

GOVERNMENT POLYTECHNIC JAIPUR
A/ P: Ragadi, Block: Korei, Dist.: Jajpur, Odisha- 755019
Website: <https://www.gpjajpur.org>

DEPARTMENT OF MINING ENGINEERING

LESSON PLAN

Discipline: MINING	Semester: 4th	Name of the Teaching Faculty: Prabhudutta Mishra	
Subject: MINE MACHINERY II (TH.3)	No of Days/Week class allotted: 3	Semester from Date: 22/12/25	To Date: 18/05/26
		No of weeks: 15	
Week	Class Day	Topics	
1st	1st	Describe constructional features of electric coal drill	
	2nd	Describe constructional features, operation of electric coal drill	
	3rd	Describe constructional features, operation, principle & use of electric coal drill	
2nd	1st	State types of drill rods & drill bits used in electric coal drill.	
	2nd	Describe basic constructional features of gathering arm loader.	
	3rd	Describe basic constructional features of scraper loader.	
3rd	1st	Describe basic constructional features of side discharge loader.	
	2nd	Describe basic constructional features of load & haul loader.	
	3rd	Describe basic constructional features & operation principle of jack hammer drill.	
4th	1st	Describe basic constructional features & operation principle of air leg rock drill.	
	2nd	Describe basic constructional features & operation principle of road header.	
	3rd	Describe basic constructional features & operation principle of Shearer loader.	
5th	1st	Describe basic constructional features of surface miner.	
	2nd	Describe basic constructional features of dragline.	
	3rd	Describe basic constructional features of shovel .	
6th	1st	Describe basic constructional features of BACKHOE .	
	2nd	Describe basic constructional features of bucket wheel excavator.	
	3rd	Describe basic constructional features of dumper.	
7th	1st	Describe basic constructional features of dozer.	
	2nd	Describe basic constructional features of scraper.	
	3rd	Describe basic constructional features of road grader.	
8th	1st	Classify mine pumps.	
	2nd	Describe constructional features, working & use of ram pumps	
	3rd	Describe constructional features, working & use of ram pumps	
9th	1st	Describe constructional features of centrifugal pump.	
	2nd	Describe constructional features of turbine pumps.	
	3rd	State principle of centrifugal pumps & its applicability.	

10th	1st	State principle of turbine pumps & its applicability.
	2nd	Explain balancing the axial thrust of turbine pumps.
	3rd	Draw characteristic curves for turbine pumps.
11th	1st	Solve numerical problems on centrifugal pumps.
	2nd	Solve numerical problems on turbine pumps.
	3rd	Describe constructional features and working principle & use of roto pump
12th	1st	Describe constructional features & working principle of sinking pump.
	2nd	State procedure of suspension in shaft.
	3rd	Describe constructional features & working of bore hole pump.
13th	1st	State installation of bore hole pump.
	2nd	State types of pipe & valves used in Mines.
	3rd	Describe constructional features of various type of valves.
14th	1st	State and describe various types of pipes joints.
	2nd	Describe supporting of laying main pipes in shaft
	3rd	Discuss the Pipe line layout.
15th	1st	PREVIOUS YEAR QUESTION DISCUSSION
	2nd	REVISION/DOUBT CLEARING CLASSES/REMEDIAL CLASSES
	3rd	REVISION/DOUBT CLEARING CLASSES/REMEDIAL CLASSES

RECOMMENDED BOOKS		
SL NO.	Name of Author	Title of Books
1	H. Cotton	Electrical equipment in Mine
2	R.J.Desmukh & D.J.Desmukh	Winning and Working of Iron Ore
3	D.J.Desmukh	E.M.T. Vol.-III

Prabhudatta Mishra
Signature of Faculty