

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

**DEPARTMENT OF MINING ENGINEERING**

**LESSON PLAN**

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

8th	3rd	Describe constructional features of turbine pumps.
	4th	State principle of centrifugal pumps & its applicability.
9th	1st	State principle of turbine pumps & its applicability.
	2nd	Explain balancing the axial thrust of turbine pumps.
	3rd	Draw characteristic curves for turbine pumps.
	4th	Solve numerical problems on centrifugal pumps.
10th	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
	4th	Describe constructional features and working principle & use of roto pump
11th	1st	Describe constructional features & working principle of sinking pump.
	2nd	Describe constructional features & working principle of sinking pump.
	3rd	State procedure of suspension in shaft.
	4th	Describe constructional features & working of bore hole pump.
12th	1st	Describe constructional features & working of bore hole pump.
	2nd	State installation of bore hole pump.
	3rd	State types of pipe & valves used in Mines.
	4th	Describe constructional features of various type of valves.
13th	1st	Describe constructional features of various type of valves.
	2nd	State and describe various types of pipes joints.
	3rd	State and describe various types of pipes joints.
	4th	Describe supporting of laying main pipes in shaft
14th	1st	Discuss the Pipe line layout.
	2nd	Discuss the Pipe line layout.
	3rd	PREVIOUS YEAR QUESTION DISCUSSION
	4th	PREVIOUS YEAR QUESTION DISCUSSION
15th	1st	REVISION/DOUBT CLEARING CLASSES/REMEDIAL CLASSES
	2nd	REVISION/DOUBT CLEARING CLASSES/REMEDIAL CLASSES
	3rd	REVISION/DOUBT CLEARING CLASSES/REMEDIAL CLASSES
	4th	REVISION/DOUBT CLEARING CLASSES/REMEDIAL CLASSES

**RECOMMENDED BOOKS**

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

*Abuludulla Neshan*  
**Signature of Faculty**