

GOVERNMENT POLYTECHNIC JAJPUR

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DEPARTMENT OF MINING ENGINEERING

LESSON PLAN

Discipline: MINING	Semester: 6TH	Name of the Teaching faculty: MALAYA RANJAN JENA	
Subject: MINERAL DRESSING	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	Introduction, Define 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.	
2nd	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.	
3rd	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	
4th	1st	Grinding-open circuit grinding,	
	2nd	Grinding-close circuit grinding	
	3rd	CLASS TEST-1	
	4th	Grinding-dry & wet grinding	
5th	1st	Grinding-dry & wet grinding	
	2nd	Explain the procedure for size analysis.	
	3rd	Explain the procedure for size analysis.	
	4th	Explain use of standard screen as also screening techniques employed.	
6th	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)	
7th	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.	
8th	1st	Industrial screening-Explain the operation of classifier & their application.	
	2nd	INTERNAL-1	
	3rd	Gravity concentration- Explain the general principles of wilfly table & its operation.	
	4th	Gravity concentration- Explain the general principles of wilfly table & its operation.	
9th	1st	Gravity concentration- Develop elementary idea regarding the operation jigs.	
	2nd	Gravity concentration- Develop elementary idea regarding the operation jigs.	
	3rd	Gravity concentration- Develop elementary idea regarding the operation jigs.	
	4th	Heavy media separation-Explain the fundamental principle of heavy media separation – Chance process.	

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	Floatation- Comprehend elementary principle of froth floatation.
	4th	Floatation- Comprehend elementary principle of froth floatation.
11th	1st	Floatation-practical utility of frother, collection.
	2nd	Floatation-practical utility of frother, collection.
	3rd	Floatation-Modifiers & depressants.
	4th	Floatation-Modifiers & depressants.
12th	1st	CLASS TEST 2
	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	INTERNAL 2
	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

Mahesh Kumar Singh

Signature of Faculty