

**GOVERNMENT POLYTECHNIC JAIPUR**

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**DEPARTMENT OF MINING ENGINEERING**

**LESSON PLAN**

Discipline:	Semester: 6 <sup>th</sup>	Name of the Teaching faculty: Prabhudutta Mishra
Subject: MINE MACHINE THEORY – II	No of Days/Week class allotted: 4	Semester from Date: 14/02/23 To Date: 23/05/23 No of weeks: 15
Week	Class Day	Topics
1st	1st	Describe constructional features, operation, principle & use of electric coal drill
	2nd	Describe constructional features, operation, principle & use of electric coal drill
	3rd	State types of drill rods & drill bits used in electric coal drill.
	4th	Describe basic constructional features of gathering arm loader.
2nd	1st	Describe basic constructional features of scraper loader.
	2nd	Describe basic constructional features of side discharge loader.
	3rd	Describe basic constructional features of load & haul loader.
	4th	Describe basic constructional features & operation principle of jack hammer drill.
3rd	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.
	4th	Describe basic constructional features of surface miner.
4th	1st	Describe basic constructional features of dragline.
	2nd	Describe basic constructional features of shovel .
	3rd	<b>CLASS TEST-1</b>
	4th	Describe basic constructional features of bucket wheel excavator.
5th	1st	Describe basic constructional features of dumper.
	2nd	Describe basic constructional features of dozer.
	3rd	Describe basic constructional features of scraper.
	4th	Describe basic constructional features of road grader.
6th	1st	Classify mine pumps.
	2nd	Describe constructional features, working & use of ram pumps
	3rd	Describe constructional features, working & use of ram pumps
	4th	Describe constructional features, working & use of ram pumps
7th	1st	Centrifugal & turbine pumps.
	2nd	Centrifugal & turbine pumps.
	3rd	Describe constructional features of centrifugal pump.
	4th	Describe constructional features of centrifugal pump.
8th	1st	Describe constructional features of turbine pumps.
	2nd	<b>INTERNAL-1</b>
	3rd	State principle of centrifugal & turbine pumps & its applicability.
	4th	State principle of centrifugal & turbine pumps & its applicability.
9th	1st	Explain balancing the axial thrust of turbine pumps.
	2nd	Draw characteristic curves for turbine pumps.
	3rd	Draw characteristic curves for turbine pumps.
	4th	Solve numerical problems on centrifugal pumps.

10th	1st	Solve numerical problems on turbine pumps.
	2nd	Describe constructional features and working principle & use of roto pump
	3rd	Describe constructional features and working principle & use of roto pump
	4th	Describe constructional features & working principle of sinking pump.
11th	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.
	4th	Previous year questions, quiz.
12th	1st	<b>CLASS TEST 2</b>
	2nd	Describe constructional features & working of bore hole pump.
	3rd	Describe constructional features & working of bore hole pump.
	4th	State installation of bore hole pump.
13th	1st	State types of pipe & valves used in Mines.
	2nd	Describe constructional features of various type of valves.
	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	Previous year questions, quiz.
	3rd	<b>INTERNAL 2</b>
	4th	PREVIOUS YEAR QUESTION DISCUSSION
15th	1st	REVISION/DOUBT CLEARING CLASS
	2nd	REVISION/DOUBT CLEARING CLASS
	3rd	REVISION/DOUBT CLEARING CLASS
	4th	REVISION/DOUBT CLEARING CLASS

**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

*Dr. Chudatta Mishra*

**Signature of Faculty**