

DEPARTMENT OF MINING ENGINEERING

LESSON PLAN

Discipline: Mining Engineering				Semester: 6TH	Name of the Teaching faculty: Rajiv Lochan Bal		
Subject: Mine Machinery – II			No of Days/Week class allotted: 4	CHAPTER	Semester from Date:14-02-23 To Date: 23-5-23 weeks: 16 No of		
Month	Week	Period	Class Day	1.0 Underground face machineries	Topics		
FEBRUARY	3rd	3	14.2.23		Describe constructional features, operation, principle & use of electric coal drill		
			15.2.23				
			17.2.23				
	4th	4	20.2.23			State types of drill rods & drill bits used in electric coal drill.	
			21.2.23				
			22.2.23				
			25.2.23				
	5th	2	27.2.23			Describe basic constructional features of gathering arm loader.	
			28.2.23				
MARCH	1st	2	1.3.23		Describe basic constructional features of scraper loader.		
			4.3.23				
	2nd	2	6.3.23			Describe basic constructional features of side discharge loader.	
			11.3.23				
			13.3.23				
	3rd	4	14.3.23	Describe basic constructional features of load & haul loader.			
			15.3.23				
			18.3.23				
			20.3.23				
	4th	4	21.3.23				Describe basic constructional features & operation principle of jack hammer drill.
			22.3.23				
			25.3.23				
			27.3.23				
5th	3		Describe basic constructional features & operation principle of air leg rock drill.				
2.0 Opencast machineries	Describe basic constructional features & operation principle of road header.						
		Describe basic constructional features & operation principle of Shearer loader.					
		Describe basic constructional features of surface miner.					
		Describe basic constructional features of dragline.					
		Describe basic constructional features of shovel .					
		Describe basic constructional features of backhoe.					
		Describe basic constructional features of bucket wheel excavator.					
		Describe basic constructional features of dumper.					
		Describe basic constructional features of dozer.					
		Describe basic constructional features of scraper.					
		Describe basic constructional features of road grader.					
		3.0 Mine pumps	Classify mine pumps.				
				Describe constructional features, working & use of ram pumps			
MONTHLY CLASS TEST 1							

	9th	4P	3RD	construction and safety features, circuit tester.
			1ST	Describe stemming rod, crack detector knife, crimper.
			2ND	Explain different principles and methods of exploratory drilling in surface mining.
			3RD	principles and methods of exploratory drilling in surface mining.
OCTOBER	10th	3P	4TH	State different types of drill used in Opencast mining.
			1ST	Describe simple constructional features of churn drill.
			2ND	Drills master
			3RD	wagon drill
	11th	4P	1ST	jack hammer.
			2ND	State D.T.H..
			3RD	Describe different types of drill bits in drilling
			4TH	Describe preparation of charge.
	12th	4P	1ST	State procedure of firing shots.
			2ND	direct and inverse initiation.stemming materials.
			3RD	water ampoules, cushion firing.Define blasting efficiency.
			4TH	State and describe plaster shooting and pop shooting, toe blasting.
	13th	4P	1ST	State and describe pre-splitting.
			2ND	coyote hole blasting
			3RD	Electronics Blasting System (EBS) .
			4TH	cushion blasting
NOVEMBER	14th	4P	1ST	muffle blasting
			2ND	chambered hole blasting
			3RD	directional blasting
			4TH	CLASS TEST 2
	15th	4P	1ST	Describe layout and arrangement of different types of magazines
			2ND	Large magazine layout
			3RD	Portable magazine Layout
			4TH	State their safety features.
	16th	4p	1ST	Revision & Previous year question & answer discussion
			2ND	Revision & Previous year question & answer discussion
			3RD	VST
			4TH	VST
	17th	1P	1ST	Doubt Clearing.

Prepared By-
Rajiv Lochan Bal
Sr. Lect.(Mining)
OSME,Keonjhar

HOD
Mining Engg.
OSME,Keonjhar

Principal
OSME,Keonjhar