



GOVERNMENT POLYTECHNIC DARLIPALI, SUNDARGARH

ସରକାରୀ ବହୁବୃତ୍ତି ଅନୁଷ୍ଠାନ ଦର୍ଲିପାଲି, ସୁନ୍ଦରଗଡ଼

GOVERNMENT OF ODISHA | ଓଡ଼ିଶା ସରକାର

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A/ P: Darlipali , NTPC Darlipali , Dist.: Sundargarh, Odisha- 758001

**LESSON PLAN**

<b>Discipline: MINING ENGINEERING</b>		<b>Semester: 3rd</b>		<b>Name of the Teaching faculty: Brajabandhu Nahak</b>	
<b>Subject: Mining Geology-I, Subject Code: MIEPC205 (Th 3)</b>		<b>No of Days/Week class allotted: 3</b>		<b>Semester from Date: 14/7/2025 to 15/11/2025</b> <b>No of weeks: 18</b> <b>No. of Period Available: 47</b>	
Month	Week	No of periods available	Class Day	Unit	Theory topics to be covered
JULY	1st	3P	1	I.Physical Geology	Physical Geology: Geology for mining engineering: branches, scope and applications – internal structure of earth and composition
			2		scope and applications – internal structure of earth and composition
			3		scope and applications – internal structure of earth and composition
	2nd	3P	1		layers in atmosphere - Weathering and erosion
			2		Erosional and depositional land forms produced by wind
			3		Erosional and depositional land forms produced by river
	3rd	3P	1		Class test- 1
			2		Glacier and iceberg
			3		Erosional and depositional features produced by glacie
AUGUST	4th	3P	1	II.Petrology	Different type of moraine with sketches
			2		Petrology: Define Rock and mineral. Describe Igneous,
	5th	2P	3	Petrology: Define Rock and mineral. Describe Igneous,	
			1	Sedimentary and Metamorphic rocks,	
			2	Various textures and structures found in Igneous rocks,	

SEPTEMBER	6th	3P	1		Structures of sedimentary rocks	
			2		Structures in metamorphic rocks	
			3		Vacancies, Interstitials and impurities	
	7th		1		Effect of imperfection on material properties	
			2		Class test-2	
	8th	2P	1		Deformation by slip and twinning, Effect of deformation on material properties	
			2			
	9th	3P	1		IV. Structural Geology	Structural Geology: Dip, True dip and apparent dip, Strike,
			2			Structural Geology: Dip, True dip and apparent dip, Strike,
			3			Folds, Faults, Various types of fault
	10th	3P	1		Folds, Faults, Various types of fault	
			2		Unconformity, Varioustype of unconformity, Joints. Various joints	
3			Unconformity, Varioustype of unconformity, Joints. Various joints			
11th	3P	1	V.Elements of Crystallography	Elements of Crystallography: Crystal, Miller's indices		
		2		Elements of Crystallography: Crystal, Miller's indices		
		3		Elements of Crystallography: Crystal, Miller's indices		
12th	1P	1	Symmetry elements a			
OCTOBER	13th	2P	1	Symmetry elements a		
			2	Symmetry elements a		
	14th	3P	1	forms present in the normal class of isometric system.		
			2	forms present in the normal class of isometric system.		
			3	forms present in the normal class of isometric system.		
	15TH	2P	1	VI.Elements of Mineralogy	Elements of Mineralogy: Mineral, Physical properties of minerals	
2			Elements of Mineralogy: Mineral, Physical properties of minerals			
16TH	3P	1	Optical properties of minerals, Silicate structures			
		2	Optical properties of minerals, Silicate structures			
		3	2nd Internal assesment			
NOVEMBER	17TH	3P	1	Minerals, Mineralogy		
			2	Minerals, Mineralogy		
			3	Physical properties of Olivine, Quartz,		

	18TH	3P	1		Feldspar and Pyroxene group of minerals.
			2		Revision & Previous year question & answer discussion
			3		Revision & Previous year question & answer discussion

