

**GOVERNMENT POLYTECHNIC JAIPUR**

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**DEPARTMENT OF MINING ENGINEERING**

**LESSON PLAN**

Discipline: <b>MINING</b>	Semester: 6TH	Name of the Teaching faculty: <b>SOMESH JENA</b>	
Subject: <b>MINERAL DRESSING</b>	No of Days/Week class allotted: 4	Semester from Date: <b>04/02/25</b> No of weeks: <b>15</b>	To Date: <b>17/05/25</b>
<b>Week</b>	<b>Class Day</b>	<b>Topics</b>	
<b>1st</b>	1st	Introduction, describe mineral dressing.	
	2nd	Describe the objective & scope of application of mineral dressing in surface & u/g mines.	
	3rd	Describe the objective & scope of application of mineral dressing in surface & u/g mines.	
	4th	Describe the objective & scope of application of mineral dressing in surface & u/g mines.	
<b>2nd</b>	1st	Describe the objective & scope of application of mineral dressing in surface & u/g mines.	
	2nd	Unit operations-Explain the principle of Blake & dodge jaw crushers,	
	3rd	Unit operations-Explain the principle of Blake & dodge jaw crushers,	
	4th	Unit operations- gyratory & cone crushers, roll crusher.	
<b>3rd</b>	1st	Unit operations- gyratory & cone crushers, roll crusher.	
	2nd	Unit operations- gyratory & cone crushers, roll crusher.	
	3rd	Grinding- Explain the principle of ball mill operation	
	4th	Grinding- Explain the principle of ball mill operation	
<b>4th</b>	1st	Grinding-open circuit grinding,	
	2nd	Grinding-close circuit grinding	
	3rd	Grinding-dry & wet grinding	
	4th	Grinding-dry & wet grinding	
<b>5th</b>	1st	Explain the procedure for size analysis.	
	2nd	<b>INTERNAL-1</b>	
	3rd	Explain the procedure for size analysis.	
	4th	Explain use of standard screen as also screening techniques employed.	
<b>6th</b>	1st	Explain use of standard screen as also screening techniques employed.	
	2nd	Industrial screening- Explain the principle of industrial screening	
	3rd	Industrial screening- Explain the principle of industrial screening	
	4th	Industrial screening- Type of screening ( without calculation)	
<b>7th</b>	1st	Industrial screening- Type of screening ( without calculation)	
	2nd	Industrial screening- Type of screening ( without calculation)	
	3rd	Industrial screening-Explain the operation of classifier & their application.	
	4th	Industrial screening-Explain the operation of classifier & their application.	
<b>8th</b>	1st	Industrial screening-Explain the operation of classifier & their application.	
	2nd	Gravity concentration- Explain the general principles of wilfly table & its operation.	
	3rd	Gravity concentration- Explain the general principles of wilfly table & its operation.	
	4th	Gravity concentration- Explain the general principles of wilfly table & its operation.	
	1st	Gravity concentration- Develop elementary idea regarding the operation jigs.	

9th	2nd	Gravity concentration- Develop elementary idea regarding the operation jigs.
	3rd	Gravity concentration- Develop elementary idea regarding the operation jigs.
	4th	<b>CLASS TEST</b>
10th	1st	Heavy media separation-Explain the fundamental principle of heavy media separation – Chance process.
	2nd	Heavy media separation-Explain the fundamental principle of heavy media separation – Chance process.
	3rd	Heavy media separation-Explain the fundamental principle of heavy media separation – Chance process.
	4th	Floatation- Comprehend elementary principle of froth floatation.
11th	1st	Floatation- Comprehend elementary principle of froth floatation.
	2nd	Floatation-practical utility of frother, collection.
	3rd	Floatation-practical utility of frother, collection.
	4th	Floatation-Modifiers & depressants.
12th	1st	Floatation-Modifiers & depressants.
	2nd	Describe & illustrate floatation cell.
	3rd	Describe & illustrate floatation cell.
	4th	Magnetic & Electrostatic Separators(Introduction)
13th	1st	Explain the principle of operation of magnetic & electrostatic separators.
	2nd	Explain the principle of operation of magnetic & electrostatic separators.
	3rd	Explain the principle of operation of magnetic & electrostatic separators.
	4th	Describe the application of separators in mineral dressing.
14th	1st	Describe the application of separators in mineral dressing.
	2nd	Describe the application of separators in mineral dressing.
	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	GHATAK	GHATAK
2	ISM DHANBAD	ISM,DHANBAD JOURNAL
3		E.M.T. Vol.-III

  
 Signature of Faculty