2nd	" " L.P.D.T. (Low Profile Dump Truck)
	3rd	" " rocker shovel.
	4th	" " spiral chutes.
	5th	" " draw points.
	1st	" " draw points
	2nd	" " "
	3rd	" " scraper
	4th	" " "
	5th	" " "
	1st	Extra short question discussion of previous year.
	2nd	" " "
	3rd	Long question discussion of previous year with doubt clear.
	4th	" " "
	5th	Doubt clearing classes.