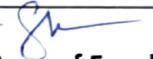


**DEPARTMENT OF MINING ENGINEERING**

**LESSON PLAN**

<b>Discipline:</b> <b>MINING</b>	<b>Sem: 4TH</b>	<b>Name of the Teaching faculty: SOUMYA RANJAN SAMAL</b>
<b>Subject:</b> <b>MINE SURVEY-II</b>	<b>No of Days/W eek class allotted: 3</b>	<b>Semester from Date: 22/12/2025</b> <b>To Date: 18/04/2026</b> <b>No of weeks: 15</b>
<b>Week</b>	<b>Class Day</b>	<b>Topics</b>
1st	1st	Tachometry: Stadia and its principle,
	2nd	Diaphragm, reticles
	3rd	tacheometer,
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 he 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