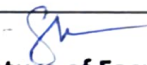


**DEPARTMENT OF MINING ENGINEERING**

**LESSON PLAN**

<b>Discipline:</b> <b>MINING</b>	<b>Sem:</b> 4TH	<b>Name of the Teaching faculty: SOUMYA RANJAN SAMAL</b>	
<b>Subject:</b> <b>MINE SURVEY-II</b>	<b>No of Days/Week class allotted:</b> <b>3</b>	<b>Semester from Date: 22/12/2025</b> <b>No of weeks: 15</b>	<b>To Date: 18/04/2026</b>
<b>Week</b>	<b>Class Day</b>	<b>Topics</b>	
1st	1st	Tachometry: Stadia and its principle,	
	2nd	Diaphragm, reticules	
	3rd	tachometer,	
2nd	1st	instruments constants	
	2nd	Height and distance from stadia intercepts	
	3rd	tangential systems, movable hair method	
3rd	1st	Triangulation and trilateration method	
	2nd	Triangulation survey primary,	
	3rd	secondary and tertiary	
4th	1st	colliery triangulation.	
	2nd	Reconnaissance survey	
	3rd	Measuring angle	
5th	1st	types of theodolite used in triangulation survey	
	2nd	Methods of base line measurement using E.D.M.	
	3rd	Tape correction	
6th	1st	Triangulation station of permanent nature	
	2nd	Correlation of surface and underground survey	
	3rd	Direct correlation by traversing and optical methods	
7th	1st	Orientation by wires in two shafts,	
	2nd	Correlation by mines in vertical shafts	
	3rd	Co-planning/ alignment,	
8th	1st	weissbach triangle,	
	2nd	weisquadrilateral methods,	
	3rd	precise magnetic correlation	
9th	1st	Setting out curves: Elements of curves,	
	2nd	<b>INTERNAL-I</b>	
	3rd	Designation of curves, simple, compound and reverse curves	
10th	1st	Setting of surface and underground curves by chords and offsets	
	2nd	chords and angle, tangent and offset, plate layers method	
	3rd	Various setting out by chain and one theodolite	

11th	1st	two theodolites, Super elevation
	2nd	transition and vertical curves.
	3rd	Stope Surveying: Tape triangulation
12th	1st	instrumental survey
	2nd	Stope face, Preparation of stope planes,
	3rd	plotting of stope face to the mine plan
13th	1st	Area of extraction by Planimeter and calculation of triangle thereof.
	2nd	G.P.S. and Total Station: Basic principles of global positioning system
	3rd	Introduction to Total station
14th	1st	Introduction to DGPS.
	2nd	<b>INTERNAL-II</b>
	3rd	REVISION CLASS
15th	1st	REVISION CLASS
	2nd	REVISION CLASS
	3rd	REVISION CLASS
		<b>REFERENCES:</b>
		1. Surveying Vol I, E. Mason.
		2. Surveying and Levelling, T.P. Kanetkar, 2008.
		3. Geodetic Surveying Vol I, David Clerk, CBS Publishers, 2018.
		4. Mineral Economics, Sinha and Sharma, CBS Publishers, 201

  
**Signature of Faculty**