*BBN* 14/7/25

Prepared by:  
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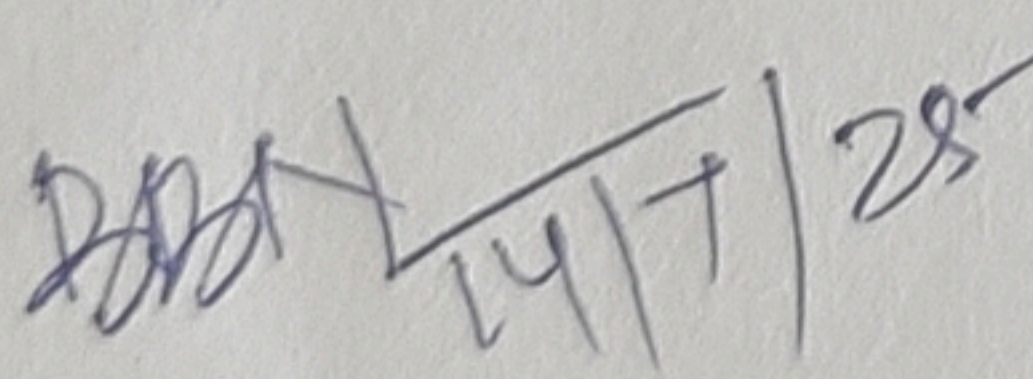
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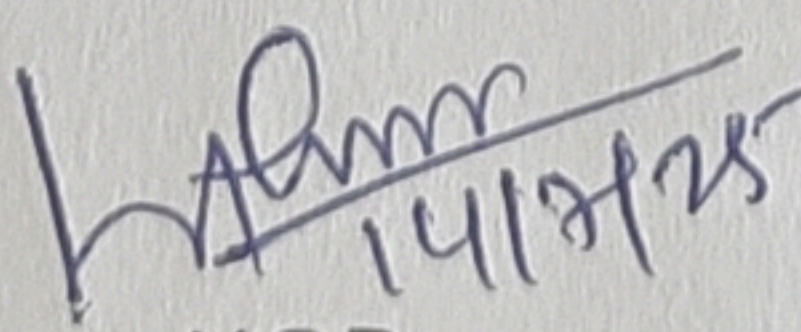
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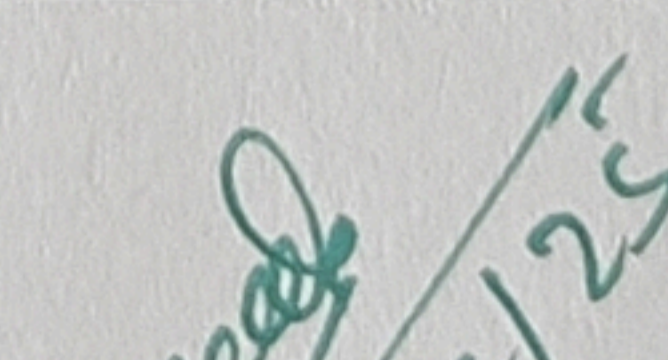
## LESSON PLAN

Discipline: MINING ENGINEERING		Semester: 3rd		Name of the Teaching faculty: Brajabandhu Nahak	
Subject: Mine Machinery-I, Subject Code: MIEPC209 (Th 5)		No of Days/Week class allotted: 3		Semester from Date: 14/7/2025 to 15/11/2025 No of weeks: 18 No. of Period Available: 49	
Month	Week	No of periods available	Class Day	Unit	Theory topics to be covered
JULY	1st	4P	1	I.Wire Ropes	Wire Ropes: Wire ropes used in Mines, Constructional features of wire ropes
			2		lay of wire ropes, Factor of safety
			3		Nominal and actual factor of safety
			4		Factors influencing the F.O.S
	2nd	2P	1		Efficiency of rope construction, space factor,
			2		factor, cross sectional area rope. Factors affecting deterioration of ropes
	3rd	3P	1		Class test-1
			2		Care and maintenance of ropes, Testing and examination of wire ropes
			3		Splicing of wire ropes, Rope capel for haulage winding and recapping.
AUGUST	4th	2P	1	II.Rope Haulage	Rope Haulage: Transportation in mines by rope haulage
			2		Types of rope haulage
	5th	4P	1		Safety devices on rope haulage roadway
			2		Safety devices on rope haulage roadway
			3	Different types of clips and couplings.	
	6th	2P	1	III.Head Gear	Headgear: State functions of headgear.
			2		Describe constructional features of headgear pulley
	7th	3P	1		Cage and shaft fittings: Cage, cage suspension gear,
			2		detaching hooks, safety catch at headgear and keps,
			3		Class test-2

SEPTEMBER	8th	4P	1	IV. Winding Drum	Types of guide, Rigid guide
			2		flexible shoes, guide rope suspension and tensioning arrangement.
			3		Winding drum: Different profiles of winding Drum
			4		Different types of winding brake, Various types of safety devices on winding system
	9th	2P	1		Different types of winding brake, Various types of safety devices on winding system
			2		Friction Winding: Principle and constructional features of ground-mounted
	10th	4P	1		Friction Winding: Principle and constructional features of ground-mounted
			2		tower-mounted koepe winder
			3		Advantages & disadvantages of koepe winding.
			4		Advantages & disadvantages of koepe winding.
	11th	2P	1		Multirope system of koepe winding.
			2		1st Internal assesment
12th	2P	1	Multirope system of koepe winding.		
		2	V. Skip Winding	Skip winding: Constructional features bottom discharge skip	
13th	1P	1		Skip winding: Constructional features bottom discharge skip	
		2		Top discharge skip	
		3		Top discharge skip	
		4		Skip winding	
14th	4P	1		Skip winding	
		2		d cage winding	
		3		d cage winding	
		4		Pit top & Pit bottom circuit layout: Factors affecting pit top and pit bottom	
15TH	1P	1		Pit top & Pit bottom circuit layout: Factors affecting pit top and pit bottom	
		2		2nd Internal assesment	
		3		layouts, Different types of pit top	
		4	VST		
16TH	4P	1	layouts, Different types of pit top		
		2	pit bottom car/tub circuit layouts.		
		3	Revision		
		4			
NOVEMBER	17TH	1P	1		
	18TH	4P	1		

  
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