

GOVERNMENT POLYTECHNIC JAIPUR

DEPARTMENT OF MINING ENGINEERING

LESSON PLAN

Discipline: MINING	Semester: 3rd	Name of the Teaching faculty: Soumya Ranjan Samal
Subject: Surface Mining Technology	No of Days/Week class allotted: 4	Semester from Date: 01/08/2023 To Date: 30/11/2023 No of weeks: 15
Week	Class Day	Topics
1st	1st	State factors affecting choice of Open casting Mining method.
	2nd	Define stripping ratio.
	3rd	Determine overburden/ore ratio.
	4th	Find out cut off stripping ratio.
2nd	1st	Determine quarriable limit.
	2nd	State favorable conditions for mechanized Opencast Mines.
	3rd	State limitations of large open pits.
	4th	Define Box cut
3rd	1st	Determine the location of Box cut.
	2nd	Determine bench parameters- height, width & slope.
	3rd	Determine length of bench for overburden and ore
	4th	Define slope stability.
4th	1st	Factors affecting slope stability.
	2nd	Types of slope stability.
	3rd	CLASS TEST-I
	4th	Causes and prevention of slope stability.
5th	1st	Define explosive, state constituents of explosives.
	2nd	Properties & characteristics of explosives.
	3rd	Explain PMS and SMS.
	4th	Define permitted explosive
6th	1st	Explain sheathed, equivalent sheathed
	2nd	ultra safe explosive.
	3rd	State properties of permitted explosives.
	4th	State composition & constructional features of safety fuse,
7th	1st	detonating fuse, detonating relay, igniter cord, nonel and raydet.
	2nd	Describe different types of detonators
	3rd	uses & advantages of delay detonators.
	4th	State different types of exploder.
8th	1st	construction and safety features, circuit tester.
	2nd	INTERNAL-1
	3rd	Describe stemming rod, crack detector knife, crimper.
	4th	Explain different principles and methods of exploratory drilling in surface mining.
9th	1st	principles and methods of exploratory drilling in surface mining.
	2nd	State different types of drill used in Opencast mining.

9th	3rd	Describe simple constructional features of churn drill.
	4th	drills master
10th	1st	wagon drill
	2nd	jack hammer.
	3rd	State D.T.H..
	4th	Describe different types of drill bits in drilling
11th	1st	Describe preparation of charge.
	2nd	State procedure of firing shots.
	3rd	direct and inverse initiation.
	4th	stemming materials.
12th	1st	CLASS TEST-II
	2nd	water ampoules, cushion firing.
	3rd	Define blasting efficiency.
	4th	State and describe plaster shooting and pop shooting, toe blasting.
13th	1st	State and describe pre-splitting,
	2nd	cushion blasting,
	3rd	muffle blasting, coyote hole blasting,
	4th	chambered hole blasting, directional blasting,
14th	1st	Electronics Blasting System (EBS) .
	2nd	state their safety features.
	3rd	INTERNAL-2
	4th	Describe layout and arrangement of different types of magazines
15th	1st	REVISION/DOUBT CLEARING CLASS
	2nd	REVISION/DOUBT CLEARING CLASS
	3rd	REVISION/DOUBT CLEARING CLASS
	4th	REVISION/DOUBT CLEARING CLASS


Signature of Faculty