

Dicipline: MINING	Semester: 3rd	Name of the Teaching Faculty: Dharmasush Behera	
Subject: Surface mining Technology	No of Days/Week Class Allotted: _____	Semester From date: 15/09/22 To date: 22/12/22	No. of Weeks: 14

WEEK	Class Day	Theory Topics
From 15/09/22 to 16/09/22	1st	Introduction to Surface mining Technology
	2nd	Factors affecting choice of open cast mining method.
	3rd	Overburden/ore ratio.
	4th	cut of stripping ratio.
	5th	
From 19/09/22 to 24/09/22	1st	Description of quarryable limit.
	2nd	Favorable conditions for Mechanized open cast mines.
	3rd	Limitations of large open pits.
	4th	Definition of Box cut
	5th	
From 26/09/22 to 01/10/22	1st	Determination of the location of Box cut.
	2nd	What is Bench & types of Benches
	3rd	Bench cleaning, pit Design
	4th	Bench height
	5th	Bench

WEEK	Class Day	Theory Topics
From 10/10/22 to 15/10/22	1st	Bench width
	2nd	Bench slope
	3rd	length of Bench bore overburden and ore.
	4th	Definition of Explosive, properties of Explosives.
	5th	
From 17/10/22 to 22/10/22	1st	Characteristics of Explosives, Its classification.
	2nd	Composition & uses of Explosives.
	3rd	Explanation PMS and SMS
	4th	Permitted Explosive and classification of permitted explosive.
	5th	
From 24/10/22 to 29/10/22	1st	Sheathed, equivalent sheathed and ultra safe explosive.
	2nd	Properties of permitted explosives.
	3rd	Composition & constructional features of Safety fuse, detonating fuse.
	4th	Detonating relay, Igniter cord, nonel and raydet.
	5th	

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WEEK	Class Day	Theory Topics
From 01/11/22 to 05/11/22	1st	Different types detonators and uses,
	2nd	Advantages of delay detonators
	3rd	Exploder, types exploder, construction and safety feature, circuit tester
	4th	Stemming rod, crack detector knife, crumper
	5th	
From 07/11/22 to 12/11/22	1st	Drilling, principles and methods of exploratory drilling in surface mining.
	2nd	Different types of drill used in open cast mining.
	3rd	Constructional features of churn drill, drill master.
	4th	wagon drill and Jack hammer
	5th	
From 14/11/22 to 19/11/22	1st	Explanation of D.T.H
	2nd	Different types of drill bits in drilling.
	3rd	Blasting, charging a shot hole / Blast hole
	4th	preparation of charge
	5th	

WEEK	Class Day	Theory Topics
From 21/11/22 to 26/11/22	1st	Determination of amount of charge of explosive in blast holes.
	2nd	Procedure of Firing shot.
	3rd	Direct and Inverse initiation
	4th	stemming materials.
	5th	
From 29/11/22 to 03/12/22	1st	Water ampoules
	2nd	Cushion boring
	3rd	Blasting efficiency
	4th	Plaster shooting and Pop shooting, toe blasting
	5th	
From 05/12/22 to 10/12/22	1st	Controlled blasting techniques as per Statutory provision.
	2nd	Pre-splitting, cushion blasting
	3rd	muzzle blasting, coyote hole blasting
	4th	Chambered hole blasting
	5th	

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From 12/12/22 to 17/12/22	1st	Directional blasting
	2nd	Electronics blasting system (EBS)
	3rd	Mine magazines (Introduction)
	4th	Layout and arrangement of different types of Magazines.
	5th	
From 19/12/22 to 22/12/22	1st	Portable explosive storage magazine
	2nd	Safety features of magazines.
	3rd	
	4th	
	5th	
	1st	
	2nd	
	3rd	
	4th	
	5th	